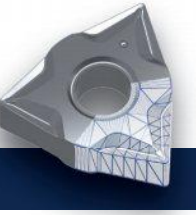
Index



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LAMINA
TECHNOLOGIES
MADE IN SWITZERLAND

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User Guide

Machining Optimization

For new users of Lamina Technologies Multi-Mat™ (multi-material) inserts and to get more productivity and longer tool life, we have prepare a short machining guide t o insure your satisfaction with our products.

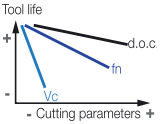
The machining conditions included after each insert are our guidelines for optimal machining. However, our inserts can work in wide range of cutting conditions to meet special machining needs.

Turning

Check the condition of the tool holder (insert seat, shim, lever, screw) and check if the insert is well seated and clamped.

If there are interrupted cut or passes with short lengths of cut, dry operation is recommended to avoid thermal shocks. For heavy interrupted cut feed rate should be reduced.

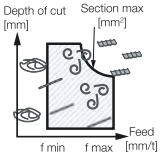
Check the stability of the machine. The tool overhang should be as short as possible.



Cutting speed has the greatest influence on tool life. For high productivity and long tool life, first increase d.o.c. and feed rate.

Feed x **d.o.c.**
=
Amax

Respect maximum chip section area for each insert.
Amax = feed x d.o.c.



For higher productivity and better chip control in roughing, work close to the recommended Amax value.

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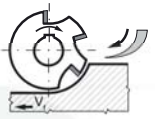
Machining Optimization

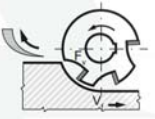
Milling

Check the condition of the tool holder (insert seat, shim, lever, screw) and check if the insert is well seated and clamped.

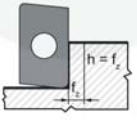
Check the stability of the machine. The tool overhang should be as short as possible.



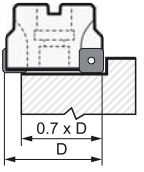
Climb Milling:
Usually this is the recommended direction. Tool life up to 40% longer than conventional.



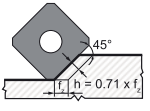
Conventional Milling:
Recommended only for:
- Old machines with backlash in the table transmission
- Flame cut, forged and cast workpieces
- Thin workpieces (in order to reduce vibration)



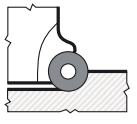
K = 90° Approach angle
High radial forces / Low axial forces.
Recommended:
- When 90° wall is needed
- For unstable conditions
- For slender workpieces



For face milling the width of cut (ae) should be about 70% of the cutter diameter, in order to achieve better chip formation and longer tool life. For limited engagement conditions, it is necessary to increase feed per tooth.



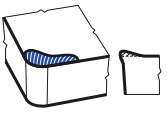
K = 45° Approach angle identical radial and axial forces.
High productivity fz = 1.41 x h
Recommended:
- When overhang is long (lower vibration tendency)
- For face milling (1st choice)

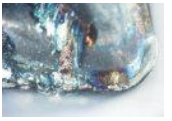


Round Inserts:
Roughing and general purposes. Strongest cutting edge.

Machining Optimization

Built-up Edge (Adhesive Wear)





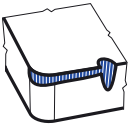
Description

The workpiece material is welded to the cutting edge. Normally caused by low temperatures.

Solution

- Increase cutting speed
- Increase feed
- Use more positive geometry

Notch wear (Adhesive/Mechanic Wear)



Description

Result of adhesive or mechanical action. Chipping or localized wear at the depth of cut line.

Solution

- Use more positive geometry
- Reduce feed
- Vary depth of cut

Crater (Chemical Wear)

Description

Happens on the rake surface. Normally the result of a combination of a diffusion and abrasion wear mechanism.

Solution

- Decrease cutting speed
- Check coolant direction
- Use more positive geometry

Flank Wear (Abrasive Wear)

Description

Abrasive wear mechanism that happens on the cutting edge's flank. Not common in Lamina inserts.

Solution

- Decrease cutting speed
- Check coolant direction.

Plastic Deformation (Thermal Wear)

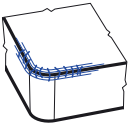
Description

Caused by cutting forces and too high temperature. Not common in Lamina inserts.

Solution

- Decrease cutting speed
- Decrease feed rate

Thermal Cracks (Thermal Wear)



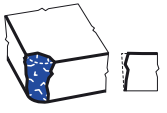
Description

Small cracks normally at 90° to the cutting edge caused by temperature variation

Solution

- Stabilize the temperature
- Shut off the coolant

Breakage (Mechanic Wear)



Description

Most breakages happen because the wear development is not seen in time.

Solution

- Check the tool holder
- Check the tool overhang
- Check the Amax
- Decrease feed and Vc
- Apply more robust insert
- Check the run-out

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Material Groups

Material Group		Gr. N°	VDI Group	Material Examples*	Description	Caution
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	**Non-alloyed Steel** **Composition:** Fe-C alloy (usually 0.1 to 0.6% carbon). **Characteristics:** Good machinability and high cutting speeds can be applied. When it has less than 0.25% carbon, it can be very sticky, requiring positive rake and small land inserts. **Alloyed Steel** **Composition:** Fe-C alloy (maximum 2.1% carbon) with additives like Cr, Mo, V, Ni, Mn, Co, W, etc. **Characteristics:** The variation in the amount of alloying elements and different heat treatments control features such as mechanical resistance and machinability. It's important to follow the cutting speeds recommended according to the hardness of the steel, as it influences temperature as well as chemical and adhesive wears. **High alloyed Steel** have more than 5% alloying elements.	**Built-up edge** **Crater**
			2			
			3			
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6		**Built-up edge** **Crater**
			4,6			
			5,7			
			8			
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19		**Crater**
			10			
			11			
			11			
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	**Composition:** Alloyed steel, more than 11% chrome (Cr). **Characteristics:** Stainless steels do not stain, corrode, or rust as easily as ordinary steel. Usually they are difficult to machine because of its narrow range of cutting speeds. If the cutting speed is too low, the material sticks in the cutting edge, if it's too high, the high quantity of additives produces abrasive wears in the cutting edge.	**Built-up edge** **Notch wear**
			14			
	Duplex	5	14	X2CrNiN23-4, S31500		**Notch wear** **Crater**
			14			
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430		**Crater**
			13			
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	**Composition:** Fe-C alloy with 2.1 to 5% of carbon. It can be alloyed with Si, P, Mn and Ni. **Characteristics:** Grey cast iron tends to be brittle, and malleable cast irons usually have a more ductile but less homogeneous microstructure. Reinforced cutting edges will perform best. High productivity can be achieved by using high feeds.	**Flank wear** **Crater** **Mechanical cracks**
			15			
			16			
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005		
			17,19			
			18,20			
High Temp Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	**Composition:** Iron (Fe) based, Nickel (Ni) based or Cobalt (Co) based alloys and Titanium alloys. **Characteristics:** High temperature alloys and titanium provide excellent mechanical strength resistance, as well as corrosion and oxidation resistance. Relatively low cutting speed is recommended due to their poor thermal conductivity.	**Notch wear** **Crater**
			33	Inconel 700		
			34	Stellite 21		
	Ti based	10	36	TiAl6V4		
			37	T40		
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	This group includes hardened and tempered steel up to 55 HRc, chilled and white cast iron up to 55 HRc. Machining success depends largely on clamping system rigidity, as cutting forces and power consumption are high. Finishing represents the majority of the operations for this material group.	**Crater**
			38			
			38			
	Chilled Cast Iron		40	Ni-Hard 2		
	White Cast Iron		41	G-X300CrMo15		
NF	Al (>8%Si)	12	25	AlSi12	Non-ferrous and soft materials (less than 130HB of hardness). Most common: Aluminum **Composition:** Al alloys can be alloyed with Cu, Zn, Mg, Mn and Si. **Characteristics:** Aluminium is widely used due to its low density and relatively good strength to weight ratio. When machining, it tends to have long chips and built-up edge. A highly positive cutting edge together with low friction coating control the chips and reduce built up edge.	**Built-up edge**
	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %		
				4% < Si < 8 %		
	Cooper Alloys	14	26,27,28	CuZn30		
	Non-Metallic	15	29	Fiber Plastics		
			30	Hard Rubber		
			-	Graphite		

Magia Premium Grades

Lamina Technologies has augmented its Magia range of premium grades with the introduction of two new optimized, multi-layer CVD grades for turning and an advanced PVD grade for milling.

Magia for Turning

Now with three Magia grades for turning, Lamina Technologies provides further options for a greater range of application, improved efficiency and longer tool life.

LT 1000
Recommended for general usage

Multi-Mat™ LT 1000 is the most versatile grade of the Magia turning line with excellent combination of hardness and toughness.

It is the first choice for customers with short production runs, different machining applications and different types of workpiece materials.

LT 1005
Recommended for stable conditions, moderate to high speeds, for P, K, H material groups

Increased hardness and wear resistance at high temperatures makes this grade well suited for stable conditions and higher cutting speeds.

Highly resistant to plastic deformation thus maintains high dimensional tolerance.

LT 1025
Recommended for unstable conditions, moderate to low speeds, for P, M, K material groups

Increased toughness makes this grade excellent for unstable conditions, such as interrupted cut.

The low chemical affinity between top ceramic layer and workpiece material ensures low friction and increased resistance to built-up edge development even at low cutting speeds in facing applications.

Magia for Milling

Lamina Technologies' new generation, premium Multi-Mat™ milling grade, LT 3000, provides higher performance, more productivity, excellent mechanical and improved thermal shock resistance for even longer tool life.

LT 3000

Denser micro structured coating. High quality substrate.

Magia LT 3000 inserts are made from Lamina Technologies' advanced substrate, now with a denser micro structured, smoother coating, which allows for even lower wear rates.

Progressive and predictable wear.

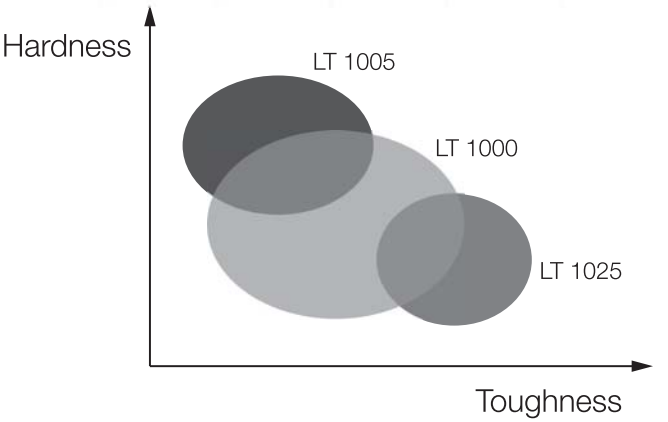
The new silver top layer provides more contrast on worn edges making it easy to identify which edge has been used and the level of wear development.

More flexibility. Extended application range.

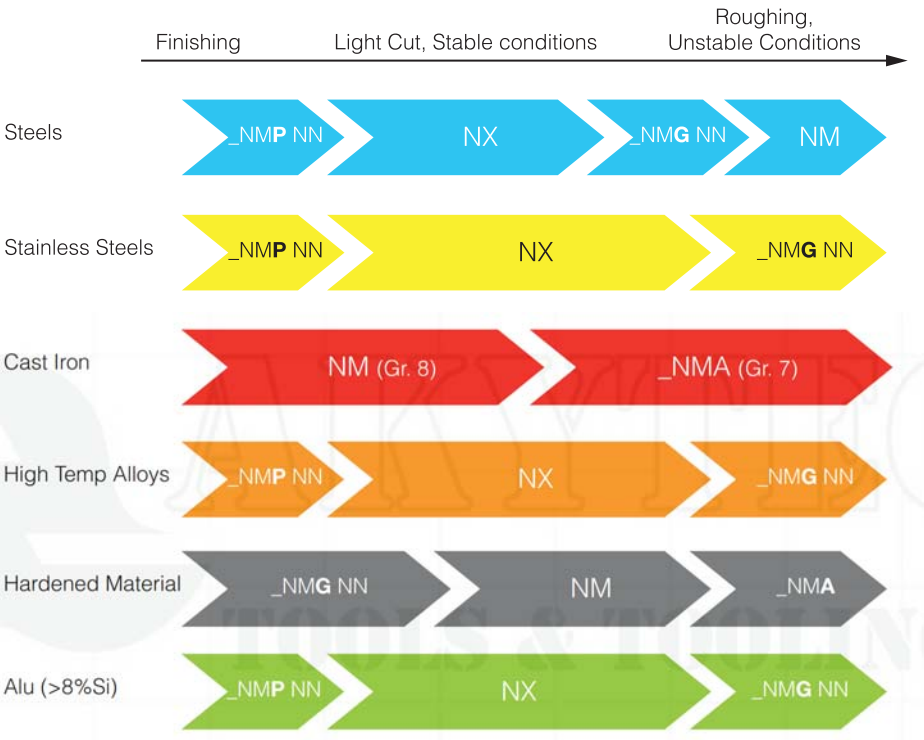
With a more tolerant coating, LT 3000 permits added flexibility and a wider application range as it can be applied at higher and lower cutting speeds than LT 30.

Grade Chart

Material Group * = 1st choice grade	High Speeds Stable Conditions Vc ↑	Interrupted Cut Unstable Conditions	Low Speeds Facing to Center Vc ↓	Wear Resistance X Toughness
P	*** LT1005** LT1000 LT1025	LT1000 ***LT1025**	LT1005 LT1000 ***LT1025**	harder tougher
M	LT1005 *** LT1000** LT1025	LT1000 *** LT1025**	LT1000 *** LT1025**	harder tougher
K	*** LT1005** LT1000	LT1000 *** LT1025**	LT1005 ***LT1000** LT1025	harder tougher
S	*** LT1000**	*** LT1000**	*** LT1000**	harder tougher
H	LT1005 *** LT1000**	LT1005 *** LT1000**	LT1005 *** LT1000**	harder tougher
N (>8%Si)	*** LT1000**	*** LT1000**	*** LT1000**	harder tougher



Negative Turning Chipbreakers: Overview



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Negative Turning Chipbreakers: Recommendations

Material Group * = 1st choice	Medium / Roughing		Finishing		Sharper edge X Stronger edge
	Continuous cut	Interrupted cut	Continuous cut	Interrupted cut	
P	NX * _NMG NN NM	NX NN NM *	_NMP NN NX * _NMG NN	NX _NMG NN * NM	sharper stronger
M	_NMP NN NX * _NMG NN	NX * _NMG NN	_NMP NN * NX _NMG NN	NX * _NMG NN	sharper stronger
K	_NMG NN NM * (Mat Group 8) _NMA * (Mat Group 7)	_NMG NN NM * (Mat Group 8) _NMA * (Mat Group 7)	_NMG NN *(Mat Group 8) NM _NMA * (Mat Group 7)	_NMG NN NM * (Mat Group 8) _NMA * (Mat Group 7)	sharper stronger
S	_NMP NN NX * _NMG NN	NX * _NMG NN	_NMP NN * NX _NMG NN	NX * _NMG NN	sharper stronger
H	_NMG NN NM *	_NMG NN NM * _NMA	_NMG NN * NM	_NMG NN NM * _NMA	sharper stronger
N (>8%Si)	_NMP NN NX * _NMG NN	NX _NMG NN *	_NMP NN NX * _NMG NN	NX _NMG NN *	sharper stronger

Multi-Mat™ Chipbreakers

_NMP NN | NX | _NMG NN | NM

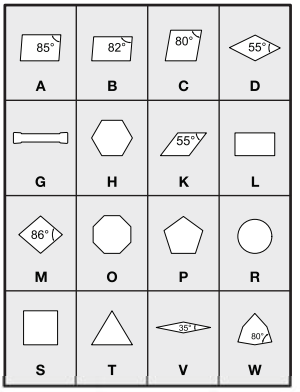
Light Cut, Stable Conditions → Roughing, Unstable Conditions

Additional dedicated geometries

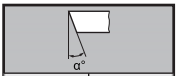
_NMA (Cast Iron Mat Group 7) | ALU (Aluminium <8% Si)

Insert Designation (based on ISO norms)

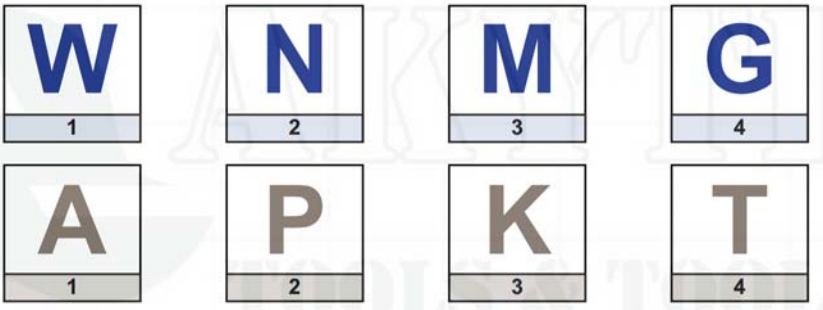
1. Insert Shape



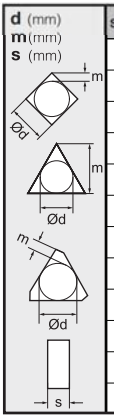
2. Clearance Angle



Letter Symbol	α
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
O	Special



3. Tolerance Class



Symbol	D	M	S
A	± 0.025	± 0.005	± 0.025
C	± 0.025	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
F	± 0.013	± 0.005	± 0.025
G	± 0.025	± 0.025	± 0.130
H	± 0.013	± 0.013	± 0.025
J*	± 0.05-0.15	± 0.005	± 0.025
K*	± 0.05-0.15	± 0.013	± 0.025
L*	± 0.05-0.15	± 0.025	± 0.025
M*	± 0.05-0.15	± 0.08-0.20	± 0.130
N*	± 0.05-0.15	± 0.08-0.20	± 0.025
U*	± 0.08-0.25	± 0.13-0.38	± 0.130

*Depending on the insert size. For exact tolerance see insert page.

4. Fixing and Chipbreaker Types

Type	Symbol	Type	Symbol
A		N	
B		P	
F		R	
G		T	
H		W	
M		X	Special Design

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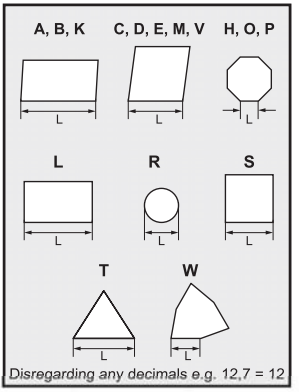
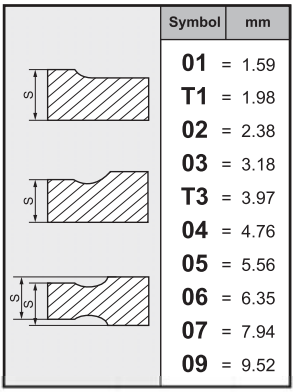
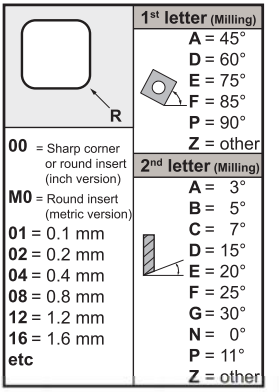
5. Cutting Edge Length



6. Insert Thickness

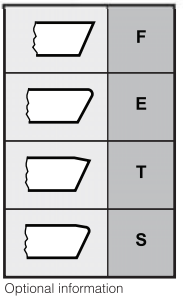


7. Insert Corner Radius



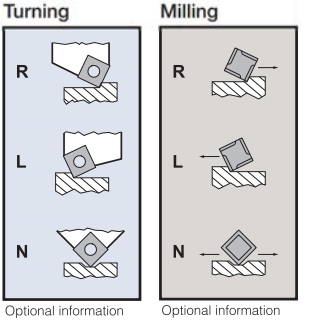
5	6	7	8	9	10
08	04	08			NN
16	04	PD	T	R	

8. Edge Preparation



Optional information

9. Cutting Direction



Optional information

Optional information

10. Internal Designation

e.g. Chipbreaker (Turning)

- **NN** = General purpose
- **NM** = Roughing operations
- **NX** = General purpose Magia
- **PP** = All purpose grooving
- **ALU** = Non-ferrous materials

Optional information

e.g. Application (Milling)

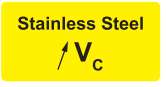
- **- 45** = 45° Approach Angle
- **- 90** = 90° Approach Angle
- **- HF** = High Feed

Optional information

Machining Recommendations

In order to obtain the best productivity using Lamina Technologies cutting tools, we have included some relevant comments and tips.

Each comment is represented by an icon and the relevant icons appear for each insert.

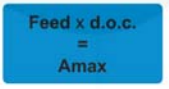


In machining stainless steel, please verify and respect the cutting speed recommended for the insert as there is a tendency to machine at speeds that are too low.

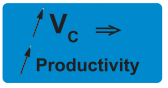
In machining stainless steel or exotic materials, P geometry inserts (CNMP, TNMP, WNMP) and NX chipbreakers are recommended as first choice.

In machining exotic materials, it is important to verify cutting conditions of the specific insert.

P geometry inserts (CNMP, TNMP, WNMP) and NX chipbreakers are not recommended when machining with interrupted cut.

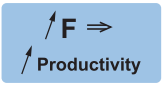


It is important to verify and respect Amax, which is the maximum chip section. Feed x d.o.c. must be lower than the number noted as Amax.



To increase machining productivity, it is recommended to increase speed (Vc) while respecting chip size calculation.

Appropriate for boring operations.



To increase machining productivity, it is recommended to increase speed (Vc) while respecting chip size calculation.

When milling materials from groups 1, 2, 3, 4, 6, 7, 8 and 11, coolant is not recommended. When machining materials from groups 5, 9, 10 and 12, it is recommended to use coolant.

Technical Formulas

Turning

Cutting Speed (m/min)	$V_c = \frac{D_m \times \pi \times n}{1000}$
Rotation (Rev/min)	$n = \frac{V_c \times 1000}{D_m \times \pi}$
Chip Removal Rate (cm^3/min)	$Q = V_c \times a_p \times f_n$
Cutting Time (min)	$T_c = \frac{l_m}{f_n \times n}$
Surface Roughness (µm)	$R_{max} = \frac{f_n^2}{r_\varepsilon} \times 125$

Millling

Cutting Speed (m/min)	$V_c = \frac{n \times \pi \times D}{1000}$
Rotation (Rev/min)	$n = \frac{V_c \times 1000}{\pi \times D}$
Table Feed (mm/min)	$V_f = n \times z_c \times f_z$
Cutting Output (cm^3/min)	$Q = \frac{a_e \times a_p \times V_f}{1000}$
Feed per Tooth	$f_z = \frac{V_f}{n \times z_c}$

Symbol	Designation	Unit
D_m	Machining diameter	mm
f_n	Feed per revolution	mm/rev
l_m	Machining length	mm
n	Rotation	rev/min
Q	Chip removal rate	cm^3/min
A_{max}	d.o.c x feed	mm^2
r_ε	Nose radius	mm
T_c	Cutting time	min
R_{max}	Surface roughness	µm

Symbol	Designation	Unit
V_c	Cutting speed	m/min
a_p	Depth of cut (d.o.c.)	mm
a_e	Radial depth of cut (width of cut)	mm
D	Cutter diameter	mm
f_z	Feed per tooth	mm/tooth
Z_c	Effective number of teeth	pcs
V_f	Table Feed	mm/min
Z_n	Total number of teeth	pcs

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Frequently Asked Questions

Is it true that Lamina Technologies' inserts can be used with any type of working material?

Lamina inserts have been tested in countless applications around the world and are suitable for practically any type of turning or milling metal cutting operation.

While Lamina inserts will work in aluminum production jobs, aluminum frequently requires tailored chip-control optimization. Please see Lamina's dedicated aluminium line of inserts.

What speeds and feeds should Lamina inserts be run at?

In this catalog specific recommendations are provided for each individual insert indicating the speeds and feeds that are required for most of the material groups.

In order to achieve the maximum advantage from Lamina's grade technology, it is important to always run the inserts according to the recommended conditions.

In general, the best results are normally achieved at the high range of the recommended cutting speeds.

What can we expect regarding the quality and consistency of Lamina inserts?

Due to Lamina's unique production methods and quality control procedures, you can expect inserts with higher accuracy and consistency than you have been accustomed up to now; insert to insert, box to box and batch to batch.

What percentage of my tooling requirements can Lamina supply?

In most regular shops, Lamina's inserts program should cover about 80% of all inserts needed for CNC machines from 20 Hp and down. The insert program covers a full range of standard turning and milling operations from semi-roughing to super-finishing.

Will Lamina grades perform better than the specialized and dedicated grades available from the market?

Lamina has extensive know-how in sub-micron powder technology as well as in state of the art PVD coating. This know–how combined with unique chipbreaker geometry and in depth understanding of the industry, enables Lamina to offer the Multi-Mat™ Concept; a simple concept of using one insert to work on many materials.

The same insert can be used on the next job and the job after and so on, replacing the hundreds of specialized and confusing insert choices that are being used.

In machine shops that run Lamina inserts, what do they find as the biggest benefits?

- Time saving - Always have the right insert available for any job. This reduces the number of setups and idle time.
- Cost saving - 80% reduction in insert inventory, ordering and stocking cost.

What about turning tool holders and boring bars?

Lamina's ANSI / ISO standard turning inserts are designed to fit all industrial standard turning tools and boring bars, using the tool holders you have in your stock.

How does the 4 corners Alu-Line perform in low silicon aluminum?

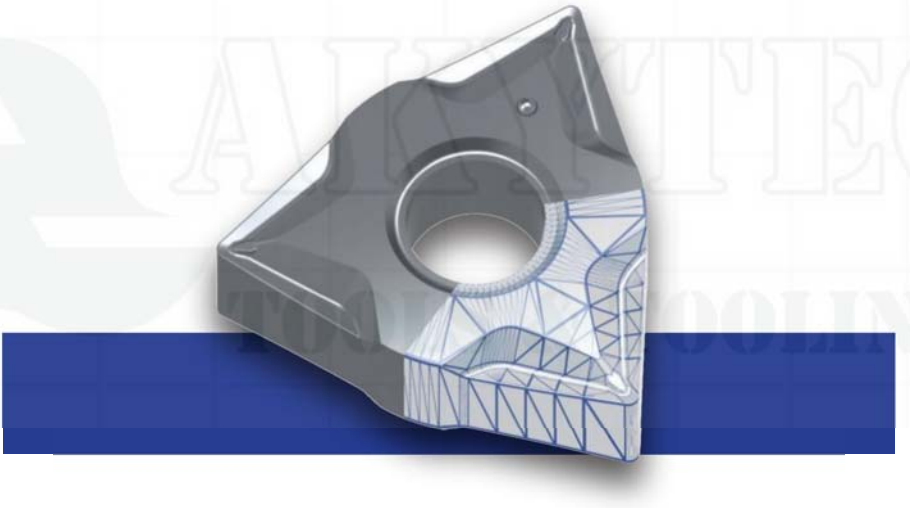
Our Alu-Line insert's geometry is specially designed for aluminum with low silicon content, creating chips that break instead of curl. The inserts are also coated and treated to reduce friction achieving unbeatable performance and tool life.

What is special about your solid end mill line?

Lamina know-how was applied to the solid end mill line. Our mills generate less friction and heat and therefore give better cut and longer tool life.

TURNING

LT 10 I 1000
LT 1005 I LT 1025



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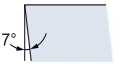
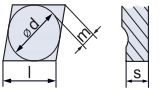
C C M T

NN Chipbreaker

Shape

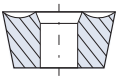


Clearance Angle



Tolerance

s ± 0.13
For l = 06/09, **d** ± 0.05 **m** ± 0.08
For l = 12, **d** ± 0.08 **m** ± 0.13



Fixing,, Chipbreaker

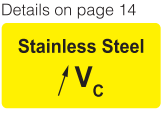
LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CCMT 060204 NN LT 10	6	2.38	0.4	T0000055	●	●	●
CCMT 09T304 NN LT 10	9	3.97	0.4	T0000056	●	●	●
CCMT 09T308 NN LT 10	9	3.97	0.8	T0000117	●	●	●
CCMT 120404 NN LT 10	12	4.76	0.4	T0001456	●	●	●
CCMT 120408 NN LT 10	12	4.76	0.8	T0001457	●	●	●
CCMT 120412 NN LT 10	12	4.76	1.2	T0001776	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CCMT 060204 NN LT 1000	6	2.38	0.4	T0001888	●	●	●
CCMT 09T304 NN LT 1000	9	3.97	0.4	T0001889	●	●	●
CCMT 09T308 NN LT 1000	9	3.97	0.8	T0001890	●	●	●
CCMT 120404 NN LT 1000	12	4.76	0.4	T0001891	●	●	●
CCMT 120408 NN LT 1000	12	4.76	0.8	T0001892	●	●	●
CCMT 120412 NN LT 1000	12	4.76	1.2	T0001893	●	●	●

80° diamond shape inserts with positive chipbreaker geometry. Very popular and useful for boring (even of small diameters), facing and external turning operations.

Machining Recommendations

Details on page 14



LT 10 and LT 1000

LT 10 and LT 1000

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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CCMT 060204 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	2.1	0.08	0.20	0.37	180	330	**1.0**	**0.14**	**300**
			2		190 HB	0.3	1.8	0.08	0.19	0.32	180	280	**1.0**	**0.14**	**260**
			3		250 HB	0.3	1.8	0.08	0.17	0.30	180	250	**1.0**	**0.14**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	1.8	0.08	0.17	0.31	120	280	**1.0**	**0.11**	**260**
			4,6		230 HB	0.3	1.8	0.08	0.17	0.30	120	250	**1.0**	**0.11**	**240**
			5,7		280 HB	0.3	1.4	0.08	0.15	0.25	120	210	**1.0**	**0.10**	**200**
			8		350 HB	0.3	1.4	0.08	0.15	0.22	120	180	1.0	0.10	180
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	1.8	0.07	0.15	0.25	70	190	**0.9**	0.08	180
			10		280 HB	0.3	1.8	0.07	0.14	0.25	70	150	**0.9**	0.08	140
			11		320 HB	0.3	1.4	0.07	0.12	0.20	70	130	**0.9**	0.08	120
			11		350 HB	0.3	1.4	0.07	0.12	0.16	70	110	**0.9**	0.08	110
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	1.8	0.06	0.15	0.20	170	270	1.0	0.07	260
			14		240 HB	0.3	1.8	0.06	0.15	0.16	160	220	1.0	0.06	210
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	1.4	0.06	0.12	0.12	80	150	**0.9**	0.06	140
			14		310 HB	0.3	1.4	0.06	0.12	0.12	70	140	**0.9**	0.06	140
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	1.8	0.06	0.15	0.20	170	250	**0.9**	0.07	240
			13		42 HRc	0.3	1.4	0.06	0.14	0.16	120	190	**0.8**	0.06	180
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	2.1	0.06	0.17	0.40	170	250	1.0	0.14	240
			15		200 HB	0.3	2.1	0.06	0.17	0.37	160	230	1.0	0.14	220
			16		250 HB	0.3	2.1	0.06	0.17	0.37	150	210	1.0	0.14	200
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	1.8	0.06	0.15	0.30	120	250	1.0	0.10	240
			17,19		200 HB	0.3	1.8	0.06	0.15	0.25	120	230	1.0	0.10	220
			18,20		250 HB	0.3	1.8	0.06	0.15	0.25	120	190	1.0	0.10	180
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	0.08	40
			33	Inconel 700	250 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	**0.08**	**40**
			34	Stellite 21	350 HB	0.3	1.4	0.07	0.13	0.16	23	45	**0.7**	**0.08**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	1.4	0.07	0.14	0.20	45	65	**0.7**	**0.11**	**60**
			37	T40	-	0.3	1.4	0.07	0.12	0.16	35	60	**0.7**	**0.08**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.3	0.04	0.10	0.12	50	100	**0.7**	**0.08**	**90**
			38		50 HRc	0.3	1.1	0.04	0.09	0.11	40	90	**0.6**	**0.06**	**80**
			38		55 HRc	0.0	1.0	0.04	0.08	0.08	40	80	**0.5**	**0.05**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.1	0.04	0.10	0.11	40	60	**0.6**	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.0	0.04	0.08	0.08	30	50	**0.5**	**0.05**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	2.8	0.08	0.26	0.43	200	400	**1.0**	**0.18**	**350**

CCMT 09T304 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.0	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

CCMT 09T308 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.21	0.50	1.62	180	330	**3.0**	**0.32**	**240**
			2		190 HB	0.5	4.0	0.21	0.50	1.62	180	280	**3.0**	**0.32**	**220**
			3		250 HB	0.5	4.0	0.21	0.45	1.35	180	250	**3.0**	**0.32**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.21	0.45	1.08	120	280	**3.0**	**0.29**	**200**
			4,6		230 HB	0.5	3.2	0.21	0.45	1.08	120	250	**3.0**	**0.29**	**180**
			5,7		280 HB	0.5	3.2	0.18	0.40	1.08	120	210	**3.0**	**0.27**	**150**
			8		350 HB	0.5	2.8	0.18	0.40	0.90	120	180	**3.0**	**0.27**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.18	0.40	1.08	70	190	**2.5**	**0.27**	**140**
			10		280 HB	0.5	3.2	0.18	0.40	1.08	70	150	**2.5**	**0.27**	**120**
			11		320 HB	0.5	2.4	0.18	0.35	0.72	70	130	**2.5**	**0.25**	**100**
			11		350 HB	0.5	2.4	0.18	0.35	0.72	70	110	**2.5**	**0.25**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.20	0.40	1.08	170	270	**3.0**	**0.32**	**200**
			14		240 HB	0.5	4.0	0.20	0.40	0.90	160	220	**3.0**	**0.29**	**180**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.18	0.35	0.72	80	150	**2.5**	**0.25**	**100**
			14		310 HB	0.5	3.2	0.18	0.35	0.72	70	140	**2.5**	**0.25**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.22	0.40	0.90	170	250	**3.0**	**0.29**	**190**
			13		42 HRc	0.5	3.2	0.22	0.40	0.90	120	190	**2.5**	**0.29**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.15	0.60	1.80	170	250	**3.0**	**0.32**	**200**
			15		200 HB	0.5	4.0	0.15	0.60	1.62	160	230	**3.0**	**0.32**	**180**
			16		250 HB	0.5	4.0	0.15	0.55	1.62	150	210	**3.0**	**0.32**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.15	0.50	1.35	120	250	**3.0**	**0.27**	**180**
			17,19		200 HB	0.5	4.0	0.15	0.50	1.17	120	230	**3.0**	**0.27**	**160**
			18,20		250 HB	0.5	4.0	0.15	0.50	1.08	120	190	**3.0**	**0.27**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.20	0.35	0.63	23	40	**2.0**	**0.25**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.2	0.20	0.40	0.72	45	65	**2.0**	**0.30**	**55**
			37	T40	-	0.5	2.4	0.20	0.35	0.63	35	55	**2.0**	**0.27**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.0	0.11	0.30	0.54	50	100	**2.0**	**0.23**	**80**
			38		50 HRc	0.5	1.6	0.11	0.25	0.36	40	90	**1.5**	**0.18**	**70**
			38		55 HRc	0.5	1.2	0.11	0.20	0.27	40	80	**1.0**	**0.16**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.6	0.11	0.25	0.36	40	60	**1.5**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.11	0.20	0.27	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.8	0.20	0.60	1.60	200	400	**3.0**	**0.36**	**280**

CCMT 120404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	2.0	0.13	180
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	1.7	0.10	180
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	1.7	0.10	140
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	1.7	0.10	120
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	1.7	0.10	110
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	2.0	0.09	260
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	2.0	0.08	210
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	1.7	0.08	140
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	1.7	0.08	140
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	1.7	0.09	240
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	1.5	0.08	180
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	2.0	0.18	240
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	2.0	0.18	220
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	2.0	0.18	200
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	2.0	0.13	240
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	2.0	0.13	220
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	2.0	0.13	180
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	1.3	0.10	40
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.0	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

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www.akytec.ru

CCMT 120408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

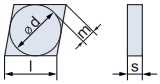
CCMT 120412 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.60	2.16	180	330	**3.0**	**0.42**	**240**
			2		190 HB	0.5	5.0	0.21	0.60	2.16	180	280	**3.0**	**0.42**	**220**
			3		250 HB	0.5	5.0	0.21	0.54	1.80	180	250	**3.0**	**0.42**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.54	1.44	120	280	**3.0**	**0.38**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.54	1.44	120	250	**3.0**	**0.38**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.48	1.44	120	210	**3.0**	**0.36**	**150**
			8		350 HB	0.5	3.5	0.18	0.48	1.20	120	180	**3.0**	**0.36**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.48	1.44	70	190	**2.5**	**0.36**	**140**
			10		280 HB	0.5	4.0	0.18	0.48	1.44	70	150	**2.5**	**0.36**	**120**
			11		320 HB	0.5	3.0	0.18	0.42	0.96	70	130	**2.5**	**0.34**	**100**
			11		350 HB	0.5	3.0	0.18	0.42	0.96	70	110	**2.5**	**0.34**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.48	1.44	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.48	1.20	160	220	**3.0**	**0.35**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.42	0.96	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.42	0.96	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.48	1.20	170	250	**3.0**	**0.35**	**190**
			13		42 HRc	0.5	4.0	0.22	0.48	1.20	120	190	**2.5**	**0.35**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.72	2.40	170	250	**3.0**	**0.42**	**200**
			15		200 HB	0.5	5.0	0.15	0.72	2.16	160	230	**3.0**	**0.42**	**180**
			16		250 HB	0.5	5.0	0.15	0.66	2.16	150	210	**3.0**	**0.42**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.60	1.80	120	250	**3.0**	**0.36**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.60	1.56	120	230	**3.0**	**0.36**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.60	1.44	120	190	**3.0**	**0.36**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.42	0.84	25	45	**2.0**	**0.30**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.42	0.84	25	45	**2.0**	**0.30**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.42	0.84	23	40	**2.0**	**0.30**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.48	0.96	45	65	**2.0**	**0.35**	**55**
			37	T40	-	0.5	3.0	0.20	0.42	0.84	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.36	0.72	50	100	**2.0**	**0.30**	**80**
			38		50 HRc	0.5	2.0	0.11	0.30	0.48	40	90	**1.5**	**0.24**	**70**
			38		55 HRc	0.5	1.5	0.11	0.24	0.36	40	80	**1.0**	**0.22**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.30	0.48	40	60	**1.5**	**0.22**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.24	0.36	30	50	**1.0**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.72	2.20	200	400	**3.0**	**0.48**	**280**

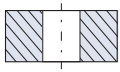
C N M A

Shape

Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13



Fixing, Chipbreaker

LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMA 120408 LT 1005	12	4.76	0.8	T0004050	●	●	●
CNMA 120412 LT 1005	12	4.76	1.2	T0004051	●	●	●

Strong edge preparation mainly for gray cast iron. For general purpose turning, facing and boring operations.

Machining Recommendations

Details on page 14

V_c ⇒ Productivity

F ⇒ Productivity

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

CNMA 120408 – **LT 1005**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.40	1.4	270	450	**3.5**	**0.32**	**350**
			15		200 HB	0.7	6.0	0.20	0.38	1.2	200	320	**3.5**	**0.32**	**250**
			16		250 HB	0.7	6.0	0.20	0.36	1.2	170	240	**3.5**	**0.32**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.40	1.0	130	260	**2.5**	**0.30**	**240**
			17,19		200 HB	0.7	6.0	0.20	0.38	0.9	130	230	**2.5**	**0.30**	**210**
			18,20		250 HB	0.7	6.0	0.20	0.36	0.8	130	190	**2.5**	**0.30**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.20	0.3	40	60	**1.4**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.20	0.2	30	50	**1.1**	**0.15**	**40**

CNMA 120412 – **LT 1005**

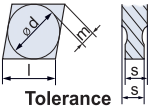
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.60	1.7	270	450	**3.5**	**0.40**	**350**
			15		200 HB	0.7	6.0	0.20	0.58	1.5	200	320	**3.5**	**0.40**	**250**
			16		250 HB	0.7	6.0	0.20	0.56	1.5	170	240	**3.5**	**0.40**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.52	1.3	130	260	**3.0**	**0.30**	**240**
			17,19		200 HB	0.7	6.0	0.20	0.50	1.1	130	230	**3.0**	**0.30**	**210**
			18,20		250 HB	0.7	6.0	0.20	0.48	1.0	130	190	**3.0**	**0.30**	**180**
H	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.25	0.3	40	60	**1.5**	**0.19**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.20	0.3	30	50	**1.2**	**0.17**	**40**

NN chipbreaker

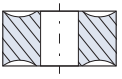
C N M G

Shape

Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13

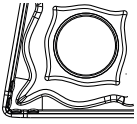


Fixing, Chipbreaker

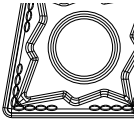
LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMG 120404 NN LT 10	12	4.76	0.4	T0000491	●	●	●
CNMG 120408 NN LT 10	12	4.76	0.8	T0000059	●	●	●
CNMG 120408 NM LT 10	12	4.76	0.8	T0001966	●	●	●
CNMG 120412 NN LT 10	12	4.76	1.2	T0000061	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMG 120404 NN LT 1000	12	4.76	0.4	T0001895	●	●	●
CNMG 120408 NN LT 1000	12	4.76	0.8	T0001896	●	●	●
CNMG 120408 NM LT 1000	12	4.76	0.8	T0001968	●	●	●
CNMG 120408 NX LT 1000	12	4.76	0.8	T0002741	●	●	●
CNMG 120412 NN LT 1000	12	4.76	1.2	T0001897	●	●	●

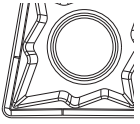
The most popular general purpose turning inserts. Use for turning, facing and boring operations.



NX chipbreaker



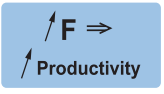
NM chipbreaker



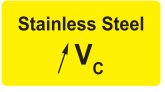
NN chipbreaker

Machining Recommendations

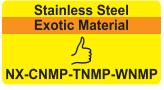
Details on page 14



LT 10 and LT 1000



LT 10 and LT 1000



NX LT 10 and LT 1000

NX LT 10 and LT 1000

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

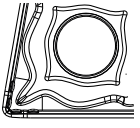
● = Good ● = Acceptable ● = Not recommended

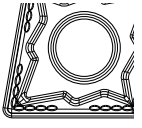
C N M G

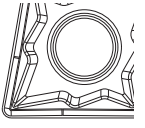
LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMG 120408 NN LT 1005	12	4.76	0.8	T0004054	●	●	●
CNMG 120408 NM LT 1005	12	4.76	0.8	T0004053	●	●	●
CNMG 120408 NX LT 1005	12	4.76	0.8	T0004055	●	●	●
CNMG 120412 NN LT 1005	12	4.76	1.2	T0004056	●	●	●

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMG 120408 NN LT 1025	12	4.76	0.8	T0004112	●	●	●
CNMG 120408 NM LT 1025	12	4.76	0.8	T0004111	●	●	●
CNMG 120408 NX LT 1025	12	4.76	0.8	T0004113	●	●	●
CNMG 120412 NN LT 1025	12	4.76	1.2	T0004114	●	●	●

The most popular general purpose turning inserts. Use for turning, facing and boring operations.

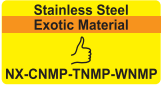

NX chipbreaker


NM chipbreaker

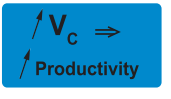

NN chipbreaker

Machining Recommendations

Details on page 14



NX for LT 1025



LT 1005

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

CNMG 120404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.0	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

CNMG 120408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	2.00	180	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.60	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.40	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.00	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	0.90	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.70	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.70	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	50	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	50	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	45	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.5	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	60	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.50	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.6	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.50	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	2.00	200	400	**3.0**	**0.40**	**280**

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CNMG 120408 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	430	**3.0**	**0.38**	**265**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	365	**3.0**	**0.35**	**240**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	325	**3.0**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	365	**3.0**	**0.32**	**220**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	325	**3.0**	**0.32**	**200**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	275	**3.0**	**0.30**	**165**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	235	**2.7**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	245	**2.5**	**0.30**	**155**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	195	**2.5**	**0.30**	**130**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	170	**2.2**	**0.28**	**110**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	145	**2.2**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	325	**3.0**	**0.35**	**220**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	300	**3.0**	**0.35**	**200**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	275	**3.0**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	325	**3.0**	**0.30**	**200**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	300	**3.0**	**0.30**	**175**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	245	**3.0**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	130	**2.0**	**0.25**	**90**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	115	**1.5**	**0.20**	**75**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	105	**1.0**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	80	**1.5**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	65	**1.0**	**0.15**	**45**

CNMG 120408 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.8	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.8	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.5	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.2	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.2	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.2	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.0	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.2	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.2	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.8	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.8	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	4.0	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

CNMG 120408 NM – **LT 10 | LT 1000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.65	2.70	180	330	**4.0**	**0.50**	**210**
			2		190 HB	0.5	5.0	0.21	0.65	2.70	180	280	**4.0**	**0.50**	**200**
			3		250 HB	0.5	5.0	0.21	0.59	2.25	180	250	**4.0**	**0.50**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.59	1.80	120	280	**4.0**	**0.44**	**160**
			4,6		230 HB	0.5	4.0	0.21	0.59	1.80	120	250	**4.0**	**0.44**	**150**
			5,7		280 HB	0.5	4.0	0.18	0.52	1.80	120	210	**4.0**	**0.38**	**140**
			8		350 HB	0.5	3.5	0.18	0.52	1.60	120	180	4.0	0.38	130
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.52	1.80	70	190	**3.3**	**0.38**	**120**
			10		280 HB	0.5	4.0	0.18	0.52	1.80	70	150	**3.3**	**0.38**	**110**
			11		320 HB	0.5	3.0	0.18	0.46	1.20	70	130	**3.3**	**0.35**	**100**
			11		350 HB	0.5	3.0	0.18	0.46	1.20	70	110	**3.3**	**0.35**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.52	1.80	170	270	**4.0**	**0.38**	**190**
			14		240 HB	0.5	5.0	0.20	0.52	1.60	160	220	**4.0**	**0.38**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.46	1.20	80	150	**3.3**	**0.32**	**100**
			14		310 HB	0.5	4.0	0.18	0.46	1.20	70	140	**3.3**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.52	1.60	170	250	**4.0**	**0.38**	**190**
			13		42 HRc	0.5	4.0	0.22	0.52	1.60	120	190	**3.5**	**0.38**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.78	3.00	170	250	**4.0**	**0.44**	**180**
			15		200 HB	0.5	5.0	0.15	0.78	2.70	160	230	**4.0**	**0.44**	**170**
			16		250 HB	0.5	5.0	0.15	0.72	2.70	150	210	**4.0**	**0.44**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.65	2.25	120	250	**4.0**	**0.38**	**150**
			17,19		200 HB	0.5	5.0	0.15	0.65	1.95	120	230	**4.0**	**0.38**	**140**
			18,20		250 HB	0.5	5.0	0.15	0.65	1.80	120	190	**4.0**	**0.38**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.46	1.05	25	45	**2.7**	**0.35**	**30**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.46	1.05	25	45	**2.7**	**0.35**	**32**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.46	1.05	23	40	**2.7**	**0.35**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.52	1.20	45	65	**2.7**	**0.38**	**55**
			37	T40	-	0.5	3.0	0.20	0.46	1.05	35	55	**2.7**	**0.36**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.39	0.90	50	100	**2.7**	**0.31**	**80**
			38		50 HRc	0.5	2.0	0.11	0.33	0.60	40	90	**2.0**	**0.25**	**70**
			38		55 HRc	0.5	1.5	0.11	0.26	0.45	40	80	**1.5**	**0.23**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.33	0.60	40	60	**2.0**	**0.23**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.26	0.45	30	50	**1.5**	**0.19**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.78	2.70	200	400	**4.0**	**0.50**	**280**

CNMG 120408 NM – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.65	2.70	180	430	**3.6**	**0.46**	**265**
			2		190 HB	0.5	5.0	0.21	0.65	2.70	180	365	**3.6**	**0.42**	**240**
			3		250 HB	0.5	5.0	0.21	0.59	2.25	180	325	**3.6**	**0.40**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.59	1.80	120	365	**3.6**	**0.38**	**220**
			4,6		230 HB	0.5	4.0	0.21	0.59	1.80	120	325	**3.6**	**0.38**	**200**
			5,7		280 HB	0.5	4.0	0.18	0.52	1.80	120	275	**3.6**	**0.36**	**165**
			8		350 HB	0.5	3.5	0.18	0.52	1.50	120	235	**3.2**	**0.36**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.52	1.80	70	245	**3.0**	**0.36**	**155**
			10		280 HB	0.5	4.0	0.18	0.52	1.80	70	195	**3.0**	**0.36**	**130**
			11		320 HB	0.5	3.0	0.18	0.46	1.20	70	170	**2.6**	**0.34**	**110**
			11		350 HB	0.5	3.0	0.18	0.46	1.20	70	145	**2.6**	**0.34**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.78	3.00	170	325	**3.6**	**0.42**	**220**
			15		200 HB	0.5	5.0	0.15	0.78	2.70	160	300	**3.6**	**0.42**	**200**
			16		250 HB	0.5	5.0	0.15	0.72	2.70	150	275	**3.6**	**0.42**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.65	2.25	120	325	**3.6**	**0.36**	**200**
			17,19		200 HB	0.5	5.0	0.15	0.65	1.95	120	300	**3.6**	**0.36**	**175**
			18,20		250 HB	0.5	5.0	0.15	0.65	1.80	120	245	**3.6**	**0.36**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.39	0.90	50	130	**2.4**	**0.30**	**90**
			38		50 HRc	0.5	2.0	0.11	0.33	0.60	40	115	**1.8**	**0.24**	**75**
			38		55 HRc	0.5	1.5	0.11	0.26	0.45	40	105	**1.2**	**0.22**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.33	0.60	40	80	**1.8**	**0.22**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.26	0.45	30	65	**1.2**	**0.18**	**45**

CNMG 120408 NM – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.65	2.7	90	330	**4.0**	**0.50**	**210**
			2		190 HB	0.5	5.0	0.21	0.65	2.7	90	280	**4.0**	**0.50**	**200**
			3		250 HB	0.5	5.0	0.21	0.59	2.3	90	250	**4.0**	**0.50**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.59	1.8	60	280	**4.0**	**0.44**	**160**
			4,6		230 HB	0.5	4.0	0.21	0.59	1.8	60	250	**4.0**	**0.44**	**150**
			5,7		280 HB	0.5	4.0	0.18	0.52	1.8	60	210	**4.0**	**0.38**	**140**
			8		350 HB	0.5	3.5	0.18	0.52	1.6	60	180	**4.0**	**0.38**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.52	1.8	35	190	**3.3**	**0.38**	**120**
			10		280 HB	0.5	4.0	0.18	0.52	1.8	35	150	**3.3**	**0.38**	**110**
			11		320 HB	0.5	3.0	0.18	0.46	1.2	35	130	**3.3**	**0.35**	**100**
			11		350 HB	0.5	3.0	0.18	0.46	1.2	35	110	**3.3**	**0.35**	**90**
Stainless	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.52	1.6	85	250	**4.0**	**0.38**	**190**
			13		42 HRc	0.5	4.0	0.22	0.52	1.6	60	190	**3.5**	**0.38**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.65	2.3	60	250	**4.0**	**0.38**	**150**
			17,19		200 HB	0.5	5.0	0.15	0.65	2.0	60	230	**4.0**	**0.38**	**140**
			18,20		250 HB	0.5	5.0	0.15	0.65	1.8	60	190	**4.0**	**0.38**	**130**

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CNMG 120408 NX – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.70	180	330	**3.0**	**0.33**	**240**
			2		190 HB	0.5	5.0	0.18	0.50	1.70	180	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	5.0	0.18	0.45	1.45	180	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.15	120	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.15	120	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.15	120	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	120	180	3.0	0.29	130
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.15	70	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	4.0	0.16	0.40	1.15	70	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	3.0	0.16	0.35	0.75	70	130	**2.5**	**0.27**	**100**
			11		350 HB	0.5	3.0	0.16	0.35	0.75	70	110	**2.5**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.18	0.40	1.15	170	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	5.0	0.18	0.40	0.95	160	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.16	0.35	0.75	80	150	**2.5**	**0.27**	**100**
			14		310 HB	0.5	4.0	0.16	0.35	0.75	70	140	**2.5**	**0.27**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.19	0.40	0.95	170	250	**2.5**	**0.29**	**190**
			13		42 HRc	0.5	4.0	0.19	0.40	0.95	120	190	**2.2**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.13	0.60	1.90	170	250	**3.0**	**0.33**	**200**
			15		200 HB	0.5	5.0	0.13	0.60	1.70	160	230	**3.0**	**0.33**	**180**
			16		250 HB	0.5	5.0	0.13	0.55	1.70	150	210	**3.0**	**0.33**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.45	120	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.25	120	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.15	120	190	**3.0**	**0.29**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			33	Inconel 700	250 HB	0.5	3.0	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.18	0.35	0.65	25	40	**2.0**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.18	0.40	0.75	45	65	**2.0**	**0.31**	**55**
			37	T40	-	0.5	3.0	0.18	0.35	0.65	35	55	**2.0**	**0.29**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.30	0.55	50	100	**2.0**	**0.24**	**80**
			38		50 HRc	0.5	2.0	0.10	0.25	0.40	40	90	**1.5**	**0.19**	**70**
			38		55 HRc	0.5	1.5	0.10	0.20	0.30	40	80	**1.0**	**0.17**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.25	0.40	40	60	**1.5**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	0.30	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.18	0.60	1.70	200	400	**3.0**	**0.38**	**280**

CNMG 120408 NX – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.71	180	430	**3.0**	**0.36**	**265**
			2		190 HB	0.5	5.0	0.18	0.50	1.71	180	365	**3.0**	**0.33**	**240**
			3		250 HB	0.5	5.0	0.18	0.45	1.43	180	325	**3.0**	**0.31**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.14	120	365	**3.0**	**0.30**	**220**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.14	120	325	**3.0**	**0.30**	**200**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.14	120	275	**3.0**	**0.29**	**165**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	120	235	**2.7**	**0.29**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.14	70	245	**2.5**	**0.29**	**155**
			10		280 HB	0.5	4.0	0.16	0.40	1.14	70	195	**2.5**	**0.29**	**130**
			11		320 HB	0.5	3.0	0.16	0.35	0.76	70	170	**2.2**	**0.27**	**110**
			11		350 HB	0.5	3.0	0.16	0.35	0.76	70	145	**2.2**	**0.27**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.13	0.60	1.90	170	325	**3.0**	**0.33**	**220**
			15		200 HB	0.5	5.0	0.13	0.60	1.71	160	300	**3.0**	**0.33**	**200**
			16		250 HB	0.5	5.0	0.13	0.55	1.71	150	275	**3.0**	**0.33**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	120	325	**3.0**	**0.29**	**200**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	120	300	**3.0**	**0.29**	**175**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	120	245	**3.0**	**0.29**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.30	0.57	50	130	**2.0**	**0.24**	**90**
			38		50 HRc	0.5	2.0	0.10	0.25	0.38	40	115	**1.5**	**0.19**	**75**
			38		55 HRc	0.5	1.5	0.10	0.20	0.29	40	105	**1.0**	**0.17**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.25	0.38	40	80	**1.5**	**0.17**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	0.29	30	65	**1.0**	**0.14**	**45**

CNMG 120408 NX – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.7	90	330	**3.0**	**0.36**	**240**
			2		190 HB	0.5	5.0	0.18	0.50	1.7	90	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	5.0	0.18	0.45	1.4	90	250	**3.0**	**0.31**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.1	60	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.1	60	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.1	60	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.16	0.40	1.0	60	180	**2.7**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.1	35	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	4.0	0.16	0.40	1.1	35	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	3.0	0.16	0.35	0.8	35	130	**2.2**	**0.27**	**100**
			11		350 HB	0.5	3.0	0.16	0.35	0.8	35	110	**2.2**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.18	0.40	1.14	85	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	5.0	0.18	0.40	0.95	80	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.16	0.35	0.76	40	150	**2.5**	**0.23**	**100**
			14		310 HB	0.5	4.0	0.16	0.35	0.76	35	140	**2.5**	**0.23**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.16	0.40	0.67	85	250	**2.5**	**0.19**	**190**
			13		42 HRc	0.5	4.0	0.16	0.40	0.67	60	190	**2.2**	**0.19**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	60	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	60	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	60	190	**3.0**	**0.29**	**140**

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CNMG 120412 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	180	330	**4.0**	**0.46**	**240**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	180	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	180	250	**4.0**	**0.46**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	120	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	120	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	120	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	120	180	**4.0**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	70	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	70	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	70	130	**3.4**	**0.37**	**100**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	70	110	**3.4**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	170	270	**4.0**	**0.40**	**190**
			14		240 HB	0.7	6.0	0.25	0.54	1.70	160	220	**4.0**	**0.38**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	80	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.8	0.23	0.47	1.36	70	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.28	0.54	1.70	170	250	**4.0**	**0.40**	**190**
			13		42 HRc	0.7	4.8	0.28	0.54	1.70	120	190	**3.0**	**0.35**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.81	3.40	170	250	**4.0**	**0.46**	**200**
			15		200 HB	0.7	6.0	0.20	0.81	3.06	160	230	**4.0**	**0.46**	**180**
			16		250 HB	0.7	6.0	0.20	0.74	3.06	150	210	**4.0**	**0.46**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.68	2.55	120	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	6.0	0.20	0.68	2.21	120	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	6.0	0.20	0.68	2.04	120	190	**4.0**	**0.40**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**32**
			33	Inconel 700	250 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**30**
			34	Stellite 21	350 HB	0.7	3.6	0.25	0.47	1.19	23	40	**2.7**	**0.37**	**28**
	Ti Based	10	36	TiAl6V4	-	0.7	4.8	0.25	0.54	1.36	45	65	**2.7**	**0.44**	**55**
			37	T40	-	0.7	3.6	0.25	0.47	1.19	35	55	**2.7**	**0.40**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.14	0.41	1.02	50	100	**2.7**	**0.33**	**80**
			38		50 HRc	0.7	2.4	0.14	0.34	0.68	40	90	**2.0**	**0.26**	**70**
			38		55 HRc	0.7	1.8	0.14	0.27	0.51	40	80	**1.3**	**0.24**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.34	0.68	40	60	**2.0**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.27	0.51	30	50	**1.3**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.7	7.0	0.25	0.81	3.10	200	400	**4.0**	**0.50**	**280**

CNMG 120412 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	180	430	**4.0**	**0.50**	**265**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	180	365	**4.0**	**0.46**	**240**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	180	325	**4.0**	**0.44**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	120	365	**4.0**	**0.42**	**220**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	120	325	**4.0**	**0.42**	**200**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	120	275	**4.0**	**0.40**	**165**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	120	235	**3.6**	**0.40**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	70	245	**3.4**	**0.40**	**155**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	70	195	**3.4**	**0.40**	**130**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	70	170	**2.9**	**0.37**	**110**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	70	145	**2.9**	**0.37**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.19	0.81	3.40	170	325	**4.0**	**0.46**	**220**
			15		200 HB	0.7	6.0	0.19	0.81	3.06	160	300	**4.0**	**0.46**	**200**
			16		250 HB	0.7	6.0	0.19	0.74	3.06	150	275	**4.0**	**0.46**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.19	0.68	2.55	120	325	**4.0**	**0.40**	**200**
			17,19		200 HB	0.7	6.0	0.19	0.68	2.21	120	300	**4.0**	**0.40**	**175**
			18,20		250 HB	0.7	6.0	0.19	0.68	2.04	120	245	**4.0**	**0.40**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.14	0.41	1.02	50	130	**2.7**	**0.33**	**90**
			38		50 HRc	0.7	2.4	0.14	0.34	0.68	40	115	**2.0**	**0.26**	**75**
			38		55 HRc	0.7	1.8	0.14	0.27	0.51	40	105	**1.3**	**0.24**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.34	0.68	40	80	**2.0**	**0.24**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.27	0.51	30	65	**1.3**	**0.20**	**45**

CNMG 120412 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	90	330	**4.0**	**0.50**	**240**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	90	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	90	250	**4.0**	**0.44**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	60	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	60	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	60	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	60	180	**3.6**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	35	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	35	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	35	130	**2.9**	**0.37**	**100**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	35	110	**2.9**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	85	270	**4.0**	**0.33**	**190**
			14		240 HB	0.7	6.0	0.25	0.54	1.70	80	220	**4.0**	**0.29**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	40	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.8	0.23	0.47	1.36	35	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.23	0.54	1.19	85	250	**3.4**	**0.26**	**190**
			13		42 HRc	0.7	4.8	0.23	0.54	1.19	60	190	**2.9**	**0.26**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.19	0.68	2.55	60	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	6.0	0.19	0.68	2.21	60	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	6.0	0.19	0.68	2.04	60	190	**4.0**	**0.40**	**140**

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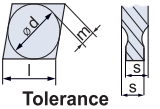
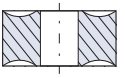
C N M M

Shape

Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13



Fixing,, Chipbreaker

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMM 120408 NR LT 1025	12	4.76	0.8	T0004115	●	●	●
CNMM 120412 NR LT 1025	12	4.76	1.2	T0004116	●	●	●

80° diamond shape, single sided inserts. Strong cutting edge for roughing operations which includes interrupted cut, high feed and high depth of cut.

Machining Recommendations

Details on page 14

F ⇒ Productivity

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

CNMM 120408 NR – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.21	0.60	2.88	90	330	**4.2**	**0.46**	**240**
			2		190 HB	0.5	7.0	0.21	0.60	2.88	90	280	**4.2**	**0.42**	**220**
			3		250 HB	0.5	7.0	0.21	0.54	2.40	90	250	**4.2**	**0.40**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.21	0.54	1.92	60	280	**4.2**	**0.38**	**200**
			4,6		230 HB	0.5	5.6	0.21	0.54	1.92	60	250	**4.2**	**0.38**	**180**
			5,7		280 HB	0.5	5.6	0.18	0.48	1.92	60	210	**4.2**	**0.36**	**150**
			8		350 HB	0.5	4.9	0.18	0.48	1.60	60	180	**3.8**	**0.36**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.6	0.18	0.48	1.92	35	190	**3.5**	**0.36**	**140**
			10		280 HB	0.5	5.6	0.18	0.48	1.92	35	150	**3.5**	**0.36**	**120**
			11		320 HB	0.5	4.2	0.18	0.42	1.28	35	130	**3.1**	**0.34**	**100**
			11		350 HB	0.5	4.2	0.18	0.42	1.28	35	110	**3.1**	**0.34**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.20	0.48	1.92	85	270	**4.2**	**0.30**	**190**
			14		240 HB	0.5	7.0	0.20	0.48	1.60	80	220	**4.2**	**0.26**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.6	0.18	0.42	1.28	40	150	**3.5**	**0.29**	**100**
			14		310 HB	0.5	5.6	0.18	0.42	1.28	35	140	**3.5**	**0.29**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.18	0.48	1.12	85	250	**3.5**	**0.24**	**190**
			13		42 HRc	0.5	5.6	0.18	0.48	1.12	60	190	**3.1**	**0.24**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.60	2.40	60	250	**4.2**	**0.36**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.60	2.08	60	230	**4.2**	**0.36**	**160**
			18,20		250 HB	0.5	7.0	0.15	0.60	1.92	60	190	**4.2**	**0.36**	**140**

CNMM 120412 NR – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	7.0	0.21	0.60	3.24	90	330	**5.0**	**0.46**	**240**
			2		190 HB	0.7	7.0	0.21	0.60	3.24	90	280	**5.0**	**0.42**	**220**
			3		250 HB	0.7	7.0	0.21	0.54	2.70	90	250	**5.0**	**0.40**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	7.0	0.21	0.54	2.16	60	280	**5.0**	**0.38**	**200**
			4,6		230 HB	0.7	5.6	0.21	0.54	2.16	60	250	**5.0**	**0.38**	**180**
			5,7		280 HB	0.7	5.6	0.18	0.48	2.16	60	210	**5.0**	**0.36**	**150**
			8		350 HB	0.7	4.9	0.18	0.48	1.80	60	180	**4.5**	**0.36**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	5.6	0.18	0.48	2.16	35	190	**4.1**	**0.36**	**140**
			10		280 HB	0.7	5.6	0.18	0.48	2.16	35	150	**4.1**	**0.36**	**120**
			11		320 HB	0.7	4.2	0.18	0.42	1.44	35	130	**3.6**	**0.34**	**100**
			11		350 HB	0.7	4.2	0.18	0.42	1.44	35	110	**3.6**	**0.34**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	7.0	0.20	0.48	2.16	85	270	**5.0**	**0.30**	**190**
			14		240 HB	0.7	7.0	0.20	0.48	1.80	80	220	**5.0**	**0.26**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	5.6	0.18	0.42	1.44	40	150	**4.1**	**0.29**	**100**
			14		310 HB	0.7	5.6	0.18	0.42	1.44	35	140	**4.1**	**0.29**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	7.0	0.18	0.48	1.26	85	250	**4.1**	**0.24**	**190**
			13		42 HRc	0.7	5.6	0.18	0.48	1.26	60	190	**3.6**	**0.24**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	7.0	0.15	0.60	2.70	60	250	**5.0**	**0.36**	**180**
			17,19		200 HB	0.7	7.0	0.15	0.60	2.34	60	230	**5.0**	**0.36**	**160**
			18,20		250 HB	0.7	7.0	0.15	0.60	2.16	60	190	**5.0**	**0.36**	**140**

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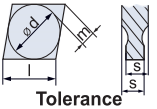
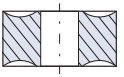
C N M P

Shape

Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13



Fixing, Chipbreaker

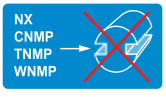
LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMP 120408 NN LT 1000	12	4.76	0.8	T0001900	●	●	●
CNMP 120412 NN LT 1000	12	4.76	1.2	T0001901	●	●	●

LT 1025 Recommended for moderate to low speed					Application guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNMP 120408 NN LT 1025	12	4.76	0.8	T0004117	●	●	●
CNMP 120412 NN LT 1025	12	4.76	1.2	T0004118	●	●	●

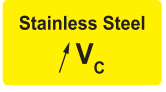
80° diamond shape, double sided inserts with positive chipbreaker geometry. Generates low cutting force. Suitable for high temperature alloys.

Machining Recommendations

Details on page 14



LT 1000



LT 1000

LT 1000 and 1025

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

CNMP 120408 NN – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

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www.akytec.ru

CNMP 120412 NN – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	180	330	**4.0**	**0.46**	**240**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	180	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	180	250	**4.0**	**0.46**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	120	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	120	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	120	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	120	180	4.0	0.40	130
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	70	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	70	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	70	130	**3.4**	**0.37**	**100**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	70	110	**3.4**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	170	270	**4.0**	**0.40**	**190**
			14		240 HB	0.7	6.0	0.25	0.54	1.70	160	220	**4.0**	**0.38**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	80	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.8	0.23	0.47	1.36	70	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.28	0.54	1.70	170	250	**4.0**	**0.40**	**190**
			13		42 HRc	0.7	4.8	0.28	0.54	1.70	120	190	**3.0**	**0.36**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.81	3.40	170	250	**4.0**	**0.46**	**200**
			15		200 HB	0.7	6.0	0.20	0.81	3.06	160	230	**4.0**	**0.46**	**180**
			16		250 HB	0.7	6.0	0.20	0.74	3.06	150	210	**4.0**	**0.46**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.68	2.55	120	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	6.0	0.20	0.68	2.21	120	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	6.0	0.20	0.68	2.04	120	190	**4.0**	**0.40**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**32**
			33	Inconel 700	250 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**30**
			34	Stellite 21	350 HB	0.7	3.6	0.25	0.47	1.19	23	40	**2.7**	**0.37**	**28**
	Ti Based	10	36	TiAl6V4	-	0.7	4.8	0.25	0.54	1.36	45	65	**2.7**	**0.40**	**55**
			37	T40	-	0.7	3.6	0.25	0.47	1.19	35	55	**2.7**	**0.37**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.14	0.41	1.02	50	100	**2.7**	**0.33**	**80**
			38		50 HRc	0.7	2.4	0.14	0.34	0.68	40	90	**2.0**	**0.26**	**70**
			38		55 HRc	0.7	1.8	0.14	0.27	0.51	40	80	**1.3**	**0.24**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.34	0.68	40	60	**2.0**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.27	0.51	30	50	**1.3**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.7	7.0	0.25	0.81	3.10	200	400	**4.0**	**0.50**	**280**

CNMP 120408 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	4.0	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

CNMP 120412 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	90	330	**4.0**	**0.50**	**240**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	90	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	90	250	**4.0**	**0.44**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	60	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	60	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	60	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	60	180	**3.6**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	35	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	35	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	35	130	**2.9**	**0.37**	**100**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	35	110	**2.9**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	85	270	**4.0**	**0.33**	**190**
			14		240 HB	0.7	6.0	0.25	0.54	1.70	80	220	**4.0**	**0.29**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	40	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.8	0.23	0.47	1.36	35	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.23	0.54	1.19	85	250	**3.4**	**0.26**	**190**
			13		42 HRc	0.7	4.8	0.23	0.54	1.19	60	190	**2.9**	**0.26**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.19	0.68	2.55	60	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	6.0	0.19	0.68	2.21	60	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	6.0	0.19	0.68	2.04	60	190	**4.0**	**0.40**	**140**

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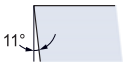
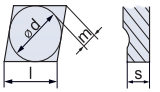
www.akytec.ru

C P M T

Shape

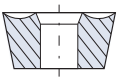


Clearance Angle



Tolerance

s ± 0.13
For l = 06/09, **d** ± 0.05 **m** ± 0.08
For l = 12, **d** ± 0.08 **m** ± 0.13



Fixing, Chipbreaker

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CPMT 060204 NN LT 1000	6	2.38	0.4	T0003088	●	●	●
CPMT 060208 NN LT 1000	6	2.38	0.8	T0003144	●	●	●
CPMT 09T304 NN LT 1000	9	3.97	0.4	T0003145	●	●	●
CPMT 09T308 NN LT 1000	9	3.97	0.8	T0003146	●	●	●

80° diamond shape inserts with positive chipbreaker geometry. Very popular and useful for boring (even of small diameters), facing and external turning operations.

Machining Recommendations

Details on page 14

Stainless Steel
V_c

F ⇒
Productivity

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

CPMT 060204 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.4	2.1	0.08	0.20	0.37	180	330	**1.0**	**0.16**	**240**
			2		190 HB	0.4	1.8	0.08	0.19	0.32	180	280	**1.0**	**0.16**	**220**
			3		250 HB	0.4	1.8	0.08	0.17	0.30	180	250	**1.0**	**0.16**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.4	1.8	0.08	0.17	0.31	120	280	**1.0**	**0.14**	**200**
			4,6		230 HB	0.4	1.8	0.08	0.17	0.30	120	250	**1.0**	**0.14**	**180**
			5,7		280 HB	0.4	1.4	0.08	0.15	0.25	120	210	**1.0**	**0.14**	**150**
			8		350 HB	0.4	1.4	0.08	0.15	0.22	120	180	**1.0**	**0.14**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.4	1.8	0.07	0.15	0.25	70	190	**1.0**	**0.11**	**140**
			10		280 HB	0.4	1.8	0.07	0.14	0.25	70	150	**1.0**	**0.11**	**120**
			11		320 HB	0.4	1.4	0.07	0.12	0.20	70	130	**1.0**	**0.11**	**100**
			11		350 HB	0.4	1.4	0.07	0.12	0.16	70	110	**1.0**	**0.11**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.4	1.8	0.08	0.15	0.20	170	270	**1.0**	**0.11**	**220**
			14		240 HB	0.4	1.8	0.08	0.15	0.16	160	220	**1.0**	**0.11**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.4	1.4	0.07	0.12	0.12	80	150	**1.0**	**0.11**	**100**
			14		310 HB	0.4	1.4	0.07	0.12	0.12	70	140	**1.0**	**0.11**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.4	1.8	0.08	0.15	0.20	170	250	**0.9**	**0.14**	**210**
			13		42 HRc	0.4	1.4	0.08	0.14	0.16	120	190	**0.9**	**0.11**	**140**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.4	2.1	0.06	0.17	0.40	170	250	**1.0**	**0.16**	**200**
			15		200 HB	0.4	2.1	0.06	0.17	0.37	160	230	**1.0**	**0.16**	**180**
			16		250 HB	0.4	2.1	0.06	0.17	0.37	150	210	**1.0**	**0.16**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.4	1.8	0.06	0.15	0.30	120	250	**1.0**	**0.14**	**180**
			17,19		200 HB	0.4	1.8	0.06	0.15	0.25	120	230	**1.0**	**0.14**	**160**
			18,20		250 HB	0.4	1.8	0.06	0.15	0.25	120	190	**1.0**	**0.14**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.4	1.4	0.08	0.13	0.16	25	45	**1.0**	**0.11**	**33**
			33	Inconel 700	250 HB	0.4	1.4	0.08	0.13	0.16	25	45	**1.0**	**0.11**	**30**
			34	Stellite 21	350 HB	0.4	1.4	0.08	0.13	0.16	23	40	**1.0**	**0.11**	**28**
	Ti Based	10	36	TiAl6V4	-	0.4	1.4	0.08	0.14	0.20	45	65	**1.0**	**0.13**	**55**
			37	T40	-	0.4	1.4	0.08	0.12	0.16	35	55	**1.0**	**0.11**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.3	0.04	0.10	0.12	50	100	**0.8**	**0.10**	**80**
			38		50 HRc	0.4	1.1	0.04	0.09	0.11	40	90	**0.6**	**0.08**	**70**
			38		55 HRc	0.4	1.0	0.04	0.08	0.08	40	80	**0.5**	**0.06**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.1	0.04	0.10	0.11	40	60	**0.6**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.0	0.04	0.08	0.08	30	50	**0.5**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.4	2.8	0.08	0.26	0.43	200	400	**1.0**	**0.18**	**280**

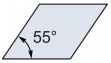
CPMT 09T304 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.2	3.0	0.11	0.23	0.60	180	330	**1.6**	**0.18**	**240**
			2		190 HB	0.2	2.5	0.11	0.22	0.52	180	280	**1.6**	**0.18**	**220**
			3		250 HB	0.2	2.5	0.11	0.20	0.48	180	250	**1.6**	**0.18**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.2	2.5	0.11	0.20	0.50	120	280	**1.6**	**0.15**	**200**
			4,6		230 HB	0.2	2.5	0.11	0.20	0.48	120	250	**1.6**	**0.15**	**180**
			5,7		280 HB	0.2	2.0	0.11	0.18	0.40	120	210	**1.6**	**0.15**	**150**
			8		350 HB	0.2	2.0	0.11	0.18	0.35	120	180	**1.6**	**0.15**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.2	2.5	0.10	0.18	0.40	70	190	**1.6**	**0.12**	**140**
			10		280 HB	0.2	2.5	0.10	0.16	0.40	70	150	**1.6**	**0.12**	**120**
			11		320 HB	0.2	2.0	0.10	0.14	0.32	70	130	**1.6**	**0.12**	**100**
			11		350 HB	0.2	2.0	0.10	0.14	0.26	70	110	**1.6**	**0.12**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.2	2.5	0.11	0.18	0.32	170	270	**1.6**	**0.12**	**220**
			14		240 HB	0.2	2.5	0.11	0.18	0.26	160	220	**1.6**	**0.12**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.2	2.0	0.10	0.14	0.19	80	150	**1.6**	**0.12**	**100**
			14		310 HB	0.2	2.0	0.10	0.14	0.19	70	140	**1.6**	**0.12**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.2	2.5	0.11	0.18	0.32	170	250	**1.4**	**0.15**	**210**
			13		42 HRc	0.2	2.0	0.11	0.16	0.26	120	190	**1.4**	**0.12**	**140**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.2	3.0	0.08	0.20	0.64	170	250	**1.6**	**0.18**	**200**
			15		200 HB	0.2	3.0	0.08	0.20	0.60	160	230	**1.6**	**0.18**	**180**
			16		250 HB	0.2	3.0	0.08	0.20	0.60	150	210	**1.6**	**0.18**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.2	2.5	0.08	0.18	0.48	120	250	**1.6**	**0.15**	**180**
			17,19		200 HB	0.2	2.5	0.08	0.18	0.40	120	230	**1.6**	**0.15**	**160**
			18,20		250 HB	0.2	2.5	0.08	0.18	0.40	120	190	**1.6**	**0.15**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.2	2.0	0.11	0.15	0.26	25	45	**1.6**	**0.12**	**33**
			33	Inconel 700	250 HB	0.2	2.0	0.11	0.15	0.26	25	45	**1.6**	**0.12**	**30**
			34	Stellite 21	350 HB	0.2	2.0	0.11	0.15	0.26	23	40	**1.6**	**0.12**	**28**
	Ti Based	10	36	TiAl6V4	-	0.2	2.0	0.11	0.16	0.32	45	65	**1.6**	**0.14**	**55**
			37	T40	-	0.2	2.0	0.11	0.14	0.26	35	55	**1.6**	**0.12**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.2	1.8	0.06	0.12	0.19	50	100	**1.3**	**0.11**	**80**
			38		50 HRc	0.2	1.6	0.06	0.11	0.18	40	90	**1.0**	**0.09**	**70**
			38		55 HRc	0.2	1.4	0.06	0.09	0.13	40	80	**0.8**	**0.07**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.2	1.6	0.06	0.12	0.18	40	60	**1.0**	**0.11**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.2	1.4	0.06	0.09	0.13	30	50	**0.8**	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.2	3.9	0.11	0.30	0.69	200	400	**1.6**	**0.20**	**280**

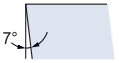
CPMT 09T308 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.21	0.50	1.62	180	330	**3.0**	**0.34**	**240**
			2		190 HB	0.5	4.0	0.21	0.50	1.62	180	280	**3.0**	**0.32**	**220**
			3		250 HB	0.5	4.0	0.21	0.45	1.35	180	250	**3.0**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.21	0.45	1.08	120	280	**3.0**	**0.29**	**200**
			4,6		230 HB	0.5	3.2	0.21	0.45	1.08	120	250	**3.0**	**0.29**	**180**
			5,7		280 HB	0.5	3.2	0.18	0.40	1.08	120	210	**3.0**	**0.27**	**150**
			8		350 HB	0.5	2.8	0.18	0.40	0.90	120	180	**2.7**	**0.27**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.18	0.40	1.08	70	190	**2.5**	**0.27**	**140**
			10		280 HB	0.5	3.2	0.18	0.40	1.08	70	150	**2.5**	**0.27**	**120**
			11		320 HB	0.5	2.4	0.18	0.35	0.72	70	130	**2.2**	**0.25**	**100**
			11		350 HB	0.5	2.4	0.18	0.35	0.72	70	110	**2.2**	**0.25**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.20	0.40	1.08	170	270	**3.0**	**0.23**	**190**
			14		240 HB	0.5	4.0	0.20	0.40	0.90	160	220	**3.0**	**0.20**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.18	0.35	0.72	80	150	**2.5**	**0.22**	**100**
			14		310 HB	0.5	3.2	0.18	0.35	0.72	70	140	**2.5**	**0.22**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.18	0.40	0.63	170	250	**2.5**	**0.18**	**190**
			13		42 HRc	0.5	3.2	0.18	0.40	0.63	120	190	**2.2**	**0.18**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.15	0.60	1.80	170	250	**3.0**	**0.32**	**200**
			15		200 HB	0.5	4.0	0.15	0.60	1.62	160	230	**3.0**	**0.32**	**180**
			16		250 HB	0.5	4.0	0.15	0.55	1.62	150	210	**3.0**	**0.32**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.15	0.50	1.35	120	250	**3.0**	**0.27**	**180**
			17,19		200 HB	0.5	4.0	0.15	0.50	1.17	120	230	**3.0**	**0.27**	**160**
			18,20		250 HB	0.5	4.0	0.15	0.50	1.08	120	190	**3.0**	**0.27**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.20	0.35	0.63	23	40	**2.0**	**0.25**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.8	0.20	0.40	0.72	45	65	**2.0**	**0.30**	**55**
			37	T40	-	0.5	2.4	0.20	0.35	0.63	35	55	**2.0**	**0.27**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.0	0.11	0.30	0.54	50	100	**2.0**	**0.23**	**80**
			38		50 HRc	0.5	1.6	0.11	0.25	0.36	40	90	**1.5**	**0.18**	**70**
			38		55 HRc	0.5	1.2	0.11	0.20	0.27	40	80	**1.0**	**0.16**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.6	0.11	0.25	0.36	40	60	**1.5**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.11	0.20	0.27	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.8	0.20	0.60	1.62	200	400	**3.0**	**0.36**	**280**

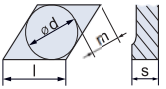
D C M T



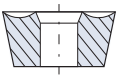
Shape



Clearance Angle



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DCMT 070204 NN LT 10	7	2.38	0.4	T0000064	●	●	●
DCMT 11T304 NN LT 10	11	3.97	0.4	T0000065	●	●	●
DCMT 11T308 NN LT 10	11	3.97	0.8	T0000721	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DCMT 070204 NN LT 1000	7	2.38	0.4	T0001902	●	●	●
DCMT 11T304 NN LT 1000	11	3.97	0.4	T0001903	●	●	●
DCMT 11T308 NN LT 1000	11	3.97	0.8	T0001904	●	●	●

55° diamond shape inserts. Suitable for internal turning due to a unique chip removal geometry. Generates low cutting force. Most suitable for small work-pieces.

Machining Recommendations

Details on page 14

Stainless Steel
V_c

LT 10 and LT 1000

F ⇒
Productivity

LT 10 and LT 1000

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

DCMT 070204 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	2.1	0.08	0.20	0.37	180	330	**1.0**	**0.14**	**300**
			2		190 HB	0.3	1.8	0.08	0.19	0.32	180	280	**1.0**	**0.14**	**260**
			3		250 HB	0.3	1.8	0.08	0.17	0.30	180	250	**1.0**	**0.14**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	1.8	0.08	0.17	0.31	120	280	**1.0**	**0.11**	**260**
			4,6		230 HB	0.3	1.8	0.08	0.17	0.30	120	250	**1.0**	**0.11**	**240**
			5,7		280 HB	0.3	1.4	0.08	0.15	0.25	120	210	**1.0**	**0.10**	**200**
			8		350 HB	0.3	1.4	0.08	0.15	0.22	120	180	**1.0**	**0.10**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	1.8	0.07	0.15	0.25	70	190	**0.9**	**0.08**	**180**
			10		280 HB	0.3	1.8	0.07	0.14	0.25	70	150	**0.9**	**0.08**	**140**
			11		320 HB	0.3	1.4	0.07	0.12	0.20	70	130	**0.9**	**0.08**	**120**
			11		350 HB	0.3	1.4	0.07	0.12	0.16	70	110	**0.9**	**0.08**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	1.8	0.06	0.15	0.20	170	270	**1.0**	**0.07**	**260**
			14		240 HB	0.3	1.8	0.06	0.15	0.16	160	220	**1.0**	**0.06**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	1.4	0.06	0.12	0.12	80	150	**0.9**	**0.06**	**140**
			14		310 HB	0.3	1.4	0.06	0.12	0.12	70	140	**0.9**	**0.06**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	1.8	0.06	0.15	0.20	170	250	**0.9**	**0.07**	**240**
			13		42 HRc	0.3	1.4	0.06	0.14	0.16	120	190	**0.8**	**0.06**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	2.1	0.06	0.17	0.40	170	250	**1.0**	**0.14**	**240**
			15		200 HB	0.3	2.1	0.06	0.17	0.37	160	230	**1.0**	**0.14**	**220**
			16		250 HB	0.3	2.1	0.06	0.17	0.37	150	210	**1.0**	**0.14**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	1.8	0.06	0.15	0.30	120	250	**1.0**	**0.10**	**240**
			17,19		200 HB	0.3	1.8	0.06	0.15	0.25	120	230	**1.0**	**0.10**	**220**
			18,20		250 HB	0.3	1.8	0.06	0.15	0.25	120	190	**1.0**	**0.10**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	**0.08**	**40**
			33	Inconel 700	250 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	**0.08**	**40**
			34	Stellite 21	350 HB	0.3	1.4	0.07	0.13	0.16	23	45	**0.7**	**0.08**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	1.4	0.07	0.14	0.20	45	65	**0.7**	**0.11**	**60**
			37	T40	-	0.3	1.4	0.07	0.12	0.16	35	60	**0.7**	**0.08**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.3	0.04	0.10	0.12	50	100	**0.7**	**0.08**	**90**
			38		50 HRc	0.3	1.1	0.04	0.09	0.11	40	90	**0.6**	**0.06**	**80**
			38		55 HRc	0.0	1.0	0.04	0.08	0.08	40	80	**0.5**	**0.05**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.1	0.04	0.10	0.11	40	60	**0.6**	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.0	0.04	0.08	0.08	30	50	**0.5**	**0.05**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	2.8	0.08	0.26	0.43	200	400	**1.0**	**0.18**	**350**

DCMT 11T304 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.0	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

DCMT 11T308 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.21	0.50	1.62	180	330	**3.0**	**0.32**	**240**
			2		190 HB	0.5	4.0	0.21	0.50	1.62	180	280	**3.0**	**0.32**	**220**
			3		250 HB	0.5	4.0	0.21	0.45	1.35	180	250	**3.0**	**0.32**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.21	0.45	1.08	120	280	**3.0**	**0.29**	**200**
			4,6		230 HB	0.5	3.2	0.21	0.45	1.08	120	250	**3.0**	**0.29**	**180**
			5,7		280 HB	0.5	3.2	0.18	0.40	1.08	120	210	**3.0**	**0.27**	**150**
			8		350 HB	0.5	2.8	0.18	0.40	0.90	120	180	**3.0**	**0.27**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.18	0.40	1.08	70	190	**2.5**	**0.27**	**140**
			10		280 HB	0.5	3.2	0.18	0.40	1.08	70	150	**2.5**	**0.27**	**120**
			11		320 HB	0.5	2.4	0.18	0.35	0.72	70	130	**2.5**	**0.25**	**100**
			11		350 HB	0.5	2.4	0.18	0.35	0.72	70	110	**2.5**	**0.25**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.20	0.40	1.08	170	270	**3.0**	**0.32**	**190**
			14		240 HB	0.5	4.0	0.20	0.40	0.90	160	220	**3.0**	**0.29**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.18	0.35	0.72	80	150	**2.5**	**0.25**	**100**
			14		310 HB	0.5	3.2	0.18	0.35	0.72	70	140	**2.5**	**0.25**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.22	0.40	0.90	170	250	**3.0**	**0.29**	**190**
			13		42 HRc	0.5	3.2	0.22	0.40	0.90	120	190	**2.5**	**0.29**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.15	0.60	1.80	170	250	**3.0**	**0.32**	**200**
			15		200 HB	0.5	4.0	0.15	0.60	1.62	160	230	**3.0**	**0.32**	**180**
			16		250 HB	0.5	4.0	0.15	0.55	1.62	150	210	**3.0**	**0.32**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.15	0.50	1.35	120	250	**3.0**	**0.27**	**180**
			17,19		200 HB	0.5	4.0	0.15	0.50	1.17	120	230	**3.0**	**0.27**	**160**
			18,20		250 HB	0.5	4.0	0.15	0.50	1.08	120	190	**3.0**	**0.27**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.20	0.35	0.63	23	40	**2.0**	**0.25**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.2	0.20	0.40	0.72	45	65	**2.0**	**0.30**	**55**
			37	T40	-	0.5	2.4	0.20	0.35	0.63	35	55	**2.0**	**0.27**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.0	0.11	0.30	0.54	50	100	**2.0**	**0.23**	**80**
			38		50 HRc	0.5	1.6	0.11	0.25	0.36	40	90	**1.5**	**0.18**	**70**
			38		55 HRc	0.5	1.2	0.11	0.20	0.27	40	80	**1.0**	**0.16**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.6	0.11	0.25	0.36	40	60	**1.5**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.11	0.20	0.27	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.8	0.20	0.60	1.60	200	400	**3.0**	**0.36**	**280**

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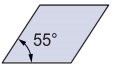
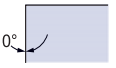
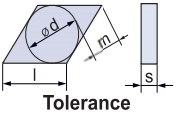
D N M A



Shape

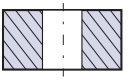


Clearance Angle



Tolerance

s ± 0.13
For l = 11, **d** ± 0.05 **m** ± 0.08
For l = 15, **d** ± 0.08 **m** ± 0.13



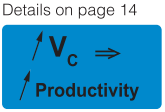
Fixing, Chipbreaker

LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNMA 150608 LT 1005	15	6.35	0.8	T0003241	●	●	●
DNMA 150612 LT 1005	15	6.35	1.2	T0003242	●	●	●

55° diamond shape flat inserts. Strong edge preparation, mainly for gray cast iron machining. Suitable for profiling of complex shapes, from roughing to finishing.

Machining Recommendations

Details on page 14



Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

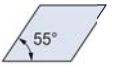
DNMA 150608 – **LT 1005**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	5.0	0.15	0.42	1.3	270	450	**3.2**	**0.30**	**350**
			15		200 HB	0.7	5.0	0.15	0.40	1.2	200	320	**3.2**	**0.30**	**250**
			16		250 HB	0.7	5.0	0.15	0.36	1.2	170	240	**3.2**	**0.30**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	5.0	0.15	0.42	1.0	130	260	**2.5**	**0.28**	**240**
			17,19		200 HB	0.7	5.0	0.15	0.40	0.8	130	230	**2.5**	**0.28**	**210**
			18,20		250 HB	0.7	5.0	0.15	0.36	0.8	130	190	**2.5**	**0.28**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.0	0.11	0.22	0.2	40	60	**1.4**	**0.15**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.5	0.11	0.22	0.2	30	50	**1.0**	**0.15**	**40**

DNMA 150612 – **LT 1005**

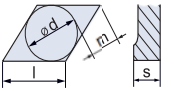
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	5.0	0.15	0.46	1.3	270	450	**3.5**	**0.33**	**350**
			15		200 HB	0.7	5.0	0.15	0.42	1.2	200	320	**3.5**	**0.33**	**250**
			16		250 HB	0.7	5.0	0.15	0.38	1.2	170	240	**3.5**	**0.33**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	5.0	0.15	0.46	1.0	130	260	**2.5**	**0.30**	**240**
			17,19		200 HB	0.7	5.0	0.15	0.42	0.9	130	230	**2.5**	**0.30**	**210**
			18,20		250 HB	0.7	5.0	0.15	0.38	0.8	130	190	**2.5**	**0.30**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.0	0.11	0.24	0.3	40	60	**1.4**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.5	0.11	0.24	0.2	30	50	**1.0**	**0.15**	**40**

D N M G



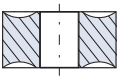
Shape

Clearance Angle



Tolerance

s ± 0.13
For l = 11, **d** ± 0.05 **m** ± 0.08
For l = 15, **d** ± 0.08 **m** ± 0.13



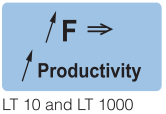
Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNMG 110404 NN LT 10	11	4.76	0.4	T0000066	●	●	●
DNMG 110408 NN LT 10	11	4.76	0.8	T0000675	●	●	●
DNMG 150404 NN LT 10	15	4.76	0.4	T0000476	●	●	●
DNMG 150408 NN LT 10	15	4.76	0.8	T0000475	●	●	●
DNMG 150412 NN LT 10	15	4.76	1.2	T0001021	●	●	●
DNMG 150604 NN LT 10	15	6.35	0.4	T0000583	●	●	●
DNMG 150608 NN LT 10	15	6.35	0.8	T0000067	●	●	●
DNMG 150612 NN LT 10	15	6.35	1.2	T0000672	●	●	●

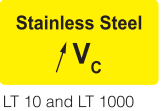
LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNMG 110404 NN LT 1000	11	4.76	0.4	T0001905	●	●	●
DNMG 110408 NN LT 1000	11	4.76	0.8	T0001906	●	●	●
DNMG 150404 NN LT 1000	15	4.76	0.4	T0001907	●	●	●
DNMG 150408 NN LT 1000	15	4.76	0.8	T0001908	●	●	●
DNMG 150408 NX LT 1000	15	4.76	0.8	T0003097	●	●	●
DNMG 150412 NN LT 1000	15	4.76	1.2	T0001909	●	●	●
DNMG 150604 NN LT 1000	15	6.35	0.4	T0001910	●	●	●
DNMG 150608 NN LT 1000	15	6.35	0.8	T0001911	●	●	●
DNMG 150608 NX LT 1000	15	6.35	0.8	T0003220	●	●	●
DNMG 150612 NN LT 1000	15	6.35	1.2	T0001912	●	●	●

Machining Recommendations

Details on page 14



LT 10 and LT 1000



LT 10 and LT 1000

NX LT 10 and LT 1000

NX LT 10 and LT 1000

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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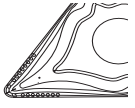
www.akytec.ru

D N M G

LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNMG 110408 NN LT 1005	11	4.76	0.8	T0004059	●	●	●
DNMG 150408 NN LT 1005	15	4.76	0.8	T0004060	●	●	●
DNMG 150408 NX LT 1005	15	4.76	1.2	T0004062	●	●	●
DNMG 150412 NN LT 1005	15	4.76	1.2	T0004064	●	●	●
DNMG 150608 NN LT 1005	15	6.35	0.8	T0004067	●	●	●
DNMG 150608 NX LT 1005	15	6.35	0.8	T0004063	●	●	●
DNMG 150612 NN LT 1005	15	6.35	1.2	T0004068	●	●	●

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNMG 110408 NN LT 1025	11	4.76	0.8	T0004119	●	●	●
DNMG 150408 NN LT 1025	15	4.76	0.8	T0004121	●	●	●
DNMG 150408 NX LT 1025	15	4.76	1.2	T0004122	●	●	●
DNMG 150412 NN LT 1025	15	4.76	1.2	T0004124	●	●	●
DNMG 150608 NN LT 1025	15	6.35	0.8	T0004126	●	●	●
DNMG 150608 NX LT 1025	15	6.35	0.8	T0004123	●	●	●
DNMG 150612 NN LT 1025	15	6.35	1.2	T0004127	●	●	●

55° diamond shape inserts. Suitable for profiling of complex shapes, from roughing to finishing.



NX chipbreaker

NN chipbreaker

Machining Recommendations

Details on page 14

Stainless Steel
Exotic Material
NX-CNMP-TNMP-WNMP

NX for LT 1025

$V_c \Rightarrow$ Productivity

LT 1005

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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www.akytec.ru

DNMG 110404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.0	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

DNMG 110408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.5	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

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DNMG 110408 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	430	**3.0**	**0.38**	**265**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	365	**3.0**	**0.35**	**240**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	325	**3.0**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	365	**3.0**	**0.32**	**220**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	325	**3.0**	**0.32**	**200**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	275	**3.0**	**0.30**	**165**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	235	**2.7**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	245	**2.5**	**0.30**	**155**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	195	**2.5**	**0.30**	**130**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	170	**2.2**	**0.28**	**110**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	145	**2.2**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	325	**3.0**	**0.35**	**220**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	300	**3.0**	**0.35**	**200**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	275	**3.0**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	325	**3.0**	**0.30**	**200**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	300	**3.0**	**0.30**	**175**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	245	**3.0**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	130	**2.0**	**0.25**	**90**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	115	**1.5**	**0.20**	**75**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	105	**1.0**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	80	**1.5**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	65	**1.0**	**0.15**	**45**

DNMG 110408 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	4.0	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

DNMG 150404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.0	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

DNMG 150408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.5	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

DNMG 150408 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	430	**3.0**	**0.38**	**265**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	365	**3.0**	**0.35**	**240**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	325	**3.0**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	365	**3.0**	**0.32**	**220**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	325	**3.0**	**0.32**	**200**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	275	**3.0**	**0.30**	**165**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	235	**2.7**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	245	**2.5**	**0.30**	**155**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	195	**2.5**	**0.30**	**130**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	170	**2.2**	**0.28**	**110**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	145	**2.2**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	325	**3.0**	**0.35**	**220**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	300	**3.0**	**0.35**	**200**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	275	**3.0**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	325	**3.0**	**0.30**	**200**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	300	**3.0**	**0.30**	**175**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	245	**3.0**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	130	**2.0**	**0.25**	**90**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	115	**1.5**	**0.20**	**75**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	105	**1.0**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	80	**1.5**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	65	**1.0**	**0.15**	**45**

DNMG 150408 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	4.0	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

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DNMG 150408 NX – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.5	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

DNMG 150408 NX – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.71	180	430	**3.0**	**0.36**	**265**
			2		190 HB	0.5	5.0	0.18	0.50	1.71	180	365	**3.0**	**0.33**	**240**
			3		250 HB	0.5	5.0	0.18	0.45	1.43	180	325	**3.0**	**0.31**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.14	120	365	**3.0**	**0.30**	**220**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.14	120	325	**3.0**	**0.30**	**200**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.14	120	275	**3.0**	**0.29**	**165**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	120	235	**2.7**	**0.29**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.14	70	245	**2.5**	**0.29**	**155**
			10		280 HB	0.5	4.0	0.16	0.40	1.14	70	195	**2.5**	**0.29**	**130**
			11		320 HB	0.5	3.0	0.16	0.35	0.76	70	170	**2.2**	**0.27**	**110**
			11		350 HB	0.5	3.0	0.16	0.35	0.76	70	145	**2.2**	**0.27**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.13	0.60	1.90	170	325	**3.0**	**0.33**	**220**
			15		200 HB	0.5	5.0	0.13	0.60	1.71	160	300	**3.0**	**0.33**	**200**
			16		250 HB	0.5	5.0	0.13	0.55	1.71	150	275	**3.0**	**0.33**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	120	325	**3.0**	**0.29**	**200**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	120	300	**3.0**	**0.29**	**175**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	120	245	**3.0**	**0.29**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.30	0.57	50	130	**2.0**	**0.24**	**90**
			38		50 HRc	0.5	2.0	0.10	0.25	0.38	40	115	**1.5**	**0.19**	**75**
			38		55 HRc	0.5	1.5	0.10	0.20	0.29	40	105	**1.0**	**0.17**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.25	0.38	40	80	**1.5**	**0.17**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	0.29	30	65	**1.0**	**0.14**	**45**

DNMG 150408 NX – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.71	90	330	**3.0**	**0.36**	**240**
			2		190 HB	0.5	5.0	0.18	0.50	1.71	90	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	5.0	0.18	0.45	1.43	90	250	**3.0**	**0.31**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.14	60	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.14	60	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.14	60	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	60	180	**2.7**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.14	35	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	4.0	0.16	0.40	1.14	35	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	3.0	0.16	0.35	0.76	35	130	**2.2**	**0.27**	**100**
			11		350 HB	0.5	3.0	0.16	0.35	0.76	35	110	**2.2**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.18	0.40	1.14	85	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	5.0	0.18	0.40	0.95	80	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.16	0.35	0.76	40	150	**2.5**	**0.23**	**100**
			14		310 HB	0.5	4.0	0.16	0.35	0.76	35	140	**2.5**	**0.23**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.16	0.40	0.67	85	250	**2.5**	**0.19**	**190**
			13		42 HRc	0.5	4.0	0.16	0.40	0.67	60	190	**2.2**	**0.19**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	60	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	60	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	60	190	**3.0**	**0.29**	**140**

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DNMG 150412 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	180	330	**4.0**	**0.46**	**240**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	180	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	180	250	**4.0**	**0.46**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	120	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	120	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	120	210	**4.0**	**0.40**	**150**
			8		*350 HB*	0.7	4.2	0.23	0.54	1.70	120	180	**4.0**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	70	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	70	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	70	130	**3.4**	**0.37**	**100**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	70	110	**3.4**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	170	270	**4.0**	**0.40**	**190**
			14		240 HB	0.7	6.0	0.25	0.54	1.70	160	220	**4.0**	**0.38**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	80	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.8	0.23	0.47	1.36	70	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.28	0.54	1.70	170	250	**4.0**	**0.40**	**190**
			13		42 HRc	0.7	4.8	0.28	0.54	1.70	120	190	**3.0**	**0.35**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.81	3.40	170	250	**4.0**	**0.46**	**200**
			15		200 HB	0.7	6.0	0.20	0.81	3.06	160	230	**4.0**	**0.46**	**180**
			16		250 HB	0.7	6.0	0.20	0.74	3.06	150	210	**4.0**	**0.46**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.68	2.55	120	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	6.0	0.20	0.68	2.21	120	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	6.0	0.20	0.68	2.04	120	190	**4.0**	**0.40**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**32**
			33	Inconel 700	250 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**30**
			34	Stellite 21	350 HB	0.7	3.6	0.25	0.47	1.19	23	40	**2.7**	**0.37**	**28**
	Ti Based	10	36	TiAl6V4	-	0.7	4.8	0.25	0.54	1.36	45	65	**2.7**	**0.44**	**55**
			37	T40	-	0.7	3.6	0.25	0.47	1.19	35	55	**2.7**	**0.40**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.14	0.41	1.02	50	100	**2.7**	**0.33**	**80**
			38		50 HRc	0.7	2.4	0.14	0.34	0.68	40	90	**2.0**	**0.26**	**70**
			38		55 HRc	0.7	1.8	0.14	0.27	0.51	40	80	**1.3**	**0.24**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.34	0.68	40	60	**2.0**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.27	0.51	30	50	**1.3**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.7	7.0	0.25	0.81	3.10	200	400	**4.0**	**0.50**	**280**

DNMG 150412 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	180	430	**4.0**	**0.50**	**265**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	180	365	**4.0**	**0.46**	**240**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	180	325	**4.0**	**0.44**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	120	365	**4.0**	**0.42**	**220**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	120	325	**4.0**	**0.42**	**200**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	120	275	**4.0**	**0.40**	**165**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	120	235	**3.6**	**0.40**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	70	245	**3.4**	**0.40**	**155**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	70	195	**3.4**	**0.40**	**130**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	70	170	**2.9**	**0.37**	**110**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	70	145	**2.9**	**0.37**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.19	0.81	3.40	170	325	**4.0**	**0.46**	**220**
			15		200 HB	0.7	6.0	0.19	0.81	3.06	160	300	**4.0**	**0.46**	**200**
			16		250 HB	0.7	6.0	0.19	0.74	3.06	150	275	**4.0**	**0.46**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.19	0.68	2.55	120	325	**4.0**	**0.40**	**200**
			17,19		200 HB	0.7	6.0	0.19	0.68	2.21	120	300	**4.0**	**0.40**	**175**
			18,20		250 HB	0.7	6.0	0.19	0.68	2.04	120	245	**4.0**	**0.40**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.14	0.41	1.02	50	130	**2.7**	**0.33**	**90**
			38		50 HRc	0.7	2.4	0.14	0.34	0.68	40	115	**2.0**	**0.26**	**75**
			38		55 HRc	0.7	1.8	0.14	0.27	0.51	40	105	**1.3**	**0.24**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.34	0.68	40	80	**2.0**	**0.24**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.27	0.51	30	65	**1.3**	**0.20**	**45**

DNMG 150412 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	90	330	**4.0**	**0.50**	**240**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	90	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	90	250	**4.0**	**0.44**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	60	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	60	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	60	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	60	180	**3.6**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	35	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	35	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	35	130	**2.9**	**0.37**	**100**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	35	110	**2.9**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	85	270	**4.0**	**0.33**	**190**
			14		240 HB	0.7	6.0	0.25	0.54	1.70	80	220	**4.0**	**0.29**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	40	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.8	0.23	0.47	1.36	35	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.23	0.54	1.19	85	250	**3.4**	**0.26**	**190**
			13		42 HRc	0.7	4.8	0.23	0.54	1.19	60	190	**2.9**	**0.26**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.19	0.68	2.55	60	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	6.0	0.19	0.68	2.21	60	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	6.0	0.19	0.68	2.04	60	190	**4.0**	**0.40**	**140**

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DNMG 150604 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

DNMG 150608 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.5	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

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DNMG 150608 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	430	**3.0**	**0.38**	**265**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	365	**3.0**	**0.35**	**240**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	325	**3.0**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	365	**3.0**	**0.32**	**220**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	325	**3.0**	**0.32**	**200**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	275	**3.0**	**0.30**	**165**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	235	**2.7**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	245	**2.5**	**0.30**	**155**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	195	**2.5**	**0.30**	**130**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	170	**2.2**	**0.28**	**110**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	145	**2.2**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	325	**3.0**	**0.35**	**220**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	300	**3.0**	**0.35**	**200**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	275	**3.0**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	325	**3.0**	**0.30**	**200**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	300	**3.0**	**0.30**	**175**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	245	**3.0**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	130	**2.0**	**0.25**	**90**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	115	**1.5**	**0.20**	**75**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	105	**1.0**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	80	**1.5**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	65	**1.0**	**0.15**	**45**

DNMG 150608 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	4.0	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

DNMG 150608 NX – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.5	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

DNMG 150608 NX – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.71	180	430	**3.0**	**0.36**	**265**
			2		190 HB	0.5	5.0	0.18	0.50	1.71	180	365	**3.0**	**0.33**	**240**
			3		250 HB	0.5	5.0	0.18	0.45	1.43	180	325	**3.0**	**0.31**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.14	120	365	**3.0**	**0.30**	**220**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.14	120	325	**3.0**	**0.30**	**200**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.14	120	275	**3.0**	**0.29**	**165**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	120	235	**2.7**	**0.29**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.14	70	245	**2.5**	**0.29**	**155**
			10		280 HB	0.5	4.0	0.16	0.40	1.14	70	195	**2.5**	**0.29**	**130**
			11		320 HB	0.5	3.0	0.16	0.35	0.76	70	170	**2.2**	**0.27**	**110**
			11		350 HB	0.5	3.0	0.16	0.35	0.76	70	145	**2.2**	**0.27**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.13	0.60	1.90	170	325	**3.0**	**0.33**	**220**
			15		200 HB	0.5	5.0	0.13	0.60	1.71	160	300	**3.0**	**0.33**	**200**
			16		250 HB	0.5	5.0	0.13	0.55	1.71	150	275	**3.0**	**0.33**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	120	325	**3.0**	**0.29**	**200**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	120	300	**3.0**	**0.29**	**175**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	120	245	**3.0**	**0.29**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.30	0.57	50	130	**2.0**	**0.24**	**90**
			38		50 HRc	0.5	2.0	0.10	0.25	0.38	40	115	**1.5**	**0.19**	**75**
			38		55 HRc	0.5	1.5	0.10	0.20	0.29	40	105	**1.0**	**0.17**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.25	0.38	40	80	**1.5**	**0.17**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	0.29	30	65	**1.0**	**0.14**	**45**

DNMG 150608 NX – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.71	90	330	**3.0**	**0.36**	**240**
			2		190 HB	0.5	5.0	0.18	0.50	1.71	90	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	5.0	0.18	0.45	1.43	90	250	**3.0**	**0.31**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.14	60	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.14	60	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.14	60	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	60	180	**2.7**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.14	35	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	4.0	0.16	0.40	1.14	35	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	3.0	0.16	0.35	0.76	35	130	**2.2**	**0.27**	**100**
			11		350 HB	0.5	3.0	0.16	0.35	0.76	35	110	**2.2**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.18	0.40	1.14	85	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	5.0	0.18	0.40	0.95	80	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.16	0.35	0.76	40	150	**2.5**	**0.23**	**100**
			14		310 HB	0.5	4.0	0.16	0.35	0.76	35	140	**2.5**	**0.23**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.16	0.40	0.67	85	250	**2.5**	**0.19**	**190**
			13		42 HRc	0.5	4.0	0.16	0.40	0.67	60	190	**2.2**	**0.19**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	60	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	60	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	60	190	**3.0**	**0.29**	**140**

DNMG 150612 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	180	330	**4.0**	**0.46**	**240**
			2		190 HB	0.7	6.0	0.26	0.68	3.06	180	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	6.0	0.26	0.61	2.55	180	250	**4.0**	**0.46**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.26	0.61	2.04	120	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.8	0.26	0.61	2.04	120	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.8	0.23	0.54	2.04	120	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	4.2	0.23	0.54	1.70	120	180	**4.0**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	70	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.8	0.23	0.54	2.04	70	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.6	0.23	0.47	1.36	70	130	**3.4**	**0.37**	**100**
			11		350 HB	0.7	3.6	0.23	0.47	1.36	70	110	**3.4**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	170	270	**4.0**	**0.40**	**190**
			14		240 HB	0.7	6.0	0.25	0.54	1.70	160	220	**4.0**	**0.38**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	80	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.8	0.23	0.47	1.36	70	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.28	0.54	1.70	170	250	**4.0**	**0.40**	**190**
			13		42 HRc	0.7	4.8	0.28	0.54	1.70	120	190	**3.0**	**0.35**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.81	3.40	170	250	**4.0**	**0.46**	**200**
			15		200 HB	0.7	6.0	0.20	0.81	3.06	160	230	**4.0**	**0.46**	**180**
			16		250 HB	0.7	6.0	0.20	0.74	3.06	150	210	**4.0**	**0.46**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.68	2.55	120	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	6.0	0.20	0.68	2.21	120	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	6.0	0.20	0.68	2.04	120	190	**4.0**	**0.40**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**32**
			33	Inconel 700	250 HB	0.7	3.6	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**30**
			34	Stellite 21	350 HB	0.7	3.6	0.25	0.47	1.19	23	40	**2.7**	**0.37**	**28**
	Ti Based	10	36	TiAl6V4	-	0.7	4.8	0.25	0.54	1.36	45	65	**2.7**	**0.44**	**55**
			37	T40	-	0.7	3.6	0.25	0.47	1.19	35	55	**2.7**	**0.40**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.14	0.41	1.02	50	100	**2.7**	**0.33**	**80**
			38		50 HRc	0.7	2.4	0.14	0.34	0.68	40	90	**2.0**	**0.26**	**70**
			38		55 HRc	0.7	1.8	0.14	0.27	0.51	40	80	**1.3**	**0.24**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.34	0.68	40	60	**2.0**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.27	0.51	30	50	**1.3**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.7	7.0	0.25	0.81	3.10	200	400	**4.0**	**0.50**	**280**

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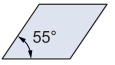
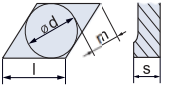


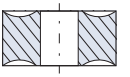
Shape

Clearance Angle



Tolerance

d ± 0.08
m ± 0.13
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNUX 150608 R11 LT10	15	6.35	0.8	T0002157	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNUX 150608 R11 LT 1000	15	6.35	0.8	T0002793	●	●	●

55° nose angle inserts with four cutting edges. Excellent chip control and low cutting force. Suitable for conventional turning operations and long shafts.

Machining Recommendations

Details on page 14

V_c ⇒ Productivity

Stainless Steel V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

DNUX 150608 R11 – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.70	180	330	**3.0**	**0.33**	**240**
			2		190 HB	0.5	5.0	0.18	0.50	1.70	180	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	5.0	0.18	0.45	1.45	180	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.15	120	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.15	120	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.15	120	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	120	180	**3.0**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.15	70	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	4.0	0.16	0.40	1.15	70	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	3.0	0.16	0.35	0.75	70	130	**2.5**	**0.27**	**100**
			11		350 HB	0.5	3.0	0.16	0.35	0.75	70	110	**2.5**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.18	0.40	1.15	170	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	5.0	0.18	0.40	0.95	160	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.16	0.35	0.75	80	150	**2.5**	**0.27**	**100**
			14		310 HB	0.5	4.0	0.16	0.35	0.75	70	140	**2.5**	**0.27**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.19	0.40	0.95	170	250	**2.5**	**0.29**	**190**
			13		42 HRc	0.5	4.0	0.19	0.40	0.95	120	190	**2.2**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.13	0.60	1.90	170	250	**3.0**	**0.33**	**200**
			15		200 HB	0.5	5.0	0.13	0.60	1.70	160	230	**3.0**	**0.33**	**180**
			16		250 HB	0.5	5.0	0.13	0.55	1.70	150	210	**3.0**	**0.33**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.45	120	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.25	120	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.15	120	190	**3.0**	**0.29**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			33	Inconel 700	250 HB	0.5	3.0	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.18	0.35	0.65	25	40	**2.0**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	3.5	0.18	0.40	0.75	45	65	**2.0**	**0.31**	**55**
			37	T40	-	0.5	3.0	0.18	0.35	0.65	35	55	**2.0**	**0.29**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.30	0.55	50	100	**2.0**	**0.24**	**80**
			38		50 HRc	0.5	2.0	0.10	0.25	0.40	40	90	**1.5**	**0.19**	**70**
			38		55 HRc	0.5	1.5	0.10	0.20	0.30	40	80	**1.0**	**0.17**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.25	0.40	40	60	**1.5**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	0.30	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.18	0.60	1.70	200	400	**3.0**	**0.38**	**280**

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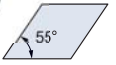
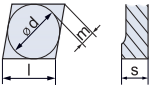
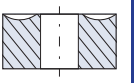


Shape

Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
KNUX 160405 R LT 10	16	4.76	0.5	T0000951	●	●	●
KNUX 160405 L LT 10	16	4.76	0.5	T0003884	●	●	●

A 55° nose angle inserts with two cutting edges. Popular insert with excellent chip control and low cutting force. Suitable for conventional turning operations.

Machining Recommendations

Details on page 14

$V_c \Rightarrow$ Productivity

Stainless Steel V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

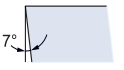
● = Good ● = Acceptable ● = Not recommended

KNUX 160405 L/R – **LT 10 | LT 1000**

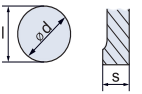
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.2	5.0	0.11	0.23	0.85	180	330	**3.0**	**0.18**	**300**
			2		190 HB	0.2	4.2	0.11	0.22	0.73	180	280	**3.0**	**0.18**	**260**
			3		250 HB	0.2	4.2	0.11	0.20	0.68	180	250	**3.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.2	4.2	0.10	0.20	0.71	120	280	**3.0**	**0.15**	**260**
			4,6		230 HB	0.2	4.2	0.10	0.20	0.68	120	250	**3.0**	**0.15**	**240**
			5,7		280 HB	0.2	3.3	0.10	0.18	0.56	120	210	**3.0**	**0.15**	**200**
			8		350 HB	0.2	3.3	0.10	0.18	0.51	120	180	**3.0**	**0.15**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.2	4.2	0.09	0.18	0.56	70	190	**2.0**	**0.12**	**180**
			10		280 HB	0.2	4.2	0.09	0.16	0.56	70	150	**2.0**	**0.12**	**140**
			11		320 HB	0.2	3.3	0.09	0.14	0.45	70	130	**2.0**	**0.12**	**120**
			11		350 HB	0.2	3.3	0.09	0.14	0.37	70	110	**2.0**	**0.12**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.2	4.2	0.10	0.18	0.60	170	270	**3.0**	**0.15**	**260**
			14		240 HB	0.2	4.2	0.10	0.18	0.50	160	220	**3.0**	**0.15**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.2	3.3	0.09	0.14	0.40	80	150	**2.0**	**0.15**	**140**
			14		310 HB	0.2	3.3	0.09	0.14	0.40	70	140	**2.0**	**0.15**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.2	4.2	0.10	0.18	0.50	170	250	**3.0**	**0.15**	**240**
			13		42 HRc	0.2	3.3	0.10	0.16	0.45	120	190	**2.0**	**0.15**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.2	5.0	0.08	0.20	0.85	170	250	**3.0**	**0.18**	**240**
			15		200 HB	0.2	5.0	0.08	0.20	0.75	160	230	**3.0**	**0.18**	**220**
			16		250 HB	0.2	5.0	0.08	0.20	0.65	150	210	**3.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.2	4.2	0.08	0.18	0.68	120	250	**2.5**	**0.15**	**240**
			17,19		200 HB	0.2	4.2	0.08	0.18	0.60	120	230	**2.5**	**0.15**	**220**
			18,20		250 HB	0.2	4.2	0.08	0.18	0.56	120	190	**2.5**	**0.15**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.2	3.3	0.09	0.15	0.40	25	50	**2.0**	**0.12**	**40**
			33	Inconel 700	250 HB	0.2	3.3	0.09	0.15	0.40	25	50	**2.0**	**0.12**	**40**
			34	Stellite 21	350 HB	0.2	3.3	0.09	0.15	0.40	23	45	**2.0**	**0.12**	**35**
	Ti Based	10	36	TiAl6V4	-	0.2	3.3	0.09	0.16	0.45	45	65	**2.0**	**0.15**	**60**
			37	T40	-	0.2	3.3	0.09	0.14	0.40	35	60	**2.0**	**0.12**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.2	3.0	0.05	0.12	0.28	50	100	**1.8**	**0.11**	**90**
			38		50 HRc	0.2	2.5	0.05	0.10	0.24	40	90	**1.4**	**0.09**	**80**
			38		55 HRc	0.2	2.3	0.05	0.09	0.18	40	80	**1.2**	**0.07**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.2	2.7	0.05	0.12	0.24	40	60	**1.8**	**0.11**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.2	2.3	0.05	0.09	0.18	30	50	**1.2**	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.2	6.6	0.10	0.30	0.99	200	400	**3.0**	**0.20**	**350**

R C M T

Shape

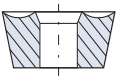


Clearance Angle



Tolerance

s ± 0.13
For l = 06/08/10, **d** ± 0.05 **m** ± 0.08
For l = 12, **d** ± 0.08 **m** ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
RCMT 0602 M0 LT 10	6	2.38	3	T0000090	●	●	●
RCMT 0803 M0 LT 10	8	3.18	4	T0000091	●	●	●
RCMT 10T3 M0 LT 10	10	3.97	5	T0000092	●	●	●
RCMT 1204 M0 LT 10	12	4.76	6	T0000093	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
RCMT 0602 M0 LT 1000	6	2.38	3	T0001914	●	●	●
RCMT 0803 M0 LT 1000	8	3.18	4	T0001915	●	●	●
RCMT 10T3 M0 LT 1000	10	3.97	5	T0001916	●	●	●
RCMT 1204 M0 LT 1000	12	4.76	6	T0001917	●	●	●

Round inserts with positive rake angle and excellent edge resistance. Suitable for profiling operations of mill rolls and aerospace parts

Machining Recommendations

Details on page 14

F ⇒ Productivity

Stainless Steel V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

RCMT 0602 M0 – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.0	0.15	0.40	0.64	180	330	**1.0**	**0.35**	**240**
			2		190 HB	0.5	2.0	0.15	0.40	0.64	180	280	**1.0**	**0.35**	**220**
			3		250 HB	0.5	1.5	0.15	0.35	0.56	180	250	**1.0**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.0	0.15	0.35	0.56	120	280	**1.0**	**0.30**	**200**
			4,6		230 HB	0.5	2.0	0.15	0.35	0.48	120	250	**1.0**	**0.30**	**180**
			5,7		280 HB	0.5	2.0	0.15	0.35	0.40	120	210	**1.0**	**0.30**	**150**
			8		350 HB	0.5	1.5	0.15	0.35	0.36	120	180	**1.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.13	0.35	0.48	70	190	**1.0**	**0.30**	**140**
			10		280 HB	0.5	2.0	0.13	0.30	0.40	70	150	**1.0**	**0.28**	**120**
			11		320 HB	0.5	1.5	0.13	0.30	0.32	70	130	**1.0**	**0.28**	**100**
			11		350 HB	0.5	1.5	0.13	0.30	0.26	70	110	**1.0**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.0	0.14	0.35	0.32	170	270	**1.0**	**0.32**	**220**
			14		240 HB	0.5	2.0	0.14	0.32	0.32	160	220	**1.0**	**0.32**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	1.5	0.13	0.30	0.30	80	150	**1.0**	**0.28**	**100**
			14		310 HB	0.5	1.5	0.13	0.30	0.30	70	140	**1.0**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.0	0.15	0.35	0.32	170	250	**1.0**	**0.32**	**210**
			13		42 HRc	0.5	2.0	0.15	0.30	0.30	120	190	**1.0**	**0.28**	**140**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.0	0.11	0.45	0.70	170	250	**1.0**	**0.35**	**200**
			15		200 HB	0.5	2.0	0.11	0.45	0.65	160	230	**1.0**	**0.35**	**180**
			16		250 HB	0.5	2.0	0.11	0.45	0.60	150	210	**1.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.0	0.11	0.35	0.60	120	250	**1.0**	**0.30**	**180**
			17,19		200 HB	0.5	2.0	0.11	0.35	0.50	120	230	**1.0**	**0.30**	**160**
			18,20		250 HB	0.5	2.0	0.11	0.35	0.45	120	190	**1.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.5	0.13	0.30	0.30	25	50	**1.0**	**0.28**	**33**
			33	Inconel 700	250 HB	0.5	1.5	0.13	0.30	0.30	25	50	**1.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	1.5	0.13	0.30	0.30	23	45	**1.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	1.5	0.13	0.32	0.32	45	65	**1.0**	**0.30**	**55**
			37	T40	-	0.5	1.5	0.13	0.30	0.30	35	60	**1.0**	**0.28**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.2	0.05	0.22	0.20	50	100	**0.9**	**0.18**	**80**
			38		50 HRc	0.5	1.0	0.05	0.18	0.17	40	90	**0.7**	**0.16**	**70**
			38		55 HRc	0.3	0.8	0.05	0.14	0.12	40	80	**0.6**	**0.12**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.2	0.05	0.22	0.17	40	60	**0.9**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.8	0.05	0.14	0.10	30	50	**0.6**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	2.0	0.15	0.40	0.70	200	400	**1.0**	**0.35**	**280**

RCMT 0803 M0 – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.4	0.15	0.40	0.77	180	330	**1.2**	**0.35**	**240**
			2		190 HB	0.5	2.4	0.15	0.40	0.77	180	280	**1.2**	**0.35**	**220**
			3		250 HB	0.5	1.8	0.15	0.35	0.67	180	250	**1.2**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.4	0.15	0.35	0.67	120	280	**1.2**	**0.30**	**200**
			4,6		230 HB	0.5	2.4	0.15	0.35	0.58	120	250	**1.2**	**0.30**	**180**
			5,7		280 HB	0.5	2.4	0.15	0.35	0.48	120	210	**1.2**	**0.30**	**150**
			8		350 HB	0.5	1.8	0.15	0.35	0.43	120	180	**1.2**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.4	0.13	0.35	0.58	70	190	**1.2**	**0.30**	**140**
			10		280 HB	0.5	2.4	0.13	0.30	0.48	70	150	**1.2**	**0.28**	**120**
			11		320 HB	0.5	1.8	0.13	0.30	0.38	70	130	**1.2**	**0.28**	**100**
			11		350 HB	0.5	1.8	0.13	0.30	0.31	70	110	**1.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.4	0.14	0.35	0.38	170	270	**1.2**	**0.32**	**220**
			14		240 HB	0.5	2.4	0.14	0.32	0.38	160	220	**1.2**	**0.32**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	1.8	0.13	0.30	0.36	80	150	**1.2**	**0.28**	**100**
			14		310 HB	0.5	1.8	0.13	0.30	0.36	70	140	**1.2**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.4	0.15	0.35	0.38	170	250	**1.2**	**0.32**	**210**
			13		42 HRc	0.5	2.4	0.15	0.30	0.36	120	190	**1.2**	**0.28**	**140**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.4	0.11	0.45	0.84	170	250	**1.2**	**0.35**	**200**
			15		200 HB	0.5	2.4	0.11	0.45	0.78	160	230	**1.2**	**0.35**	**180**
			16		250 HB	0.5	2.4	0.11	0.45	0.72	150	210	**1.2**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.4	0.11	0.35	0.72	120	250	**1.2**	**0.30**	**180**
			17,19		200 HB	0.5	2.4	0.11	0.35	0.60	120	230	**1.2**	**0.30**	**160**
			18,20		250 HB	0.5	2.4	0.11	0.35	0.54	120	190	**1.2**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.8	0.13	0.30	0.36	25	50	**1.2**	**0.28**	**33**
			33	Inconel 700	250 HB	0.5	1.8	0.13	0.30	0.36	25	50	**1.2**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	1.8	0.13	0.30	0.36	23	45	**1.2**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	1.8	0.13	0.32	0.38	45	65	**1.2**	**0.30**	**55**
			37	T40	-	0.5	1.8	0.13	0.30	0.36	35	60	**1.2**	**0.28**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.4	0.05	0.22	0.24	50	100	**1.1**	**0.18**	**80**
			38		50 HRc	0.5	1.2	0.05	0.18	0.20	40	90	**0.8**	**0.16**	**70**
			38		55 HRc	0.3	1.0	0.05	0.14	0.14	40	80	**0.7**	**0.12**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.05	0.22	0.20	40	60	**1.1**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.0	0.05	0.14	0.12	30	50	**0.7**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	2.4	0.15	0.40	0.84	200	400	**1.2**	**0.35**	**280**

RCMT 10T3 M0 – **LT 10 | LT 1000**

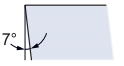
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.8	0.15	0.40	0.90	180	330	**1.4**	**0.35**	**240**
			2		190 HB	0.5	2.8	0.15	0.40	0.90	180	280	**1.4**	**0.35**	**220**
			3		250 HB	0.5	2.1	0.15	0.35	0.78	180	250	**1.4**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.8	0.15	0.35	0.78	120	280	**1.4**	**0.30**	**200**
			4,6		230 HB	0.5	2.8	0.15	0.35	0.67	120	250	**1.4**	**0.30**	**180**
			5,7		280 HB	0.5	2.8	0.15	0.35	0.56	120	210	**1.4**	**0.30**	**150**
			8		350 HB	0.5	2.1	0.15	0.35	0.50	120	180	**1.4**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.13	0.35	0.67	70	190	**1.4**	**0.30**	**140**
			10		280 HB	0.5	2.8	0.13	0.30	0.56	70	150	**1.4**	**0.28**	**120**
			11		320 HB	0.5	2.1	0.13	0.30	0.45	70	130	**1.4**	**0.28**	**100**
			11		350 HB	0.5	2.1	0.13	0.30	0.36	70	110	**1.4**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.8	0.14	0.35	0.45	170	270	**1.4**	**0.32**	**220**
			14		240 HB	0.5	2.8	0.14	0.32	0.45	160	220	**1.4**	**0.32**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.1	0.13	0.30	0.42	80	150	**1.4**	**0.28**	**100**
			14		310 HB	0.5	2.1	0.13	0.30	0.42	70	140	**1.4**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.8	0.15	0.35	0.45	170	250	**1.4**	**0.32**	**210**
			13		42 HRc	0.5	2.8	0.15	0.30	0.42	120	190	**1.4**	**0.28**	**140**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.8	0.11	0.45	0.98	170	250	**1.4**	**0.35**	**200**
			15		200 HB	0.5	2.8	0.11	0.45	0.91	160	230	**1.4**	**0.35**	**180**
			16		250 HB	0.5	2.8	0.11	0.45	0.84	150	210	**1.4**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.8	0.11	0.35	0.84	120	250	**1.4**	**0.30**	**180**
			17,19		200 HB	0.5	2.8	0.11	0.35	0.70	120	230	**1.4**	**0.30**	**160**
			18,20		250 HB	0.5	2.8	0.11	0.35	0.63	120	190	**1.4**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.1	0.13	0.30	0.42	25	50	**1.4**	**0.28**	**33**
			33	Inconel 700	250 HB	0.5	2.1	0.13	0.30	0.42	25	50	**1.4**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	2.1	0.13	0.30	0.42	23	45	**1.4**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.1	0.13	0.32	0.45	45	65	**1.4**	**0.30**	**55**
			37	T40	-	0.5	2.1	0.13	0.30	0.42	35	60	**1.4**	**0.28**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.7	0.05	0.22	0.28	50	100	**1.3**	**0.18**	**80**
			38		50 HRc	0.5	1.4	0.05	0.18	0.24	40	90	**1.0**	**0.16**	**70**
			38		55 HRc	0.3	1.1	0.05	0.14	0.17	40	80	**0.8**	**0.12**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.7	0.05	0.22	0.24	40	60	**1.3**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.1	0.05	0.14	0.14	30	50	**0.8**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	2.8	0.15	0.40	0.98	200	400	**1.4**	**0.35**	**280**

RCMT 1204 M0 – **LT 10 | LT 1000**

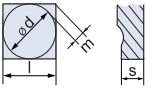
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.2	0.15	0.40	1.54	180	330	**2.0**	**0.42**	**240**
			2		190 HB	0.5	3.2	0.15	0.40	1.54	180	280	**2.0**	**0.42**	**220**
			3		250 HB	0.5	2.4	0.15	0.35	1.34	180	250	**2.0**	**0.36**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.2	0.15	0.35	1.34	120	280	**2.0**	**0.36**	**200**
			4,6		230 HB	0.5	3.2	0.15	0.35	1.15	120	250	**2.0**	**0.36**	**180**
			5,7		280 HB	0.5	3.2	0.15	0.35	0.96	120	210	**2.0**	**0.36**	**150**
			8		350 HB	0.5	2.4	0.15	0.35	0.86	120	180	**2.0**	**0.36**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.13	0.35	1.15	70	190	**2.0**	**0.36**	**140**
			10		280 HB	0.5	3.2	0.13	0.30	0.96	70	150	**2.0**	**0.34**	**120**
			11		320 HB	0.5	2.4	0.13	0.30	0.77	70	130	**2.0**	**0.34**	**100**
			11		350 HB	0.5	2.4	0.13	0.30	0.62	70	110	**2.0**	**0.34**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.2	0.14	0.35	0.77	170	270	**2.0**	**0.38**	**220**
			14		240 HB	0.5	3.2	0.14	0.32	0.77	160	220	**2.0**	**0.38**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.4	0.13	0.30	0.60	80	150	**1.5**	**0.34**	**100**
			14		310 HB	0.5	2.4	0.13	0.30	0.60	70	140	**1.5**	**0.34**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.2	0.15	0.35	0.77	170	250	**2.0**	**0.38**	**210**
			13		42 HRc	0.5	3.2	0.15	0.30	0.65	120	190	**2.0**	**0.32**	**140**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.2	0.11	0.45	1.68	170	250	**2.0**	**0.42**	**200**
			15		200 HB	0.5	3.2	0.11	0.45	1.56	160	230	**2.0**	**0.42**	**180**
			16		250 HB	0.5	3.2	0.11	0.45	1.44	150	210	**2.0**	**0.42**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.2	0.11	0.35	1.44	120	250	**2.0**	**0.36**	**180**
			17,19		200 HB	0.5	3.2	0.11	0.35	1.20	120	230	**2.0**	**0.36**	**160**
			18,20		250 HB	0.5	3.2	0.11	0.35	1.08	120	190	**2.0**	**0.36**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.13	0.30	0.60	25	50	**1.5**	**0.34**	**33**
			33	Inconel 700	250 HB	0.5	2.4	0.13	0.30	0.60	25	50	**1.5**	**0.34**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.13	0.30	0.60	23	45	**1.5**	**0.34**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.4	0.13	0.32	0.60	45	65	**1.5**	**0.36**	**55**
			37	T40	-	0.5	2.4	0.13	0.30	0.60	35	60	**1.5**	**0.34**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.9	0.05	0.22	0.48	50	100	**1.8**	**0.22**	**80**
			38		50 HRc	0.5	1.6	0.05	0.18	0.41	40	90	**1.4**	**0.19**	**70**
			38		55 HRc	0.5	1.3	0.05	0.14	0.29	40	80	**1.2**	**0.14**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.9	0.05	0.22	0.41	40	60	**1.8**	**0.22**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.3	0.05	0.14	0.24	30	50	**1.2**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.2	0.15	0.40	1.68	200	400	**2.0**	**0.42**	**280**

S C M T

Shape



Clearance Angle



Tolerance
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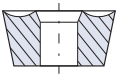
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

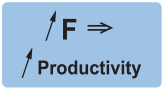
LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
SCMT 09T304 NN LT 10	9	3.97	0.4	T0001459	●	●	●
SCMT 09T308 NN LT 10	9	3.97	0.8	T0001458	●	●	●

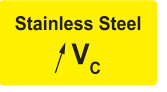
LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
SCMT 09T304 NN LT 1000	9	3.97	0.4	T0001918	●	●	●
SCMT 09T308 NN LT 1000	9	3.97	0.8	T0001919	●	●	●

Square inserts with a positive rake angle and excellent cutting edge resistance. Suitable for boring operations.

Machining Recommendations

Details on page 14





Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

SCMT 09T304 – **LT 10 | LT 1000**

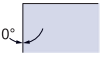
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	4.0	0.11	0.26	0.72	180	330	**2.5**	**0.18**	**300**
			2		190 HB	0.3	3.3	0.11	0.25	0.62	180	280	**2.5**	**0.18**	**260**
			3		250 HB	0.3	3.3	0.11	0.23	0.58	180	250	**2.5**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	3.3	0.10	0.23	0.60	120	280	**2.5**	**0.14**	**260**
			4,6		230 HB	0.3	3.3	0.10	0.23	0.58	120	250	**2.5**	**0.14**	**240**
			5,7		280 HB	0.3	2.7	0.10	0.21	0.48	120	210	**2.5**	**0.13**	**200**
			8		350 HB	0.3	2.7	0.10	0.21	0.43	120	180	**2.5**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	3.3	0.09	0.21	0.48	70	190	**2.1**	**0.10**	**180**
			10		280 HB	0.3	3.3	0.09	0.18	0.48	70	150	**2.1**	**0.10**	**140**
			11		320 HB	0.3	2.7	0.09	0.16	0.38	70	130	**2.1**	**0.10**	**120**
			11		350 HB	0.3	2.7	0.09	0.16	0.31	70	110	**2.1**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	3.3	0.08	0.21	0.38	170	270	**2.5**	**0.09**	**260**
			14		240 HB	0.3	3.3	0.08	0.21	0.31	160	220	**2.5**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.7	0.08	0.16	0.24	80	150	**2.1**	**0.08**	**140**
			14		310 HB	0.3	2.7	0.08	0.16	0.24	70	140	**2.1**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	3.3	0.08	0.21	0.38	170	250	**2.1**	**0.09**	**240**
			13		42 HRc	0.3	2.7	0.08	0.18	0.31	120	190	**1.9**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	4.0	0.08	0.23	0.77	170	250	**2.5**	**0.18**	**240**
			15		200 HB	0.3	4.0	0.08	0.23	0.72	160	230	**2.5**	**0.18**	**220**
			16		250 HB	0.3	4.0	0.08	0.23	0.72	150	210	**2.5**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	3.3	0.08	0.21	0.58	120	250	**2.5**	**0.13**	**240**
			17,19		200 HB	0.3	3.3	0.08	0.21	0.48	120	230	**2.5**	**0.13**	**220**
			18,20		250 HB	0.3	3.3	0.08	0.21	0.48	120	190	**2.5**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.7	0.09	0.17	0.31	25	50	**1.6**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.7	0.09	0.17	0.31	25	50	**1.6**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.7	0.09	0.17	0.31	23	45	**1.6**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.7	0.09	0.18	0.38	45	65	**1.6**	**0.14**	**60**
			37	T40	-	0.3	2.7	0.09	0.16	0.31	35	60	**1.6**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	2.4	0.05	0.14	0.24	50	100	**1.8**	**0.10**	**90**
			38		50 HRc	0.3	2.0	0.05	0.12	0.20	40	90	**1.4**	**0.08**	**80**
			38		55 HRc	0.3	1.9	0.05	0.10	0.16	40	80	**1.1**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	2.1	0.05	0.14	0.20	40	60	**1.4**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.9	0.05	0.10	0.16	30	50	**1.1**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	5.3	0.10	0.35	0.84	200	400	**2.5**	**0.23**	**350**

SCMT 09T308 – **LT 10 | LT 1000**

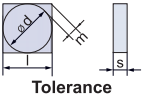
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.21	0.50	1.62	180	330	**3.0**	**0.32**	**240**
			2		190 HB	0.5	4.0	0.21	0.50	1.62	180	280	**3.0**	**0.32**	**220**
			3		250 HB	0.5	4.0	0.21	0.45	1.35	180	250	**3.0**	**0.32**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.21	0.45	1.08	120	280	**3.0**	**0.29**	**200**
			4,6		230 HB	0.5	3.2	0.21	0.45	1.08	120	250	**3.0**	**0.29**	**180**
			5,7		280 HB	0.5	3.2	0.18	0.40	1.08	120	210	**3.0**	**0.27**	**150**
			8		350 HB	0.5	2.8	0.18	0.40	0.90	120	180	**3.0**	**0.27**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.18	0.40	1.08	70	190	**2.5**	**0.27**	**140**
			10		280 HB	0.5	3.2	0.18	0.40	1.08	70	150	**2.5**	**0.27**	**120**
			11		320 HB	0.5	2.4	0.18	0.35	0.72	70	130	**2.5**	**0.25**	**100**
			11		350 HB	0.5	2.4	0.18	0.35	0.72	70	110	**2.5**	**0.25**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.20	0.40	1.08	170	270	**3.0**	**0.32**	**200**
			14		240 HB	0.5	4.0	0.20	0.40	0.90	160	220	**3.0**	**0.29**	**180**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.18	0.35	0.72	80	150	**2.5**	**0.25**	**100**
			14		310 HB	0.5	3.2	0.18	0.35	0.72	70	140	**2.5**	**0.25**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.22	0.40	0.90	170	250	**3.0**	**0.29**	**190**
			13		42 HRc	0.5	3.2	0.22	0.40	0.90	120	190	**2.5**	**0.29**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.15	0.60	1.80	170	250	**3.0**	**0.32**	**200**
			15		200 HB	0.5	4.0	0.15	0.60	1.62	160	230	**3.0**	**0.32**	**180**
			16		250 HB	0.5	4.0	0.15	0.55	1.62	150	210	**3.0**	**0.32**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.15	0.50	1.35	120	250	**3.0**	**0.27**	**180**
			17,19		200 HB	0.5	4.0	0.15	0.50	1.17	120	230	**3.0**	**0.27**	**160**
			18,20		250 HB	0.5	4.0	0.15	0.50	1.08	120	190	**3.0**	**0.27**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.20	0.35	0.63	25	45	**2.0**	**0.25**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.20	0.35	0.63	23	40	**2.0**	**0.25**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.2	0.20	0.40	0.72	45	65	**2.0**	**0.30**	**55**
			37	T40	-	0.5	2.4	0.20	0.35	0.63	35	55	**2.0**	**0.27**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.0	0.11	0.30	0.54	50	100	**2.0**	**0.23**	**80**
			38		50 HRc	0.5	1.6	0.11	0.25	0.36	40	90	**1.5**	**0.18**	**70**
			38		55 HRc	0.5	1.2	0.11	0.20	0.27	40	80	**1.0**	**0.16**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.6	0.11	0.25	0.36	40	60	**1.5**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.11	0.20	0.27	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.8	0.20	0.60	1.60	200	400	**3.0**	**0.36**	**280**

S N M A

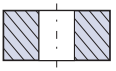
Shape



Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13



Fixing

LT 1005 Recommended for moderate to high speed

Insert Designation	l	s	r	Catalog Nr.	Application Guide F	M	R
SNMA 120408 LT 1005	12	4.76	0.8	T0003239	●	●	●
SNMA 120412 LT 1005	12	4.76	1.2	T0003240	●	●	●

Strong edge preparation mainly for gray cast iron. For general purpose turning, facing and boring operations.

Machining Recommendations

Details on page 14

F ⇒ Productivity

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

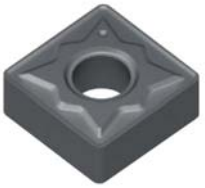
● = Good ● = Acceptable ● = Not recommended

SNMA 120408 – **LT 1005**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.40	1.4	270	450	**3.5**	**0.32**	**350**
			15		200 HB	0.7	6.0	0.20	0.38	1.2	200	320	**3.5**	**0.32**	**250**
			16		250 HB	0.7	6.0	0.20	0.36	1.2	170	240	**3.5**	**0.32**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.40	1.0	130	260	**2.5**	**0.30**	**240**
			17,19		200 HB	0.7	6.0	0.20	0.38	0.9	130	230	**2.5**	**0.30**	**210**
			18,20		250 HB	0.7	6.0	0.20	0.36	0.8	130	190	**2.5**	**0.30**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.20	0.3	40	60	**1.4**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.20	0.2	30	50	**1.1**	**0.15**	**40**

SNMA 120412 – **LT 1005**

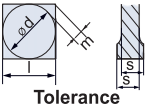
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.60	1.7	270	450	**3.5**	**0.40**	**350**
			15		200 HB	0.7	6.0	0.20	0.58	1.5	200	320	**3.5**	**0.40**	**250**
			16		250 HB	0.7	6.0	0.20	0.56	1.5	170	240	**3.5**	**0.40**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.52	1.3	130	260	**3.0**	**0.30**	**240**
			17,19		200 HB	0.7	6.0	0.20	0.50	1.1	130	230	**3.0**	**0.30**	**210**
			18,20		250 HB	0.7	6.0	0.20	0.48	1.0	130	190	**3.0**	**0.30**	**180**
H	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.25	0.3	40	60	**1.5**	**0.19**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.20	0.3	30	50	**1.2**	**0.17**	**40**



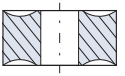
S N M G

Shape

Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13

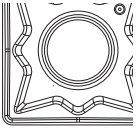


Fixing, Chipbreaker

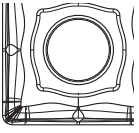
LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
SNMG 120408 NN LT 10	12	4.76	0.8	T0000322	●	●	●
SNMG 120412 NN LT 10	12	4.76	1.2	T0000323	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
SNMG 120408 NN LT 1000	12	4.76	0.8	T0001921	●	●	●
SNMG 120408 NX LT 1000	12	4.76	0.8	T0003011	●	●	●
SNMG 120412 NN LT 1000	12	4.76	1.2	T0001922	●	●	●

Square inserts with strong cutting edge. Suitable for roughing operations.



NN chipbreaker



NX chipbreaker

Machining Recommendations

Details on page 14

Stainless Steel V_c

F ⇒ Productivity

Stainless Steel
Exotic Material
NX-CNMP-TNMP-WNMP

Exotic Material
Verify ⚠
Cutting Conditions

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

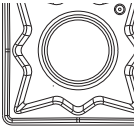
Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

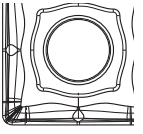
S N M G

LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
SNMG 120408 NN LT 1005	12	4.76	0.8	T0004076	●	●	●
SNMG 120408 NX LT 1005	12	4.76	0.8	T0004077	●	●	●
SNMG 120412 NN LT 1005	12	4.76	1.2	T0004078	●	●	●

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
SNMG 120408 NN LT 1025	12	4.76	0.8	T0004133	●	●	●
SNMG 120408 NX LT 1025	12	4.76	0.8	T0004134	●	●	●
SNMG 120412 NN LT 1025	12	4.76	1.2	T0004136	●	●	●



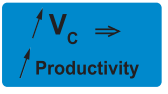
NN chipbreaker



NX chipbreaker

Machining Recommendations

Details on page 14



LT 1005

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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SNMG 120408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.30	0.70	2.54	180	330	**3.0**	**0.50**	**240**
			2		190 HB	0.5	5.0	0.30	0.70	2.54	180	280	**3.0**	**0.50**	**220**
			3		250 HB	0.5	5.0	0.30	0.63	2.12	180	250	**3.0**	**0.50**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.30	0.63	1.69	120	280	**3.0**	**0.45**	**200**
			4,6		230 HB	0.5	4.0	0.30	0.63	1.69	120	250	**3.0**	**0.45**	**180**
			5,7		280 HB	0.5	4.0	0.25	0.56	1.69	120	210	**3.0**	**0.43**	**150**
			8		350 HB	0.5	3.5	0.25	0.56	1.41	120	180	**3.0**	**0.43**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.25	0.56	1.69	70	190	**2.5**	**0.43**	**140**
			10		280 HB	0.5	4.0	0.25	0.56	1.69	70	150	**2.5**	**0.43**	**120**
			11		320 HB	0.5	3.0	0.25	0.49	1.13	70	130	**2.5**	**0.40**	**100**
			11		350 HB	0.5	3.0	0.25	0.49	1.13	70	110	**2.5**	**0.40**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.28	0.56	1.69	170	270	**3.0**	**0.50**	**190**
			14		240 HB	0.5	5.0	0.28	0.56	1.41	160	220	**3.0**	**0.45**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.25	0.49	1.13	80	150	**2.5**	**0.40**	**100**
			14		310 HB	0.5	4.0	0.25	0.49	1.13	70	140	**2.5**	**0.40**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.31	0.56	1.41	170	250	**3.0**	**0.45**	**190**
			13		42 HRc	0.5	4.0	0.31	0.56	1.41	120	190	**2.5**	**0.45**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.21	0.84	2.82	170	250	**3.0**	**0.50**	**200**
			15		200 HB	0.5	5.0	0.21	0.84	2.54	160	230	**3.0**	**0.50**	**180**
			16		250 HB	0.5	5.0	0.21	0.77	2.54	150	210	**3.0**	**0.50**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.21	0.70	2.12	120	250	**3.0**	**0.43**	**180**
			17,19		200 HB	0.5	5.0	0.21	0.70	1.83	120	230	**3.0**	**0.43**	**160**
			18,20		250 HB	0.5	5.0	0.21	0.70	1.69	120	190	**3.0**	**0.43**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.28	0.49	0.99	25	45	**2.0**	**0.40**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.28	0.49	0.99	25	45	**2.0**	**0.40**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.28	0.49	0.99	23	40	**2.0**	**0.40**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.28	0.56	1.13	45	65	**2.0**	**0.47**	**55**
			37	T40	-	0.5	3.0	0.28	0.49	0.99	35	55	**2.0**	**0.43**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.16	0.42	0.85	50	100	**2.0**	**0.36**	**80**
			38		50 HRc	0.5	2.0	0.16	0.35	0.56	40	90	**1.5**	**0.28**	**70**
			38		55 HRc	0.5	1.5	0.16	0.28	0.42	40	80	**1.0**	**0.26**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.16	0.35	0.56	40	60	**1.5**	**0.26**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.16	0.28	0.42	30	50	**1.0**	**0.21**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.28	0.80	2.50	200	400	**3.0**	**0.57**	**280**

SNMG 120408 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.30	0.70	2.54	180	430	**3.0**	**0.54**	**265**
			2		190 HB	0.5	5.0	0.30	0.70	2.54	180	365	**3.0**	**0.50**	**240**
			3		250 HB	0.5	5.0	0.30	0.63	2.12	180	325	**3.0**	**0.47**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.30	0.63	1.69	120	365	**3.0**	**0.45**	**220**
			4,6		230 HB	0.5	4.0	0.30	0.63	1.69	120	325	**3.0**	**0.45**	**200**
			5,7		280 HB	0.5	4.0	0.25	0.56	1.69	120	275	**3.0**	**0.43**	**165**
			8		350 HB	0.5	3.5	0.25	0.56	1.41	120	235	**2.7**	**0.43**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.25	0.56	1.69	70	245	**2.5**	**0.43**	**155**
			10		280 HB	0.5	4.0	0.25	0.56	1.69	70	195	**2.5**	**0.43**	**130**
			11		320 HB	0.5	3.0	0.25	0.49	1.13	70	170	**2.2**	**0.40**	**110**
			11		350 HB	0.5	3.0	0.25	0.49	1.13	70	145	**2.2**	**0.40**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.21	0.84	2.82	170	325	**3.0**	**0.50**	**220**
			15		200 HB	0.5	5.0	0.21	0.84	2.54	160	300	**3.0**	**0.50**	**200**
			16		250 HB	0.5	5.0	0.21	0.77	2.54	150	275	**3.0**	**0.50**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.21	0.70	2.12	120	325	**3.0**	**0.43**	**200**
			17,19		200 HB	0.5	5.0	0.21	0.70	1.83	120	300	**3.0**	**0.43**	**175**
			18,20		250 HB	0.5	5.0	0.21	0.70	1.69	120	245	**3.0**	**0.43**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.16	0.42	0.85	50	130	**2.0**	**0.36**	**90**
			38		50 HRc	0.5	2.0	0.16	0.35	0.56	40	115	**1.5**	**0.28**	**75**
			38		55 HRc	0.5	1.5	0.16	0.28	0.42	40	105	**1.0**	**0.26**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.16	0.35	0.56	40	80	**1.5**	**0.26**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.16	0.28	0.42	30	65	**1.0**	**0.21**	**45**

SNMG 120408 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.30	0.70	2.54	90	330	**3.0**	**0.54**	**240**
			2		190 HB	0.5	5.0	0.30	0.70	2.54	90	280	**3.0**	**0.50**	**220**
			3		250 HB	0.5	5.0	0.30	0.63	2.12	90	250	**3.0**	**0.47**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.30	0.63	1.69	60	280	**3.0**	**0.45**	**200**
			4,6		230 HB	0.5	4.0	0.30	0.63	1.69	60	250	**3.0**	**0.45**	**180**
			5,7		280 HB	0.5	4.0	0.25	0.56	1.69	60	210	**3.0**	**0.43**	**150**
			8		350 HB	0.5	3.5	0.25	0.56	1.41	60	180	**2.7**	**0.43**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.25	0.56	1.69	35	190	**2.5**	**0.43**	**140**
			10		280 HB	0.5	4.0	0.25	0.56	1.69	35	150	**2.5**	**0.43**	**120**
			11		320 HB	0.5	3.0	0.25	0.49	1.13	35	130	**2.2**	**0.40**	**100**
			11		350 HB	0.5	3.0	0.25	0.49	1.13	35	110	**2.2**	**0.40**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.28	0.56	1.69	85	270	**3.0**	**0.36**	**190**
			14		240 HB	0.5	5.0	0.28	0.56	1.41	80	220	**3.0**	**0.31**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.25	0.49	1.13	40	150	**2.5**	**0.34**	**100**
			14		310 HB	0.5	4.0	0.25	0.49	1.13	35	140	**2.5**	**0.34**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.25	0.56	0.99	85	250	**2.5**	**0.28**	**190**
			13		42 HRc	0.5	4.0	0.25	0.56	0.99	60	190	**2.2**	**0.28**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.21	0.70	2.12	60	250	**3.0**	**0.43**	**180**
			17,19		200 HB	0.5	5.0	0.21	0.70	1.83	60	230	**3.0**	**0.43**	**160**
			18,20		250 HB	0.5	5.0	0.21	0.70	1.69	60	190	**3.0**	**0.43**	**140**

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SNMG 120408 NX – **LT 1000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.26	0.70	2.40	180	330	**3.0**	**0.47**	**240**
			2		190 HB	0.5	5.0	0.26	0.70	2.40	180	280	**3.0**	**0.47**	**220**
			3		250 HB	0.5	5.0	0.26	0.63	2.00	180	250	**3.0**	**0.47**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.26	0.63	1.60	120	280	**3.0**	**0.43**	**200**
			4,6		230 HB	0.5	4.0	0.26	0.63	1.60	120	250	**3.0**	**0.43**	**180**
			5,7		280 HB	0.5	4.0	0.22	0.56	1.60	120	210	**3.0**	**0.41**	**150**
			8		350 HB	0.5	3.5	0.22	0.56	1.35	120	180	**3.0**	**0.41**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.22	0.56	1.60	70	190	**2.5**	**0.41**	**140**
			10		280 HB	0.5	4.0	0.22	0.56	1.60	70	150	**2.5**	**0.41**	**120**
			11		320 HB	0.5	3.0	0.22	0.49	1.05	70	130	**2.5**	**0.38**	**100**
			11		350 HB	0.5	3.0	0.22	0.49	1.05	70	110	**2.5**	**0.38**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.25	0.56	1.60	170	270	**3.0**	**0.34**	**190**
			14		240 HB	0.5	5.0	0.25	0.56	1.35	160	220	**3.0**	**0.30**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.22	0.49	1.05	80	150	**2.5**	**0.38**	**100**
			14		310 HB	0.5	4.0	0.22	0.49	1.05	70	140	**2.5**	**0.38**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.27	0.56	1.35	170	250	**2.5**	**0.41**	**190**
			13		42 HRc	0.5	4.0	0.27	0.56	1.35	120	190	**2.5**	**0.34**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.18	0.84	2.70	170	250	**3.0**	**0.47**	**200**
			15		200 HB	0.5	5.0	0.18	0.84	2.40	160	230	**3.0**	**0.47**	**180**
			16		250 HB	0.5	5.0	0.18	0.77	2.40	150	210	**3.0**	**0.47**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.18	0.70	2.00	120	250	**3.0**	**0.41**	**180**
			17,19		200 HB	0.5	5.0	0.18	0.70	1.75	120	230	**3.0**	**0.41**	**160**
			18,20		250 HB	0.5	5.0	0.18	0.70	1.60	120	190	**3.0**	**0.41**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.25	0.49	0.95	25	45	**2.0**	**0.38**	**30**
			33	Inconel 700	250 HB	0.5	3.0	0.25	0.49	0.95	25	45	**2.0**	**0.38**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.25	0.49	0.95	25	40	**2.0**	**0.38**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.25	0.56	1.05	45	65	**2.0**	**0.45**	**55**
			37	T40	-	0.5	3.0	0.25	0.49	0.95	35	55	**2.0**	**0.41**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.14	0.42	0.80	50	100	**2.0**	**0.34**	**80**
			38		50 HRc	0.5	2.0	0.14	0.35	0.55	40	90	**1.5**	**0.27**	**70**
			38		55 HRc	0.5	1.5	0.14	0.28	0.40	40	80	**1.0**	**0.24**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.14	0.35	0.55	40	60	**1.5**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.14	0.28	0.40	30	50	**1.0**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.25	0.84	2.40	200	400	**3.0**	**0.54**	**280**

SNMG 120408 – NX **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.26	0.70	2.41	180	430	**3.0**	**0.51**	**265**
			2		190 HB	0.5	5.0	0.26	0.70	2.41	180	365	**3.0**	**0.47**	**240**
			3		250 HB	0.5	5.0	0.26	0.63	2.01	180	325	**3.0**	**0.45**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.26	0.63	1.61	120	365	**3.0**	**0.43**	**220**
			4,6		230 HB	0.5	4.0	0.26	0.63	1.61	120	325	**3.0**	**0.43**	**200**
			5,7		280 HB	0.5	4.0	0.22	0.56	1.61	120	275	**3.0**	**0.41**	**165**
			8		350 HB	0.5	3.5	0.22	0.56	1.34	120	235	**2.7**	**0.41**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.22	0.56	1.61	70	245	**2.5**	**0.41**	**155**
			10		280 HB	0.5	4.0	0.22	0.56	1.61	70	195	**2.5**	**0.41**	**130**
			11		320 HB	0.5	3.0	0.22	0.49	1.07	70	170	**2.2**	**0.38**	**110**
			11		350 HB	0.5	3.0	0.22	0.49	1.07	70	145	**2.2**	**0.38**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.18	0.84	2.68	170	325	**3.0**	**0.47**	**220**
			15		200 HB	0.5	5.0	0.18	0.84	2.41	160	300	**3.0**	**0.47**	**200**
			16		250 HB	0.5	5.0	0.18	0.77	2.41	150	275	**3.0**	**0.47**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.18	0.70	2.01	120	325	**3.0**	**0.41**	**200**
			17,19		200 HB	0.5	5.0	0.18	0.70	1.74	120	300	**3.0**	**0.41**	**175**
			18,20		250 HB	0.5	5.0	0.18	0.70	1.61	120	245	**3.0**	**0.41**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.14	0.42	0.80	50	130	**2.0**	**0.34**	**90**
			38		50 HRc	0.5	2.0	0.14	0.35	0.54	40	115	**1.5**	**0.27**	**75**
			38		55 HRc	0.5	1.5	0.14	0.28	0.40	40	105	**1.0**	**0.24**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.14	0.35	0.54	40	80	**1.5**	**0.24**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.14	0.28	0.40	30	65	**1.0**	**0.20**	**45**

SNMG 120408 NX – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.26	0.70	2.41	90	330	**3.0**	**0.51**	**240**
			2		190 HB	0.5	5.0	0.26	0.70	2.41	90	280	**3.0**	**0.47**	**220**
			3		250 HB	0.5	5.0	0.26	0.63	2.01	90	250	**3.0**	**0.45**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.26	0.63	1.61	60	280	**3.0**	**0.43**	**200**
			4,6		230 HB	0.5	4.0	0.26	0.63	1.61	60	250	**3.0**	**0.43**	**180**
			5,7		280 HB	0.5	4.0	0.22	0.56	1.61	60	210	**3.0**	**0.41**	**150**
			8		350 HB	0.5	3.5	0.22	0.56	1.34	60	180	**2.7**	**0.41**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.22	0.56	1.61	35	190	**2.5**	**0.41**	**140**
			10		280 HB	0.5	4.0	0.22	0.56	1.61	35	150	**2.5**	**0.41**	**120**
			11		320 HB	0.5	3.0	0.22	0.49	1.07	35	130	**2.2**	**0.38**	**100**
			11		350 HB	0.5	3.0	0.22	0.49	1.07	35	110	**2.2**	**0.38**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.25	0.56	1.61	85	270	**3.0**	**0.34**	**190**
			14		240 HB	0.5	5.0	0.25	0.56	1.34	80	220	**3.0**	**0.30**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.22	0.49	1.07	40	150	**2.5**	**0.32**	**100**
			14		310 HB	0.5	4.0	0.22	0.49	1.07	35	140	**2.5**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.56	0.94	85	250	**2.5**	**0.27**	**190**
			13		42 HRc	0.5	4.0	0.22	0.56	0.94	60	190	**2.2**	**0.27**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.18	0.70	2.01	60	250	**3.0**	**0.41**	**180**
			17,19		200 HB	0.5	5.0	0.18	0.70	1.74	60	230	**3.0**	**0.41**	**160**
			18,20		250 HB	0.5	5.0	0.18	0.70	1.61	60	190	**3.0**	**0.41**	**140**

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SNMG 120412 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.37	0.95	3.96	180	330	**4.0**	**0.65**	**240**
			2		190 HB	0.7	6.0	0.37	0.95	3.96	180	280	**4.0**	**0.65**	**220**
			3		250 HB	0.7	6.0	0.37	0.86	3.30	180	250	**4.0**	**0.65**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.37	0.86	2.64	120	280	**4.0**	**0.60**	**200**
			4,6		230 HB	0.7	4.8	0.37	0.86	2.64	120	250	**4.0**	**0.60**	**180**
			5,7		280 HB	0.7	4.8	0.32	0.76	2.64	120	210	**4.0**	**0.56**	**150**
			8		350 HB	0.7	4.2	0.32	0.76	2.40	120	180	**4.0**	**0.56**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.32	0.76	2.64	70	190	**3.4**	**0.56**	**140**
			10		280 HB	0.7	4.8	0.32	0.76	2.64	70	150	**3.4**	**0.56**	**120**
			11		320 HB	0.7	3.6	0.32	0.67	1.76	70	130	**3.4**	**0.52**	**100**
			11		350 HB	0.7	3.6	0.32	0.67	1.76	70	110	**3.4**	**0.52**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.35	0.76	2.64	170	270	**4.0**	**0.58**	**190**
			14		240 HB	0.7	6.0	0.35	0.76	2.20	160	220	**4.0**	**0.52**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.32	0.67	1.76	80	150	**3.4**	**0.46**	**100**
			14		310 HB	0.7	4.8	0.32	0.67	1.76	70	140	**3.4**	**0.46**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.39	0.76	2.20	170	250	**4.0**	**0.55**	**190**
			13		42 HRc	0.7	4.8	0.39	0.76	2.20	120	190	**3.0**	**0.50**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.30	1.14	4.40	170	250	**4.0**	**0.65**	**200**
			15		200 HB	0.7	6.0	0.30	1.14	3.96	160	230	**4.0**	**0.65**	**180**
			16		250 HB	0.7	6.0	0.30	1.05	3.96	150	210	**4.0**	**0.65**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.30	0.95	3.30	120	250	**4.0**	**0.56**	**180**
			17,19		200 HB	0.7	6.0	0.30	0.95	2.86	120	230	**4.0**	**0.56**	**160**
			18,20		250 HB	0.7	6.0	0.30	0.95	2.64	120	190	**4.0**	**0.56**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.7	3.6	0.35	0.67	1.54	25	45	**2.7**	**0.52**	**32**
			33	Inconel 700	250 HB	0.7	3.6	0.35	0.67	1.54	25	45	**2.7**	**0.52**	**30**
			34	Stellite 21	350 HB	0.7	3.6	0.35	0.67	1.54	23	40	**2.7**	**0.52**	**28**
	Ti Based	10	36	TiAl6V4	-	0.7	4.8	0.35	0.76	1.76	45	65	**2.7**	**0.58**	**55**
			37	T40	-	0.7	3.6	0.35	0.67	1.54	35	55	**2.7**	**0.52**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.19	0.57	1.32	50	100	**2.7**	**0.47**	**80**
			38		50 HRc	0.7	2.4	0.19	0.48	0.88	40	90	**2.0**	**0.37**	**70**
			38		55 HRc	0.7	1.8	0.19	0.38	0.66	40	80	**1.3**	**0.33**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.19	0.48	0.88	40	60	**2.0**	**0.33**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.19	0.38	0.66	30	50	**1.3**	**0.28**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.7	7.0	0.35	1.14	4.30	200	400	**4.0**	**0.80**	**280**

SNMG 120412 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.37	0.95	3.96	180	430	**4.0**	**0.71**	**265**
			2		190 HB	0.7	6.0	0.37	0.95	3.96	180	365	**4.0**	**0.65**	**240**
			3		250 HB	0.7	6.0	0.37	0.86	3.30	180	325	**4.0**	**0.61**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.37	0.86	2.64	120	365	**4.0**	**0.60**	**220**
			4,6		230 HB	0.7	4.8	0.37	0.86	2.64	120	325	**4.0**	**0.60**	**200**
			5,7		280 HB	0.7	4.8	0.32	0.76	2.64	120	275	**4.0**	**0.56**	**165**
			8		350 HB	0.7	4.2	0.32	0.76	2.20	120	235	**3.6**	**0.56**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.32	0.76	2.64	70	245	**3.4**	**0.56**	**155**
			10		280 HB	0.7	4.8	0.32	0.76	2.64	70	195	**3.4**	**0.56**	**130**
			11		320 HB	0.7	3.6	0.32	0.67	1.76	70	170	**2.9**	**0.52**	**110**
			11		350 HB	0.7	3.6	0.32	0.67	1.76	70	145	**2.9**	**0.52**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.26	1.14	4.40	170	325	**4.0**	**0.65**	**220**
			15		200 HB	0.7	6.0	0.26	1.14	3.96	160	300	**4.0**	**0.65**	**200**
			16		250 HB	0.7	6.0	0.26	1.05	3.96	150	275	**4.0**	**0.65**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.26	0.95	3.30	120	325	**4.0**	**0.56**	**200**
			17,19		200 HB	0.7	6.0	0.26	0.95	2.86	120	300	**4.0**	**0.56**	**175**
			18,20		250 HB	0.7	6.0	0.26	0.95	2.64	120	245	**4.0**	**0.56**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.19	0.57	1.32	50	130	**2.7**	**0.47**	**90**
			38		50 HRc	0.7	2.4	0.19	0.48	0.88	40	115	**2.0**	**0.37**	**75**
			38		55 HRc	0.7	1.8	0.19	0.38	0.66	40	105	**1.3**	**0.33**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.4	0.19	0.48	0.88	40	80	**2.0**	**0.33**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.19	0.38	0.66	30	65	**1.3**	**0.28**	**45**

SNMG 120412 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.37	0.95	3.96	90	330	4.0	0.71	240
			2		190 HB	0.7	6.0	0.37	0.95	3.96	90	280	4.0	0.65	220
			3		250 HB	0.7	6.0	0.37	0.86	3.30	90	250	4.0	0.61	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.37	0.86	2.64	60	280	4.0	0.60	200
			4,6		230 HB	0.7	4.8	0.37	0.86	2.64	60	250	**4.0**	**0.60**	**180**
			5,7		280 HB	0.7	4.8	0.32	0.76	2.64	60	210	**4.0**	**0.56**	**150**
			8		350 HB	0.7	4.2	0.32	0.76	2.20	60	180	**3.6**	**0.56**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.32	0.76	2.64	35	190	**3.4**	**0.56**	**140**
			10		280 HB	0.7	4.8	0.32	0.76	2.64	35	150	**3.4**	**0.56**	**120**
			11		320 HB	0.7	3.6	0.32	0.67	1.76	35	130	**2.9**	**0.52**	**100**
			11		350 HB	0.7	3.6	0.32	0.67	1.76	35	110	**2.9**	**0.52**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.35	0.76	2.64	85	270	**4.0**	**0.47**	**190**
			14		240 HB	0.7	6.0	0.35	0.76	2.20	80	220	**4.0**	**0.41**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.32	0.67	1.76	40	150	**3.4**	**0.45**	**100**
			14		310 HB	0.7	4.8	0.32	0.67	1.76	35	140	**3.4**	**0.45**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.32	0.76	1.54	85	250	**3.4**	**0.37**	**190**
			13		42 HRc	0.7	4.8	0.32	0.76	1.54	60	190	**2.9**	**0.37**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.26	0.95	3.30	60	250	**4.0**	**0.56**	**180**
			17,19		200 HB	0.7	6.0	0.26	0.95	2.86	60	230	**4.0**	**0.56**	**160**
			18,20		250 HB	0.7	6.0	0.26	0.95	2.64	60	190	**4.0**	**0.56**	**140**

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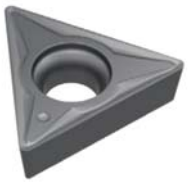

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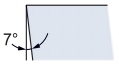
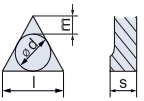
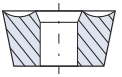
Shape



Clearance Angle



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TCMT 110204 NN LT 10	11	2.38	0.4	T0000477	●	●	●
TCMT 110208 NN LT 10	11	2.38	0.8	T0000478	●	●	●
TCMT 16T304 NN LT 10	16	3.97	0.4	T0000479	●	●	●
TCMT 16T308 NN LT 10	16	3.97	0.8	T0000068	●	●	●
TCMT 16T312 NN LT 10	16	3.97	1.2	T0001774	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TCMT 110204 NN LT 1000	11	2.38	0.4	T0001924	●	●	●
TCMT 110208 NN LT 1000	11	2.38	0.8	T0001925	●	●	●
TCMT 16T304 NN LT 1000	16	3.97	0.4	T0001927	●	●	●
TCMT 16T308 NN LT 1000	16	3.97	0.8	T0001928	●	●	●
TCMT 16T312 NN LT 1000	16	3.97	1.2	T0001929	●	●	●

60° triangle shape inserts with positive rake angle. Suitable for boring and internal turning operations.

Machining Recommendations

Details on page 14

Stainless Steel
V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

TCMT 110204 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	2.1	0.08	0.20	0.37	180	330	**1.0**	**0.14**	**300**
			2		190 HB	0.3	1.8	0.08	0.19	0.32	180	280	**1.0**	**0.14**	**260**
			3		250 HB	0.3	1.8	0.08	0.17	0.30	180	250	**1.0**	**0.14**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	1.8	0.08	0.17	0.31	120	280	**1.0**	**0.11**	**260**
			4,6		230 HB	0.3	1.8	0.08	0.17	0.30	120	250	**1.0**	**0.11**	**240**
			5,7		280 HB	0.3	1.4	0.08	0.15	0.25	120	210	**1.0**	**0.10**	**200**
			8		350 HB	0.3	1.4	0.08	0.15	0.22	120	180	1.0	0.10	180
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	1.8	0.07	0.15	0.25	70	190	**0.9**	**0.08**	**180**
			10		280 HB	0.3	1.8	0.07	0.14	0.25	70	150	**0.9**	**0.08**	**140**
			11		320 HB	0.3	1.4	0.07	0.12	0.20	70	130	**0.9**	**0.08**	**120**
			11		350 HB	0.3	1.4	0.07	0.12	0.16	70	110	**0.9**	**0.08**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	1.8	0.06	0.15	0.20	170	270	1.0	**0.07**	**260**
			14		240 HB	0.3	1.8	0.06	0.15	0.16	160	220	1.0	**0.06**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	1.4	0.06	0.12	0.12	80	150	**0.9**	**0.06**	**140**
			14		310 HB	0.3	1.4	0.06	0.12	0.12	70	140	**0.9**	**0.06**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	1.8	0.06	0.15	0.20	170	250	**0.9**	**0.07**	**240**
			13		42 HRc	0.3	1.4	0.06	0.14	0.16	120	190	**0.8**	**0.06**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	2.1	0.06	0.17	0.40	170	250	1.0	**0.14**	**240**
			15		200 HB	0.3	2.1	0.06	0.17	0.37	160	230	1.0	**0.14**	**220**
			16		250 HB	0.3	2.1	0.06	0.17	0.37	150	210	1.0	**0.14**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	1.8	0.06	0.15	0.30	120	250	1.0	**0.10**	**240**
			17,19		200 HB	0.3	1.8	0.06	0.15	0.25	120	230	1.0	**0.10**	**220**
			18,20		250 HB	0.3	1.8	0.06	0.15	0.25	120	190	1.0	**0.10**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	**0.08**	**40**
			33	Inconel 700	250 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	**0.08**	**40**
			34	Stellite 21	350 HB	0.3	1.4	0.07	0.13	0.16	23	45	**0.7**	**0.08**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	1.4	0.07	0.14	0.20	45	65	**0.7**	**0.11**	**60**
			37	T40	-	0.3	1.4	0.07	0.12	0.16	35	60	**0.7**	**0.08**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.3	0.04	0.10	0.12	50	100	**0.7**	**0.08**	**90**
			38		50 HRc	0.3	1.1	0.04	0.09	0.11	40	90	**0.6**	**0.06**	**80**
			38		55 HRc	0.3	1.0	0.04	0.08	0.08	40	80	**0.5**	**0.05**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.1	0.04	0.10	0.11	40	60	**0.6**	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.0	0.04	0.08	0.08	30	50	**0.5**	**0.05**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	2.8	0.08	0.26	0.43	200	400	**1.0**	**0.18**	**350**

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TCMT 110208 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.2	2.1	0.08	0.20	0.37	180	330	**1.0**	**0.25**	**300**
			2		190 HB	0.2	1.8	0.08	0.19	0.32	180	280	**1.0**	**0.25**	**260**
			3		250 HB	0.2	1.8	0.08	0.17	0.30	180	250	**1.0**	**0.25**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.2	1.8	0.08	0.17	0.31	120	280	**1.0**	**0.21**	**260**
			4,6		230 HB	0.2	1.8	0.08	0.17	0.30	120	250	**1.0**	**0.21**	**240**
			5,7		280 HB	0.2	1.4	0.08	0.15	0.25	120	210	**1.0**	**0.21**	**200**
			8		350 HB	0.2	1.4	0.08	0.15	0.22	120	180	**1.0**	**0.21**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.2	1.8	0.07	0.15	0.25	70	190	**1.0**	**0.17**	**180**
			10		280 HB	0.2	1.8	0.07	0.14	0.25	70	150	**1.0**	**0.17**	**140**
			11		320 HB	0.2	1.4	0.07	0.12	0.20	70	130	**1.0**	**0.17**	**120**
			11		350 HB	0.2	1.4	0.07	0.12	0.16	70	110	**1.0**	**0.17**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.2	1.8	0.08	0.15	0.20	170	270	**1.0**	**0.17**	**260**
			14		240 HB	0.2	1.8	0.08	0.15	0.16	160	220	**1.0**	**0.17**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.2	1.4	0.07	0.12	0.12	80	150	**1.0**	**0.17**	**140**
			14		310 HB	0.2	1.4	0.07	0.12	0.12	70	140	**1.0**	**0.17**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.2	1.8	0.08	0.15	0.20	170	250	**1.0**	**0.21**	**240**
			13		42 HRc	0.2	1.4	0.08	0.14	0.16	120	190	**1.0**	**0.17**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.2	2.1	0.06	0.17	0.40	170	250	**1.0**	**0.25**	**240**
			15		200 HB	0.2	2.1	0.06	0.17	0.37	160	230	**1.0**	**0.25**	**220**
			16		250 HB	0.2	2.1	0.06	0.17	0.37	150	210	**1.0**	**0.25**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.2	1.8	0.06	0.15	0.30	120	250	**1.0**	**0.21**	**240**
			17,19		200 HB	0.2	1.8	0.06	0.15	0.25	120	230	**1.0**	**0.21**	**220**
			18,20		250 HB	0.2	1.8	0.06	0.15	0.25	120	190	**1.0**	**0.21**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.2	1.4	0.08	0.13	0.16	25	50	**1.0**	**0.17**	**40**
			33	Inconel 700	250 HB	0.2	1.4	0.08	0.13	0.16	25	50	**1.0**	**0.17**	**40**
			34	Stellite 21	350 HB	0.2	1.4	0.08	0.13	0.16	23	45	**1.0**	**0.17**	**35**
	Ti Based	10	36	TiAl6V4	-	0.2	1.4	0.08	0.14	0.20	45	65	**1.0**	**0.20**	**60**
			37	T40	-	0.2	1.4	0.08	0.12	0.16	35	60	**1.0**	**0.17**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.2	1.3	0.04	0.10	0.12	50	100	**0.8**	**0.15**	**90**
			38		50 HRc	0.2	1.1	0.04	0.09	0.11	40	90	**0.6**	**0.13**	**80**
			38		55 HRc	0.2	1.0	0.04	0.08	0.08	40	80	**0.5**	**0.10**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.2	1.1	0.04	0.10	0.11	40	60	**0.6**	**0.15**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.2	1.0	0.04	0.08	0.08	30	50	**0.5**	**0.10**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.2	2.8	0.08	0.26	0.43	200	400	**1.0**	**0.28**	**350**

TCMT 16T304 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

TCMT 16T308 NN – **LT 10 | LT 1000**

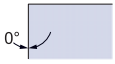
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.43	1.62	180	330	**3.0**	**0.30**	**240**
			2		190 HB	0.5	5.0	0.21	0.43	1.62	180	280	**3.0**	**0.30**	**220**
			3		250 HB	0.5	5.0	0.21	0.38	1.35	180	250	**3.0**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.38	1.08	120	280	**3.0**	**0.27**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.38	1.08	120	250	**3.0**	**0.27**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.34	1.08	120	210	**3.0**	**0.26**	**150**
			8		350 HB	0.5	3.5	0.18	0.34	0.90	120	180	**3.0**	**0.26**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.34	1.08	70	190	**2.5**	**0.26**	**140**
			10		280 HB	0.5	4.0	0.18	0.34	1.08	70	150	**2.5**	**0.26**	**120**
			11		320 HB	0.5	3.0	0.18	0.30	0.72	70	130	**2.5**	**0.24**	**100**
			11		350 HB	0.5	3.0	0.18	0.30	0.72	70	110	**2.5**	**0.24**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.34	1.08	170	270	**3.0**	**0.30**	**200**
			14		240 HB	0.5	5.0	0.20	0.34	0.90	160	220	**3.0**	**0.27**	**180**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.30	0.72	80	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.30	0.72	70	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.34	0.90	170	250	**3.0**	**0.27**	**190**
			13		42 HRc	0.5	4.0	0.22	0.34	0.90	120	190	**2.5**	**0.27**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.51	1.80	170	250	**3.0**	**0.30**	**200**
			15		200 HB	0.5	5.0	0.15	0.51	1.62	160	230	**3.0**	**0.30**	**180**
			16		250 HB	0.5	5.0	0.15	0.47	1.62	150	210	**3.0**	**0.30**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.43	1.35	120	250	**3.0**	**0.26**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.43	1.17	120	230	**3.0**	**0.26**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.43	1.08	120	190	**3.0**	**0.26**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.30	0.63	25	45	**2.0**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.30	0.63	25	45	**2.0**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.30	0.63	23	40	**2.0**	**0.24**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.34	0.72	45	65	**2.0**	**0.28**	**55**
			37	T40	-	0.5	3.0	0.20	0.30	0.63	35	55	**2.0**	**0.26**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.26	0.54	50	100	**2.0**	**0.21**	**80**
			38		50 HRc	0.5	2.0	0.11	0.21	0.36	40	90	**1.5**	**0.17**	**70**
			38		55 HRc	0.5	1.5	0.11	0.17	0.27	40	80	**1.0**	**0.15**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.21	0.36	40	60	**1.5**	**0.15**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.17	0.27	30	50	**1.0**	**0.13**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.51	1.60	200	400	**3.0**	**0.34**	**280**

TCMT 16T312 NN – **LT 10 | LT 1000**

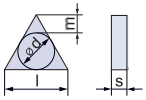
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.48	1.94	180	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.48	1.94	180	280	**3.0**	**0.38**	**220**
			3		250 HB	0.5	5.0	0.21	0.43	1.62	180	250	**3.0**	**0.38**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.43	1.30	120	280	**3.0**	**0.35**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.43	1.30	120	250	**3.0**	**0.35**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.38	1.30	120	210	**3.0**	**0.32**	**150**
			8		350 HB	0.5	3.5	0.18	0.38	1.08	120	180	**3.0**	**0.32**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.38	1.30	70	190	**2.5**	**0.32**	**140**
			10		280 HB	0.5	4.0	0.18	0.38	1.30	70	150	**2.5**	**0.32**	**120**
			11		320 HB	0.5	3.0	0.18	0.33	0.86	70	130	**2.5**	**0.30**	**100**
			11		350 HB	0.5	3.0	0.18	0.33	0.86	70	110	**2.5**	**0.30**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.38	1.30	170	270	**3.0**	**0.38**	**200**
			14		240 HB	0.5	5.0	0.20	0.38	1.08	160	220	**3.0**	**0.35**	**180**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.33	0.86	80	150	**2.5**	**0.30**	**100**
			14		310 HB	0.5	4.0	0.18	0.33	0.86	70	140	**2.5**	**0.30**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.38	1.08	170	250	**3.0**	**0.35**	**190**
			13		42 HRc	0.5	4.0	0.22	0.38	1.08	120	190	**2.5**	**0.35**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.57	2.16	170	250	**3.0**	**0.38**	**200**
			15		200 HB	0.5	5.0	0.15	0.57	1.94	160	230	**3.0**	**0.38**	**180**
			16		250 HB	0.5	5.0	0.15	0.52	1.94	150	210	**3.0**	**0.38**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.48	1.62	120	250	**3.0**	**0.32**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.48	1.40	120	230	**3.0**	**0.32**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.48	1.30	120	190	**3.0**	**0.32**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.33	0.76	25	45	**2.0**	**0.30**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.33	0.76	25	45	**2.0**	**0.30**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.33	0.76	23	40	**2.0**	**0.30**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.38	0.86	45	65	**2.0**	**0.36**	**55**
			37	T40	-	0.5	3.0	0.20	0.33	0.76	35	55	**2.0**	**0.32**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.29	0.65	50	100	**2.0**	**0.27**	**80**
			38		50 HRc	0.5	2.0	0.11	0.24	0.43	40	90	**1.5**	**0.22**	**70**
			38		55 HRc	0.5	1.5	0.11	0.19	0.32	40	80	**1.0**	**0.19**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.24	0.43	40	60	**1.5**	**0.19**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.19	0.32	30	50	**1.0**	**0.16**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.57	1.90	200	400	**3.0**	**0.43**	**280**

T N M A

Shape

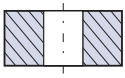


Clearance Angle



Tolerance

s ± 0.13
For l = 16, **d** ± 0.05 **m** ± 0.08
For l = 22, **d** ± 0.08 **m** ± 0.13



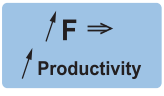
Fixing, Chipbreaker

LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNMA 160408 LT 1005	16	4.76	0.8	T0002837	●	●	●
TNMA 160412 LT 1005	16	4.76	1.2	T0003238	●	●	●

Strong edge preparation mainly for gray cast iron. For general purpose turning, facing and boring operations.

Machining Recommendations

Details on page 14



Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

TNMA 160408 – **LT 1005**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	5.0	0.15	0.35	1.3	270	450	**3.2**	**0.30**	**350**
			15		200 HB	0.7	5.0	0.15	0.33	1.2	200	320	**3.2**	**0.30**	**250**
			16		250 HB	0.7	5.0	0.15	0.30	1.2	170	240	**3.2**	**0.30**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	5.0	0.15	0.35	1.0	130	260	**2.5**	**0.28**	**240**
			17,19		200 HB	0.7	5.0	0.15	0.33	0.9	130	230	**2.5**	**0.28**	**210**
			18,20		250 HB	0.7	5.0	0.15	0.30	0.8	130	190	**2.5**	**0.28**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.0	0.11	0.18	0.3	40	60	**1.4**	**0.15**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.5	0.11	0.18	0.2	30	50	**1.0**	**0.15**	**40**

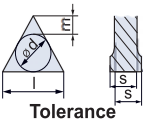
TNMA 160412 – **LT 1005**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	5.0	0.15	0.38	1.3	270	450	**3.5**	**0.33**	**350**
			15		200 HB	0.7	5.0	0.15	0.35	1.2	200	320	**3.5**	**0.33**	**250**
			16		250 HB	0.7	5.0	0.15	0.32	1.2	170	240	**3.5**	**0.33**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	5.0	0.15	0.38	1.3	130	260	**2.5**	**0.30**	**240**
			17,19		200 HB	0.7	5.0	0.15	0.35	1.2	130	230	**2.5**	**0.30**	**210**
			18,20		250 HB	0.7	5.0	0.15	0.32	1.2	130	190	**2.5**	**0.30**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.0	0.11	0.20	0.3	40	60	**1.4**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.5	0.11	0.20	0.2	30	50	**1.0**	**0.15**	**40**

T N M G

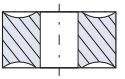
Shape

Clearance Angle



Tolerance

s ± 0.13
For l = 16, **d** ± 0.05 **m** ± 0.08
For l = 22, **d** ± 0.08 **m** ± 0.13



Fixing, Chipbreaker

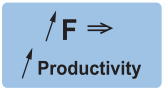
LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNMG 160404 NN LT 10	16	4.76	0.4	T0000457	●	●	●
TNMG 160408 NN LT 10	16	4.76	0.8	T0000069	●	●	●
TNMG 160412 NN LT 10	16	4.76	1.2	T0001734	●	●	●
TNMG 220404 NN LT 10	22	4.76	0.4	T0001873	●	●	●
TNMG 220408 NN LT 10	22	4.76	0.8	T0000113	●	●	●
TNMG 220412 NN LT 10	22	4.76	1.2	T0001735	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNMG 160404 NN LT 1000	16	4.76	0.4	T0001931	●	●	●
TNMG 160408 NN LT 1000	16	4.76	0.8	T0001932	●	●	●
TNMG 160408 NX LT 1000	16	4.76	0.8	T0003012	●	●	●
TNMG 160412 NN LT 1000	16	4.76	1.2	T0001933	●	●	●
TNMG 220404 NN LT 1000	22	4.76	0.4	T0001934	●	●	●
TNMG 220408 NN LT 1000	22	4.76	0.8	T0001935	●	●	●
TNMG 220408 NX LT 1000	22	4.76	0.8	T0003013	●	●	●
TNMG 220412 NN LT 1000	22	4.76	1.2	T0001936	●	●	●

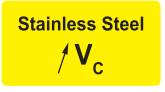
60° triangle shape inserts. Suitable for general purpose turning and copying operations.

Machining Recommendations

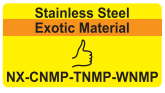
Details on page 14



LT 10 and LT 1000



LT 10 and LT 1000



NX LT 10 and LT 1000

NX LT 10 and LT 1000

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

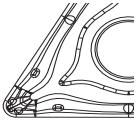
Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

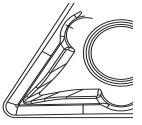
T N M G

LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNMG 160408 NN LT 1005	16	4.76	0.8	T0004081	🟡	🟢	🟡
TNMG 160408 NX LT 1005	16	4.76	0.8	T0004082	🟢	🟢	🟡
TNMG 160412 NN LT 1005	16	4.76	1.2	T0004083	🔴	🟡	🟢
TNMG 220408 NN LT 1005	22	4.76	0.8	T0004084	🟡	🟢	🟡
TNMG 220408 NX LT 1005	22	4.76	0.8	T0004086	🟢	🟢	🟡
TNMG 220412 NN LT 1005	22	4.76	1.2	T0004087	🔴	🟡	🟢

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNMG 160408 NN LT 1025	16	4.76	0.8	T0004138	🟡	🟢	🟡
TNMG 160408 NX LT 1025	16	4.76	0.8	T0004139	🟢	🟢	🟡
TNMG 160412 NN LT 1025	16	4.76	1.2	T0004140	🔴	🟡	🟢
TNMG 220408 NN LT 1025	22	4.76	0.8	T0004142	🟡	🟢	🟡
TNMG 220408 NX LT 1025	22	4.76	0.8	T0004143	🟢	🟢	🟡
TNMG 220412 NN LT 1025	22	4.76	1.2	T0004144	🔴	🟡	🟢



NX chipbreaker



NM chipbreaker

Machining Recommendations

Details on page 14

Stainless Steel
Exotic Material
NX-CNMP-TNMP-WNMP

NX for LT 1025

$V_c \Rightarrow$ Productivity

LT 1005

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

🟢 = Good 🟡 = Acceptable 🔴 = Not recommended

TNMG 160404 NN – **T 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

TNMG 160408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

TNMG 160408 NN – LT 1005

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	430	**3.0**	**0.38**	**265**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	365	**3.0**	**0.35**	**240**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	325	**3.0**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	365	**3.0**	**0.32**	**220**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	325	**3.0**	**0.32**	**200**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	275	**3.0**	**0.30**	**165**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	235	**2.7**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	245	**2.5**	**0.30**	**155**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	195	**2.5**	**0.30**	**130**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	170	**2.2**	**0.28**	**110**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	145	**2.2**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	325	**3.0**	**0.35**	**220**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	300	**3.0**	**0.35**	**200**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	275	**3.0**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	325	**3.0**	**0.30**	**200**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	300	**3.0**	**0.30**	**175**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	245	**3.0**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	130	**2.0**	**0.25**	**90**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	115	**1.5**	**0.20**	**75**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	105	**1.0**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	80	**1.5**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	65	**1.0**	**0.15**	**45**

TNMG 160408 NN – LT 1025

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	4.0	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

TNMG 160408 NX – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.70	180	330	**3.0**	**0.33**	**240**
			2		190 HB	0.5	5.0	0.18	0.50	1.70	180	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	5.0	0.18	0.45	1.45	180	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.15	120	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.15	120	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.15	120	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	120	180	**3.0**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.15	70	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	4.0	0.16	0.40	1.15	70	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	3.0	0.16	0.35	0.75	70	130	**2.5**	**0.27**	**100**
			11		350 HB	0.5	3.0	0.16	0.35	0.75	70	110	**2.5**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.18	0.40	1.15	170	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	5.0	0.18	0.40	0.95	160	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.16	0.35	0.75	80	150	**2.5**	**0.27**	**100**
			14		310 HB	0.5	4.0	0.16	0.35	0.75	70	140	**2.5**	**0.27**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.19	0.40	0.95	170	250	**2.5**	**0.29**	**190**
			13		42 HRc	0.5	4.0	0.19	0.40	0.95	120	190	**2.2**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.13	0.60	1.90	170	250	**3.0**	**0.33**	**200**
			15		200 HB	0.5	5.0	0.13	0.60	1.70	160	230	**3.0**	**0.33**	**180**
			16		250 HB	0.5	5.0	0.13	0.55	1.70	150	210	**3.0**	**0.33**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.45	120	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.25	120	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.15	120	190	**3.0**	**0.29**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			33	Inconel 700	250 HB	0.5	3.0	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.18	0.35	0.65	25	40	**2.0**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.18	0.40	0.75	45	65	**2.0**	**0.31**	**55**
			37	T40	-	0.5	3.0	0.18	0.35	0.65	35	55	**2.0**	**0.29**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.30	0.55	50	100	**2.0**	**0.24**	**80**
			38		50 HRc	0.5	2.0	0.10	0.25	0.40	40	90	**1.5**	**0.19**	**70**
			38		55 HRc	0.5	1.5	0.10	0.20	0.30	40	80	**1.0**	**0.17**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.25	0.40	40	60	**1.5**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	0.30	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.18	0.60	1.70	200	400	**3.0**	**0.38**	**280**

TNMG 160408 NX – **LT 1005**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.71	180	430	**3.0**	**0.36**	**265**
			2		190 HB	0.5	5.0	0.18	0.50	1.71	180	365	**3.0**	**0.33**	**240**
			3		250 HB	0.5	5.0	0.18	0.45	1.43	180	325	**3.0**	**0.31**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.14	120	365	**3.0**	**0.30**	**220**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.14	120	325	**3.0**	**0.30**	**200**
			5,7		280 HB	0.5	4.0	0.15	0.40	1.14	120	275	**3.0**	**0.29**	**165**
			8		350 HB	0.5	3.5	0.15	0.40	0.95	120	235	**2.7**	**0.29**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.15	0.40	1.14	70	245	**2.5**	**0.29**	**155**
			10		280 HB	0.5	4.0	0.15	0.40	1.14	70	195	**2.5**	**0.29**	**130**
			11		320 HB	0.5	3.0	0.15	0.35	0.76	70	170	**2.2**	**0.27**	**110**
			11		350 HB	0.5	3.0	0.15	0.35	0.76	70	145	**2.2**	**0.27**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.13	0.60	1.90	170	325	**3.0**	**0.33**	**220**
			15		200 HB	0.5	5.0	0.13	0.60	1.71	160	300	**3.0**	**0.33**	**200**
			16		250 HB	0.5	5.0	0.13	0.55	1.71	150	275	**3.0**	**0.33**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	120	325	3.0	0.29	200
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	120	300	3.0	0.29	175
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	120	245	3.0	0.29	155
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.09	0.30	0.57	50	130	**2.0**	**0.24**	**90**
			38		50 HRc	0.5	2.0	0.09	0.25	0.38	40	115	**1.5**	**0.19**	**75**
			38		55 HRc	0.5	1.5	0.09	0.20	0.29	40	105	**1.0**	**0.17**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.09	0.25	0.38	40	80	**1.5**	**0.17**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.09	0.20	0.29	30	65	**1.0**	**0.14**	**45**

TNMG 160408 NX – **LT 1025**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.18	0.50	1.71	90	330	**3.0**	**0.36**	**240**
			2		190 HB	0.5	5.0	0.18	0.50	1.71	90	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	5.0	0.18	0.45	1.43	90	250	**3.0**	**0.31**	**200**
Steel	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.18	0.45	1.14	60	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.45	1.14	60	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.16	0.40	1.14	60	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.16	0.40	0.95	60	180	**2.7**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.16	0.40	1.14	35	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	4.0	0.16	0.40	1.14	35	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	3.0	0.16	0.35	0.76	35	130	**2.2**	**0.27**	**100**
			11		350 HB	0.5	3.0	0.16	0.35	0.76	35	110	**2.2**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.18	0.40	1.14	85	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	5.0	0.18	0.40	0.95	80	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.16	0.35	0.76	40	150	**2.5**	**0.23**	**100**
			14		310 HB	0.5	4.0	0.16	0.35	0.76	35	140	**2.5**	**0.23**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.16	0.40	0.67	85	250	**2.5**	**0.19**	**190**
			13		42 HRc	0.5	4.0	0.16	0.40	0.67	60	190	**2.2**	**0.19**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.13	0.50	1.43	60	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	5.0	0.13	0.50	1.24	60	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	5.0	0.13	0.50	1.14	60	190	**3.0**	**0.29**	**140**

TNMG 160412 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	5.0	0.26	0.68	3.06	180	330	**4.0**	**0.46**	**240**
			2		190 HB	0.7	5.0	0.26	0.68	3.06	180	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	5.0	0.26	0.61	2.55	180	250	**4.0**	**0.46**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	5.0	0.26	0.61	2.04	120	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	4.0	0.26	0.61	2.04	120	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	4.0	0.23	0.54	2.04	120	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	3.5	0.23	0.54	1.70	120	180	**4.0**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.0	0.23	0.54	2.04	70	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	4.0	0.23	0.54	2.04	70	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	3.0	0.23	0.47	1.36	70	130	**3.4**	**0.37**	**100**
			11		350 HB	0.7	3.0	0.23	0.47	1.36	70	110	**3.4**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	5.0	0.25	0.54	2.04	170	270	**4.0**	**0.40**	**190**
			14		240 HB	0.7	5.0	0.25	0.54	1.70	160	220	**4.0**	**0.36**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.0	0.23	0.47	1.36	80	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	4.0	0.23	0.47	1.36	70	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	5.0	0.28	0.54	1.70	170	250	**4.0**	**0.40**	**190**
			13		42 HRc	0.7	4.0	0.28	0.54	1.70	120	190	**3.0**	**0.35**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	5.0	0.20	0.81	3.40	170	250	**4.0**	**0.46**	**200**
			15		200 HB	0.7	5.0	0.20	0.81	3.06	160	230	**4.0**	**0.46**	**180**
			16		250 HB	0.7	5.0	0.20	0.74	3.06	150	210	**4.0**	**0.46**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	5.0	0.20	0.68	2.55	120	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	5.0	0.20	0.68	2.21	120	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	5.0	0.20	0.68	2.04	120	190	**4.0**	**0.40**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.7	3.0	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**32**
			33	Inconel 700	250 HB	0.7	3.0	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**30**
			34	Stellite 21	350 HB	0.7	3.0	0.25	0.47	1.19	23	40	**2.7**	**0.37**	**28**
	Ti Based	10	36	TiAl6V4	-	0.7	4.0	0.25	0.54	1.36	45	65	**2.7**	**0.40**	**55**
			37	T40	-	0.7	3.0	0.25	0.47	1.19	35	55	**2.7**	**0.37**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	2.5	0.14	0.41	1.02	50	100	**2.2**	**0.33**	**80**
			38		50 HRc	0.7	2.0	0.14	0.34	0.68	40	90	**2.0**	**0.26**	**70**
			38		55 HRc	0.7	1.5	0.14	0.27	0.51	40	80	**1.3**	**0.24**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.0	0.14	0.34	0.68	40	60	**2.0**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.5	0.14	0.27	0.51	30	50	**1.3**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.7	6.0	0.25	0.81	3.10	200	400	**4.0**	**0.50**	**280**

TNMG 160412 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	5.0	0.26	0.68	3.06	180	430	**3.6**	**0.50**	**265**
			2		190 HB	0.7	5.0	0.26	0.68	3.06	180	365	**3.6**	**0.46**	**240**
			3		250 HB	0.7	5.0	0.26	0.61	2.55	180	325	**3.6**	**0.44**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	5.0	0.26	0.61	2.04	120	365	**3.6**	**0.42**	**220**
			4,6		230 HB	0.7	4.0	0.26	0.61	2.04	120	325	**3.6**	**0.42**	**200**
			5,7		280 HB	0.7	4.0	0.23	0.54	2.04	120	275	**3.6**	**0.40**	**165**
			8		350 HB	0.7	3.5	0.23	0.54	1.70	120	235	**3.2**	**0.40**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.0	0.23	0.54	2.04	70	245	**3.0**	**0.40**	**155**
			10		280 HB	0.7	4.0	0.23	0.54	2.04	70	195	**3.0**	**0.40**	**130**
			11		320 HB	0.7	3.0	0.23	0.47	1.36	70	170	**2.6**	**0.37**	**110**
			11		350 HB	0.7	3.0	0.23	0.47	1.36	70	145	**2.6**	**0.37**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	5.0	0.19	0.81	3.40	170	325	**3.6**	**0.46**	**220**
			15		200 HB	0.7	5.0	0.19	0.81	3.06	160	300	**3.6**	**0.46**	**200**
			16		250 HB	0.7	5.0	0.19	0.74	3.06	150	275	**3.6**	**0.46**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	5.0	0.19	0.68	2.55	120	325	**3.6**	0.40	200
			17,19		200 HB	0.7	5.0	0.19	0.68	2.21	120	300	**3.6**	0.40	175
			18,20		250 HB	0.7	5.0	0.19	0.68	2.04	120	245	**3.6**	0.40	155
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	2.5	0.14	0.41	1.02	50	130	**2.4**	**0.33**	**90**
			38		50 HRc	0.7	2.0	0.14	0.34	0.68	40	115	**1.8**	**0.26**	**75**
			38		55 HRc	0.7	1.5	0.14	0.27	0.51	40	105	**1.2**	**0.24**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.0	0.14	0.34	0.68	40	80	**1.8**	**0.24**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.5	0.14	0.27	0.51	30	65	**1.2**	**0.20**	**45**

TNMG 160412 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	5.0	0.26	0.68	3.06	90	330	**3.6**	**0.50**	**240**
			2		190 HB	0.7	5.0	0.26	0.68	3.06	90	280	**3.6**	**0.46**	**220**
			3		250 HB	0.7	5.0	0.26	0.61	2.55	90	250	**3.6**	**0.44**	**200**
Steel	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	5.0	0.26	0.61	2.04	60	280	**3.6**	**0.42**	**200**
			4,6		230 HB	0.7	4.0	0.26	0.61	2.04	60	250	**3.6**	**0.42**	**180**
			5,7		280 HB	0.7	4.0	0.23	0.54	2.04	60	210	**3.6**	**0.40**	**150**
			8		350 HB	0.7	3.5	0.23	0.54	1.70	60	180	**3.2**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.0	0.23	0.54	2.04	35	190	**3.0**	**0.40**	**140**
			10		280 HB	0.7	4.0	0.23	0.54	2.04	35	150	**3.0**	**0.40**	**120**
			11		320 HB	0.7	3.0	0.23	0.47	1.36	35	130	**2.6**	**0.37**	**100**
			11		350 HB	0.7	3.0	0.23	0.47	1.36	35	110	**2.6**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	5.0	0.25	0.54	2.04	85	270	**3.6**	**0.33**	**190**
			14		240 HB	0.7	5.0	0.25	0.54	1.70	80	220	**3.6**	**0.29**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	4.0	0.23	0.47	1.36	40	150	**3.0**	**0.32**	**100**
			14		310 HB	0.7	4.0	0.23	0.47	1.36	35	140	**3.0**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	5.0	0.23	0.54	1.19	85	250	**3.0**	**0.26**	**190**
			13		42 HRc	0.7	4.0	0.23	0.54	1.19	60	190	**2.6**	**0.26**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	5.0	0.19	0.68	2.55	60	250	**3.6**	**0.40**	**180**
			17,19		200 HB	0.7	5.0	0.19	0.68	2.21	60	230	**3.6**	**0.40**	**160**
			18,20		250 HB	0.7	5.0	0.19	0.68	2.04	60	190	**3.6**	**0.40**	**140**

TNMG 220404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

TNMG 220408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	7.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	7.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	5.6	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	5.6	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	4.9	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.6	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	5.6	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	4.2	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	4.2	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	7.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.6	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	5.6	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	5.6	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	7.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	7.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	7.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	4.2	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	4.2	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	4.2	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	5.6	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	4.2	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.8	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	2.1	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.8	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	2.1	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	8.4	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

TNMG 220408 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.21	0.50	1.80	180	430	**3.0**	**0.38**	**265**
			2		190 HB	0.5	7.0	0.21	0.50	1.80	180	365	**3.0**	**0.35**	**240**
			3		250 HB	0.5	7.0	0.21	0.45	1.50	180	325	**3.0**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.21	0.45	1.20	120	365	**3.0**	**0.32**	**220**
			4,6		230 HB	0.5	5.6	0.21	0.45	1.20	120	325	**3.0**	**0.32**	**200**
			5,7		280 HB	0.5	5.6	0.18	0.40	1.20	120	275	**3.0**	**0.30**	**165**
			8		350 HB	0.5	4.9	0.18	0.40	1.00	120	235	**2.7**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.6	0.18	0.40	1.20	70	245	**2.5**	**0.30**	**155**
			10		280 HB	0.5	5.6	0.18	0.40	1.20	70	195	**2.5**	**0.30**	**130**
			11		320 HB	0.5	4.2	0.18	0.35	0.80	70	170	**2.2**	**0.28**	**110**
			11		350 HB	0.5	4.2	0.18	0.35	0.80	70	145	**2.2**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.15	0.60	2.00	170	325	**3.0**	**0.35**	**220**
			15		200 HB	0.5	7.0	0.15	0.60	1.80	160	300	**3.0**	**0.35**	**200**
			16		250 HB	0.5	7.0	0.15	0.55	1.80	150	275	**3.0**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.50	1.50	120	325	**3.0**	**0.30**	**200**
			17,19		200 HB	0.5	7.0	0.15	0.50	1.30	120	300	**3.0**	**0.30**	**175**
			18,20		250 HB	0.5	7.0	0.15	0.50	1.20	120	245	**3.0**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.5	0.11	0.30	0.60	50	130	**2.0**	**0.25**	**90**
			38		50 HRc	0.5	2.8	0.11	0.25	0.40	40	115	**1.5**	**0.20**	**75**
			38		55 HRc	0.5	2.1	0.11	0.20	0.30	40	105	**1.0**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.8	0.11	0.25	0.40	40	80	**1.5**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	2.1	0.11	0.20	0.30	30	65	**1.0**	**0.15**	**45**

TNMG 220408 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.21	0.50	1.80	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	7.0	0.21	0.50	1.80	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	7.0	0.21	0.45	1.50	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.21	0.45	1.20	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	5.6	0.21	0.45	1.20	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	5.6	0.18	0.40	1.20	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	4.9	0.18	0.40	1.00	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.6	0.18	0.40	1.20	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	5.6	0.18	0.40	1.20	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	4.2	0.18	0.35	0.80	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	4.2	0.18	0.35	0.80	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	7.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.6	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	5.6	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	5.6	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	7.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

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TNMG 220408 NX – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.50	1.70	180	330	**3.0**	**0.33**	**240**
			2		190 HB	0.5	7.0	0.18	0.50	1.70	180	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	7.0	0.18	0.45	1.45	180	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.18	0.45	1.15	120	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	5.6	0.18	0.45	1.15	120	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	5.6	0.16	0.40	1.15	120	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	4.9	0.16	0.40	0.95	120	180	**3.0**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.6	0.16	0.40	1.15	70	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	5.6	0.16	0.40	1.15	70	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	4.2	0.16	0.35	0.75	70	130	**2.5**	**0.27**	**100**
			11		350 HB	0.5	4.2	0.16	0.35	0.75	70	110	**2.5**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.18	0.40	1.15	170	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	7.0	0.18	0.40	0.95	160	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.6	0.16	0.35	0.75	80	150	**2.5**	**0.27**	**100**
			14		310 HB	0.5	5.6	0.16	0.35	0.75	70	140	**2.5**	**0.27**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.19	0.40	0.95	170	250	**2.5**	**0.29**	**190**
			13		42 HRc	0.5	5.6	0.19	0.40	0.95	120	190	**2.5**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.13	0.60	1.90	170	250	**3.0**	**0.33**	**200**
			15		200 HB	0.5	7.0	0.13	0.60	1.70	160	230	**3.0**	**0.33**	**180**
			16		250 HB	0.5	7.0	0.13	0.55	1.70	150	210	**3.0**	**0.33**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.13	0.50	1.45	120	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	7.0	0.13	0.50	1.25	120	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	7.0	0.13	0.50	1.15	120	190	**3.0**	**0.29**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	4.2	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			33	Inconel 700	250 HB	0.5	4.2	0.18	0.35	0.65	25	45	**2.0**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	4.2	0.18	0.35	0.65	25	40	**2.0**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	5.6	0.18	0.40	0.75	45	65	**2.0**	**0.31**	**55**
			37	T40	-	0.5	4.2	0.18	0.35	0.65	35	55	**2.0**	**0.29**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.5	0.10	0.30	0.55	50	100	**2.0**	**0.24**	**80**
			38		50 HRc	0.5	2.8	0.10	0.25	0.40	40	90	**1.5**	**0.19**	**70**
			38		55 HRc	0.5	2.1	0.10	0.20	0.30	40	80	**1.0**	**0.17**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.8	0.10	0.25	0.40	40	60	**1.5**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	2.1	0.10	0.20	0.30	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	8.4	0.18	0.60	1.70	200	400	**3.0**	**0.38**	**280**

TNMG 220408 NX – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.50	1.71	180	430	**3.0**	**0.36**	**265**
			2		190 HB	0.5	7.0	0.18	0.50	1.71	180	365	**3.0**	**0.33**	**240**
			3		250 HB	0.5	7.0	0.18	0.45	1.43	180	325	**3.0**	**0.31**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.18	0.45	1.14	120	365	**3.0**	**0.30**	**220**
			4,6		230 HB	0.5	5.6	0.18	0.45	1.14	120	325	**3.0**	**0.30**	**200**
			5,7		280 HB	0.5	5.6	0.16	0.40	1.14	120	275	**3.0**	**0.29**	**165**
			8		350 HB	0.5	4.9	0.16	0.40	0.95	120	235	**2.7**	**0.29**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.6	0.16	0.40	1.14	70	245	**2.5**	**0.29**	**155**
			10		280 HB	0.5	5.6	0.16	0.40	1.14	70	195	**2.5**	**0.29**	**130**
			11		320 HB	0.5	4.2	0.16	0.35	0.76	70	170	**2.2**	**0.27**	**110**
			11		350 HB	0.5	4.2	0.16	0.35	0.76	70	145	**2.2**	**0.27**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.13	0.60	1.90	170	325	**3.0**	**0.33**	**220**
			15		200 HB	0.5	7.0	0.13	0.60	1.71	160	300	**3.0**	**0.33**	**200**
			16		250 HB	0.5	7.0	0.13	0.55	1.71	150	275	**3.0**	**0.33**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.13	0.50	1.43	120	325	**3.0**	**0.29**	**200**
			17,19		200 HB	0.5	7.0	0.13	0.50	1.24	120	300	**3.0**	**0.29**	**175**
			18,20		250 HB	0.5	7.0	0.13	0.50	1.14	120	245	**3.0**	**0.29**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.5	0.10	0.30	0.57	50	130	**2.0**	**0.24**	**90**
			38		50 HRc	0.5	2.8	0.10	0.25	0.38	40	115	**1.5**	**0.19**	**75**
			38		55 HRc	0.5	2.1	0.10	0.20	0.29	40	105	**1.0**	**0.17**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.8	0.10	0.25	0.38	40	80	**1.5**	**0.17**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	2.1	0.10	0.20	0.29	30	65	**1.0**	**0.14**	**45**

TNMG 220408 NX – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.50	1.71	90	330	**3.0**	**0.36**	**240**
			2		190 HB	0.5	7.0	0.18	0.50	1.71	90	280	**3.0**	**0.33**	**220**
			3		250 HB	0.5	7.0	0.18	0.45	1.43	90	250	**3.0**	**0.31**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.18	0.45	1.14	60	280	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	5.6	0.18	0.45	1.14	60	250	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	5.6	0.16	0.40	1.14	60	210	**3.0**	**0.29**	**150**
			8		350 HB	0.5	4.9	0.16	0.40	0.95	60	180	**2.7**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.6	0.16	0.40	1.14	35	190	**2.5**	**0.29**	**140**
			10		280 HB	0.5	5.6	0.16	0.40	1.14	35	150	**2.5**	**0.29**	**120**
			11		320 HB	0.5	4.2	0.16	0.35	0.76	35	130	**2.2**	**0.27**	**100**
			11		350 HB	0.5	4.2	0.16	0.35	0.76	35	110	**2.2**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.18	0.40	1.14	85	270	**3.0**	**0.24**	**190**
			14		240 HB	0.5	7.0	0.18	0.40	0.95	80	220	**3.0**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.6	0.16	0.35	0.76	40	150	**2.5**	**0.23**	**100**
			14		310 HB	0.5	5.6	0.16	0.35	0.76	35	140	**2.5**	**0.23**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.16	0.40	0.67	85	250	**2.5**	**0.19**	**190**
			13		42 HRc	0.5	5.6	0.16	0.40	0.67	60	190	**2.2**	**0.19**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.13	0.50	1.43	60	250	**3.0**	**0.29**	**180**
			17,19		200 HB	0.5	7.0	0.13	0.50	1.24	60	230	**3.0**	**0.29**	**160**
			18,20		250 HB	0.5	7.0	0.13	0.50	1.14	60	190	**3.0**	**0.29**	**140**

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TNMG 220412 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1		C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	7.0	0.26	0.68	3.06	180	330	**4.0**	**0.46**	**240**
		2			190 HB	0.7	7.0	0.26	0.68	3.06	180	280	**4.0**	**0.46**	**220**
		3			250 HB	0.7	7.0	0.26	0.61	2.55	180	250	**4.0**	**0.46**	**200**
	Low Alloyed	6		42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	7.0	0.26	0.61	2.04	120	280	**4.0**	**0.42**	**200**
		4,6			230 HB	0.7	5.6	0.26	0.61	2.04	120	250	**4.0**	**0.42**	**180**
		5,7			280 HB	0.7	5.6	0.23	0.54	2.04	120	210	**4.0**	**0.40**	**150**
		8			350 HB	0.7	4.9	0.23	0.54	1.70	120	180	**4.0**	**0.40**	**130**
	High Alloyed	10		X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	5.6	0.23	0.54	2.04	70	190	**3.4**	**0.40**	**140**
		10			280 HB	0.7	5.6	0.23	0.54	2.04	70	150	**3.4**	**0.40**	**120**
		11			320 HB	0.7	4.2	0.23	0.47	1.36	70	130	**3.4**	**0.37**	**100**
		11			350 HB	0.7	4.2	0.23	0.47	1.36	70	110	**3.4**	**0.37**	**90**
Stainless Steel	Austenitic	14		304, 316, X5CrNi18-9	180 HB	0.7	7.0	0.25	0.54	2.04	170	270	**4.0**	**0.40**	**190**
		14			240 HB	0.7	7.0	0.25	0.54	1.70	160	220	**4.0**	**0.36**	**170**
	Duplex	14		X2CrNiN23-4, S31500	290 HB	0.7	5.6	0.23	0.47	1.36	80	150	**3.4**	**0.32**	**100**
		14			310 HB	0.7	5.6	0.23	0.47	1.36	70	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	12		410, X6Cr17, 17-4 PH, 430	200 HB	0.7	7.0	0.28	0.54	1.70	170	250	**4.0**	**0.40**	**190**
		13			42 HRc	0.7	5.6	0.28	0.54	1.70	120	190	**3.0**	**0.35**	**130**
Cast Iron	Grey	15		GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	7.0	0.20	0.81	3.40	170	250	**4.0**	**0.46**	**200**
		15			200 HB	0.7	7.0	0.20	0.81	3.06	160	230	**4.0**	**0.46**	**180**
		16			250 HB	0.7	7.0	0.20	0.74	3.06	150	210	**4.0**	**0.46**	**160**
	Malleable & Nodular	17,19		GGG40, GGG70, 50005	150 HB	0.7	7.0	0.20	0.68	2.55	120	250	**4.0**	**0.40**	**180**
		17,19			200 HB	0.7	7.0	0.20	0.68	2.21	120	230	**4.0**	**0.40**	**160**
		18,20			250 HB	0.7	7.0	0.20	0.68	2.04	120	190	**4.0**	**0.40**	**140**
High Temp. Alloys	Fe, Ni & Co Based	31,32		Incoloy 800	240 HB	0.7	4.2	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**32**
		33		Inconel 700	250 HB	0.7	4.2	0.25	0.47	1.19	25	45	**2.7**	**0.37**	**30**
		34		Stellite 21	350 HB	0.7	4.2	0.25	0.47	1.19	23	40	**2.7**	**0.37**	**28**
	Ti Based	36		TiAl6V4	-	0.7	5.6	0.25	0.54	1.36	45	65	**2.7**	**0.40**	**55**
		37		T40	-	0.7	4.2	0.25	0.47	1.19	35	55	**2.7**	**0.37**	**45**
Hardened Mat.	Steel	38		X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.5	0.14	0.41	1.02	50	100	**2.2**	**0.33**	**80**
		38			50 HRc	0.7	2.8	0.14	0.34	0.68	40	90	**2.0**	**0.26**	**70**
		38			55 HRc	0.7	2.1	0.14	0.27	0.51	40	80	**1.3**	**0.24**	**60**
	Chilled Cast Iron	40		Ni-Hard 2	400 HB	0.7	2.8	0.14	0.34	0.68	40	60	**2.0**	**0.24**	**50**
	White Cast Iron	41		G-X300CrMo15	55 HRc	0.7	2.1	0.14	0.27	0.51	30	50	**1.3**	**0.20**	**40**
NF	Al (>8%Si)	25		AlSi12	130 HB	0.7	7.0	0.25	0.81	3.10	200	400	**4.0**	**0.50**	**280**

TNMG 220412 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	7.0	0.26	0.68	3.06	180	430	**4.0**	**0.50**	**265**
			2		190 HB	0.7	7.0	0.26	0.68	3.06	180	365	**4.0**	**0.46**	**240**
			3		250 HB	0.7	7.0	0.26	0.61	2.55	180	325	**4.0**	**0.44**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	7.0	0.26	0.61	2.04	120	365	**4.0**	**0.42**	**220**
			4,6		230 HB	0.7	5.6	0.26	0.61	2.04	120	325	**4.0**	**0.42**	**200**
			5,7		280 HB	0.7	5.6	0.23	0.54	2.04	120	275	**4.0**	**0.40**	**165**
			8		350 HB	0.7	4.9	0.23	0.54	1.70	120	235	**3.6**	**0.40**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	5.6	0.23	0.54	2.04	70	245	**3.4**	**0.40**	**155**
			10		280 HB	0.7	5.6	0.23	0.54	2.04	70	195	**3.4**	**0.40**	**130**
			11		320 HB	0.7	4.2	0.23	0.47	1.36	70	170	**2.9**	**0.37**	**110**
			11		350 HB	0.7	4.2	0.23	0.47	1.36	70	145	**2.9**	**0.37**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	7.0	0.19	0.81	3.40	170	325	**4.0**	**0.46**	**220**
			15		200 HB	0.7	7.0	0.19	0.81	3.06	160	300	**4.0**	**0.46**	**200**
			16		250 HB	0.7	7.0	0.19	0.74	3.06	150	275	**4.0**	**0.46**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	7.0	0.19	0.68	2.55	120	325	**4.0**	**0.40**	**200**
			17,19		200 HB	0.7	7.0	0.19	0.68	2.21	120	300	**4.0**	**0.40**	**175**
			18,20		250 HB	0.7	7.0	0.19	0.68	2.04	120	245	**4.0**	**0.40**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.5	0.14	0.41	1.02	50	130	**2.7**	**0.33**	**90**
			38		50 HRc	0.7	2.8	0.14	0.34	0.68	40	115	**2.0**	**0.26**	**75**
			38		55 HRc	0.7	2.1	0.14	0.27	0.51	40	105	**1.3**	**0.24**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	2.8	0.14	0.34	0.68	40	80	**2.0**	**0.24**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	2.1	0.14	0.27	0.51	30	65	**1.3**	**0.20**	**45**

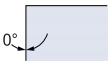
TNMG 220412 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	7.0	0.26	0.68	3.06	90	330	**4.0**	**0.50**	**240**
			2		190 HB	0.7	7.0	0.26	0.68	3.06	90	280	**4.0**	**0.46**	**220**
			3		250 HB	0.7	7.0	0.26	0.61	2.55	90	250	**4.0**	**0.44**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	7.0	0.26	0.61	2.04	60	280	**4.0**	**0.42**	**200**
			4,6		230 HB	0.7	5.6	0.26	0.61	2.04	60	250	**4.0**	**0.42**	**180**
			5,7		280 HB	0.7	5.6	0.23	0.54	2.04	60	210	**4.0**	**0.40**	**150**
			8		350 HB	0.7	4.9	0.23	0.54	1.70	60	180	**3.6**	**0.40**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	5.6	0.23	0.54	2.04	35	190	**3.4**	**0.40**	**140**
			10		280 HB	0.7	5.6	0.23	0.54	2.04	35	150	**3.4**	**0.40**	**120**
			11		320 HB	0.7	4.2	0.23	0.47	1.36	35	130	**2.9**	**0.37**	**100**
			11		350 HB	0.7	4.2	0.23	0.47	1.36	35	110	**2.9**	**0.37**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	7.0	0.25	0.54	2.04	85	270	**4.0**	**0.33**	**190**
			14		240 HB	0.7	7.0	0.25	0.54	1.70	80	220	**4.0**	**0.29**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	5.6	0.23	0.47	1.36	40	150	**3.4**	**0.32**	**100**
			14		310 HB	0.7	5.6	0.23	0.47	1.36	35	140	**3.4**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	7.0	0.23	0.54	1.19	85	250	**3.4**	**0.26**	**190**
			13		42 HRc	0.7	5.6	0.23	0.54	1.19	60	190	**2.9**	**0.26**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	7.0	0.19	0.68	2.55	60	250	**4.0**	**0.40**	**180**
			17,19		200 HB	0.7	7.0	0.19	0.68	2.21	60	230	**4.0**	**0.40**	**160**
			18,20		250 HB	0.7	7.0	0.19	0.68	2.04	60	190	**4.0**	**0.40**	**140**

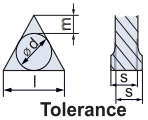
ООО "АКИТЭК", РФ., г. Москва.
ул. Подольских курсантов, дом. 22, корпус 5,
тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

T N M P

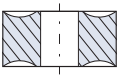
Shape



Clearance Angle



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



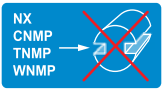
Fixing, Chipbreaker

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNMP 160408 NN LT 1025	16	4.76	0.8	T0004145	●	●	●

60° triangle shape inserts with positive chip breaker geometry. Generates low cutting forces. Suitable for general purpose, copying, high temperature alloys and stainless steel turning operations.

Machining Recommendations

Details on page 14



Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

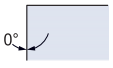
TNMP 160408 NN – **LT 1025**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	90	330	**3.0**	**0.38**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	90	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	90	250	**3.0**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	60	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	60	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	60	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	60	180	**2.7**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	35	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	35	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	35	130	**2.2**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	35	110	**2.2**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	85	270	**3.0**	**0.25**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	80	220	**3.0**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	40	150	**2.5**	**0.24**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	35	140	**2.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.18	0.40	0.70	85	250	**2.5**	**0.20**	**190**
			13		42 HRc	0.5	4.0	0.18	0.40	0.70	60	190	**2.2**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	60	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	60	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	60	190	**3.0**	**0.30**	**140**

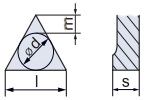
Left

T N U X

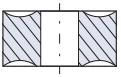
Shape



Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNUX 160404 R LT 10	16	4.76	0.4	T0001125	●	●	●
TNUX 160404 L LT 10	16	4.76	0.4	T0001877	●	●	●
TNUX 160408 R LT 10	16	4.76	0.8	T0001137	●	●	●
TNUX 160408 L LT10	16	4.76	0.8	T0001878	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNUX 160404 R LT 1000	16	4.76	0.4	T0001938	●	●	●
TNUX 160404 L LT 1000	16	4.76	0.4	T0002794	●	●	●
TNUX 160408 R LT 1000	16	4.76	0.8	T0001939	●	●	●
TNUX 160408 L LT 1000	16	4.76	0.8	T0002795	●	●	●

60° triangle shape inserts. Suitable for general turning and longitudinal operations, where there is a concern for work piece vibrations.

Machining Recommendations

Details on page 14

F ⇒ Productivity

Stainless Steel V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

TNUX 160404 L/R – **LT 10 | LT 1000**

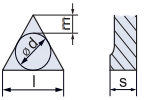
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	2.0	0.13	180
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

TNUX 160408 L/R – **LT 10 | LT 1000**

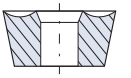
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

T P M R

Shape **Clearance Angle**



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TPMR 160304 NN LT 10	16	3.76	0.4	T0001638	●	●	●
TPMR 160308 NN LT 10	16	3.76	0.8	T0001535	●	●	●

60° triangle shape inserts with positive rake angle. Suitable for boring and internal turing operations.

Machining Recommendations

Details on page 14

F ⇒ Productivity

Stainless Steel V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

TPMR 160304 NN – **LT 10**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

TPMR 160308 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	**3.0**	**0.35**	**240**
			2		190 HB	0.5	5.0	0.21	0.50	1.80	180	280	**3.0**	**0.35**	**220**
			3		250 HB	0.5	5.0	0.21	0.45	1.50	180	250	**3.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.45	1.20	120	250	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.40	1.20	120	210	**3.0**	**0.30**	**150**
			8		350 HB	0.5	3.5	0.18	0.40	1.00	120	180	**3.0**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	**2.5**	**0.30**	**140**
			10		280 HB	0.5	4.0	0.18	0.40	1.20	70	150	**2.5**	**0.30**	**120**
			11		320 HB	0.5	3.0	0.18	0.35	0.80	70	130	**2.5**	**0.28**	**100**
			11		350 HB	0.5	3.0	0.18	0.35	0.80	70	110	**2.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	**3.0**	**0.35**	**190**
			14		240 HB	0.5	5.0	0.20	0.40	1.00	160	220	**3.0**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	**2.5**	**0.28**	**100**
			14		310 HB	0.5	4.0	0.18	0.35	0.80	70	140	**2.5**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	**3.0**	**0.32**	**190**
			13		42 HRc	0.5	4.0	0.22	0.40	1.00	120	190	**2.5**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	**3.0**	**0.35**	**200**
			15		200 HB	0.5	5.0	0.15	0.60	1.80	160	230	**3.0**	**0.35**	**180**
			16		250 HB	0.5	5.0	0.15	0.55	1.80	150	210	**3.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	5.0	0.15	0.50	1.30	120	230	**3.0**	**0.30**	**160**
			18,20		250 HB	0.5	5.0	0.15	0.50	1.20	120	190	**3.0**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	3.0	0.20	0.35	0.70	25	45	**2.0**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	3.0	0.20	0.35	0.70	23	40	**2.0**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.20	0.40	0.80	45	65	**2.0**	**0.33**	**55**
			37	T40	-	0.5	3.0	0.20	0.35	0.70	35	55	**2.0**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.11	0.30	0.60	50	100	**2.0**	**0.25**	**80**
			38		50 HRc	0.5	2.0	0.11	0.25	0.40	40	90	**1.5**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.11	0.25	0.40	40	60	**1.5**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	**3.0**	**0.40**	**280**

ООО "АКИТЭК", РФ., г. Москва.
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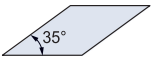
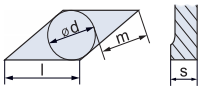
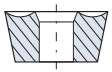
V B M T



Shape | **Clearance Angle**



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VBMT 110304 NN LT 10	11	3.76	0.4	T0001460	●	●	●
VBMT 160404 NN LT 10	16	4.76	0.4	T0000070	●	●	●
VBMT 160408 NN LT 10	16	4.76	0.8	T0000071	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VBMT 110304 NN LT 1000	11	3.76	0.4	T0001942	●	●	●
VBMT 160404 NN LT 1000	16	4.76	0.4	T0001943	●	●	●
VBMT 160408 NN LT 1000	16	4.76	0.8	T0001944	●	●	●

35° diamond shape inserts with positive rake angle. Suitable for internal and external copying operations of complex geometries.

Machining Recommendations

Details on page 14

F ⇒ Productivity

Stainless Steel V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

VBMT 110304 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	2.1	0.08	0.20	0.37	180	330	**1.0**	**0.14**	**300**
			2		190 HB	0.3	1.8	0.08	0.19	0.32	180	280	**1.0**	**0.14**	**260**
			3		250 HB	0.3	1.8	0.08	0.17	0.30	180	250	**1.0**	**0.14**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	1.8	0.08	0.17	0.31	120	280	**1.0**	**0.11**	**260**
			4,6		230 HB	0.3	1.8	0.08	0.17	0.30	120	250	**1.0**	**0.11**	**240**
			5,7		280 HB	0.3	1.4	0.08	0.15	0.25	120	210	**1.0**	**0.10**	**200**
			8		350 HB	0.3	1.4	0.08	0.15	0.22	120	180	1.0	0.10	180
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	1.8	0.07	0.15	0.25	70	190	**0.9**	**0.08**	**180**
			10		280 HB	0.3	1.8	0.07	0.14	0.25	70	150	**0.9**	**0.08**	**140**
			11		320 HB	0.3	1.4	0.07	0.12	0.20	70	130	**0.9**	**0.08**	**120**
			11		350 HB	0.3	1.4	0.07	0.12	0.16	70	110	**0.9**	**0.08**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	1.8	0.06	0.15	0.20	170	270	**1.0**	**0.07**	**260**
			14		240 HB	0.3	1.8	0.06	0.15	0.16	160	220	**1.0**	**0.06**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	1.4	0.06	0.12	0.12	80	150	**0.9**	**0.06**	**140**
			14		310 HB	0.3	1.4	0.06	0.12	0.12	70	140	**0.9**	**0.06**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	1.8	0.06	0.15	0.20	170	250	**0.9**	**0.07**	**240**
			13		42 HRc	0.3	1.4	0.06	0.14	0.16	120	190	**0.8**	**0.06**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	2.1	0.06	0.17	0.40	170	250	**1.0**	**0.14**	**240**
			15		200 HB	0.3	2.1	0.06	0.17	0.37	160	230	**1.0**	**0.14**	**220**
			16		250 HB	0.3	2.1	0.06	0.17	0.37	150	210	**1.0**	**0.14**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	1.8	0.06	0.15	0.30	120	250	**1.0**	**0.10**	**240**
			17,19		200 HB	0.3	1.8	0.06	0.15	0.25	120	230	**1.0**	**0.10**	**220**
			18,20		250 HB	0.3	1.8	0.06	0.15	0.25	120	190	**1.0**	**0.10**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	**0.08**	**40**
			33	Inconel 700	250 HB	0.3	1.4	0.07	0.13	0.16	25	50	**0.7**	**0.08**	**40**
			34	Stellite 21	350 HB	0.3	1.4	0.07	0.13	0.16	23	45	**0.7**	**0.08**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	1.4	0.07	0.14	0.20	45	65	**0.7**	**0.11**	**60**
			37	T40	-	0.3	1.4	0.07	0.12	0.16	35	60	**0.7**	**0.08**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.3	0.04	0.10	0.12	50	100	**0.7**	**0.08**	**90**
			38		50 HRc	0.3	1.1	0.04	0.09	0.11	40	90	**0.6**	**0.06**	**80**
			38		55 HRc	0.3	1.0	0.04	0.08	0.08	40	80	**0.5**	**0.05**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.1	0.04	0.10	0.11	40	60	**0.6**	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.0	0.04	0.08	0.08	30	50	**0.5**	**0.05**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	2.8	0.08	0.26	0.43	200	400	**1.0**	**0.18**	**350**

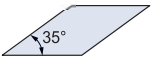
VBMT 160404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

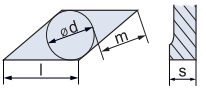
VBMT 160408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.19	0.40	1.26	180	330	**2.5**	**0.30**	**240**
			2		190 HB	0.5	3.5	0.19	0.40	1.26	180	280	**2.5**	**0.30**	**220**
			3		250 HB	0.5	3.5	0.19	0.36	1.05	180	250	**2.5**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.19	0.36	0.84	120	280	**2.5**	**0.27**	**200**
			4,6		230 HB	0.5	2.8	0.19	0.36	0.84	120	250	**2.5**	**0.27**	**180**
			5,7		280 HB	0.5	2.8	0.16	0.32	0.84	120	210	**2.5**	**0.26**	**150**
			8		350 HB	0.5	2.5	0.16	0.32	0.70	120	180	**2.5**	**0.26**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.16	0.32	0.84	70	190	**2.1**	**0.26**	**140**
			10		280 HB	0.5	2.8	0.16	0.32	0.84	70	150	**2.1**	**0.26**	**120**
			11		320 HB	0.5	2.1	0.16	0.28	0.56	70	130	**2.1**	**0.24**	**100**
			11		350 HB	0.5	2.1	0.16	0.28	0.56	70	110	**2.1**	**0.24**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.32	0.84	170	270	**2.5**	**0.30**	**190**
			14		240 HB	0.5	3.5	0.18	0.32	0.70	160	220	**2.5**	**0.27**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.16	0.28	0.56	80	150	**2.1**	**0.24**	**100**
			14		310 HB	0.5	2.8	0.16	0.28	0.56	70	140	**2.1**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.20	0.32	0.70	170	250	**2.5**	**0.27**	**190**
			13		42 HRc	0.5	2.8	0.20	0.32	0.70	120	190	**2.5**	**0.27**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.14	0.48	1.40	170	250	**2.5**	**0.30**	**200**
			15		200 HB	0.5	3.5	0.14	0.48	1.26	160	230	**2.5**	**0.30**	**180**
			16		250 HB	0.5	3.5	0.14	0.44	1.26	150	210	**2.5**	**0.30**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.14	0.40	1.05	120	250	**2.5**	**0.26**	**180**
			17,19		200 HB	0.5	3.5	0.14	0.40	0.91	120	230	**2.5**	**0.26**	**160**
			18,20		250 HB	0.5	3.5	0.14	0.40	0.84	120	190	**2.5**	**0.26**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.1	0.18	0.28	0.49	25	45	**2.0**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	2.1	0.18	0.28	0.49	25	45	**2.0**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	2.1	0.18	0.28	0.49	23	40	**2.0**	**0.24**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.8	0.18	0.32	0.56	45	65	**2.0**	**0.28**	**55**
			37	T40	-	0.5	2.1	0.18	0.28	0.49	35	55	**2.0**	**0.26**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.10	0.24	0.42	50	100	**1.6**	**0.21**	**80**
			38		50 HRc	0.5	1.4	0.10	0.20	0.28	40	90	**1.2**	**0.17**	**70**
			38		55 HRc	0.5	1.1	0.10	0.16	0.21	40	80	**1.0**	**0.15**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.10	0.20	0.28	40	60	**1.2**	**0.15**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.10	0.16	0.21	30	50	**1.0**	**0.13**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.2	0.18	0.48	1.40	200	400	**2.5**	**0.34**	**280**

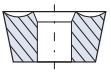
V C M T



Shape | **Clearance Angle**



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VCMT 160404 NN LT 10	16	4.76	0.4	T0001102	●	●	●
VCMT 160408 NN LT 10	16	4.76	0.8	T0001103	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VCMT 160404 NN LT 1000	16	4.76	0.4	T0001945	●	●	●
VCMT 160408 NN LT 1000	16	4.76	0.8	T0001946	●	●	●

35° diamond shape inserts with positive rake angle. Suitable for internal and external copying operations of complex geometries.

Machining Recommendations

Details on page 14

F ⇒ Productivity

Stainless Steel V_c

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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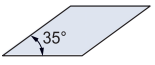
VCMT 160404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

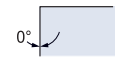
VCMT 160408 NN – **LT 10 | LT 1000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.19	0.40	1.26	180	330	**2.5**	**0.30**	**240**
			2		190 HB	0.5	3.5	0.19	0.40	1.26	180	280	**2.5**	**0.30**	**220**
			3		250 HB	0.5	3.5	0.19	0.36	1.05	180	250	**2.5**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.19	0.36	0.84	120	280	**2.5**	**0.27**	**200**
			4,6		230 HB	0.5	2.8	0.19	0.36	0.84	120	250	**2.5**	**0.27**	**180**
			5,7		280 HB	0.5	2.8	0.16	0.32	0.84	120	210	**2.5**	**0.26**	**150**
			8		350 HB	0.5	2.5	0.16	0.32	0.70	120	180	**2.5**	**0.26**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.16	0.32	0.84	70	190	**2.1**	**0.26**	**140**
			10		280 HB	0.5	2.8	0.16	0.32	0.84	70	150	**2.1**	**0.26**	**120**
			11		320 HB	0.5	2.1	0.16	0.28	0.56	70	130	**2.1**	**0.24**	**100**
			11		350 HB	0.5	2.1	0.16	0.28	0.56	70	110	**2.1**	**0.24**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.32	0.84	170	270	**2.5**	**0.30**	**190**
			14		240 HB	0.5	3.5	0.18	0.32	0.70	160	220	**2.5**	**0.27**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.16	0.28	0.56	80	150	**2.1**	**0.24**	**100**
			14		310 HB	0.5	2.8	0.16	0.28	0.56	70	140	**2.1**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.20	0.32	0.70	170	250	**2.5**	**0.27**	**190**
			13		42 HRc	0.5	2.8	0.20	0.32	0.70	120	190	**2.5**	**0.27**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.14	0.48	1.40	170	250	**2.5**	**0.30**	**200**
			15		200 HB	0.5	3.5	0.14	0.48	1.26	160	230	**2.5**	**0.30**	**180**
			16		250 HB	0.5	3.5	0.14	0.44	1.26	150	210	**2.5**	**0.30**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.14	0.40	1.05	120	250	**2.5**	**0.26**	**180**
			17,19		200 HB	0.5	3.5	0.14	0.40	0.91	120	230	**2.5**	**0.26**	**160**
			18,20		250 HB	0.5	3.5	0.14	0.40	0.84	120	190	**2.5**	**0.26**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.1	0.18	0.28	0.49	25	45	**2.0**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	2.1	0.18	0.28	0.49	25	45	**2.0**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	2.1	0.18	0.28	0.49	23	40	**2.0**	**0.24**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.8	0.18	0.32	0.56	45	65	**2.0**	**0.28**	**55**
			37	T40	-	0.5	2.1	0.18	0.28	0.49	35	55	**2.0**	**0.26**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.10	0.24	0.42	50	100	**1.6**	**0.21**	**80**
			38		50 HRc	0.5	1.4	0.10	0.20	0.28	40	90	**1.2**	**0.17**	**70**
			38		55 HRc	0.5	1.1	0.10	0.16	0.21	40	80	**1.0**	**0.15**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.10	0.20	0.28	40	60	**1.2**	**0.15**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.10	0.16	0.21	30	50	**1.0**	**0.13**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.2	0.18	0.48	1.40	200	400	**2.5**	**0.34**	**280**

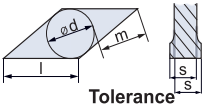
V N M G



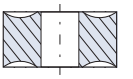
Shape



Clearance Angle



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VNMG 160404 NN LT 10	16.00	4.76	0.4	T0000072	●	●	●
VNMG 160408 NN LT 10	16	4.76	0.8	T0000073	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VNMG 160404 NN LT 1000	16	4.76	0.4	T0001947	●	●	●
VNMG 160408 NN LT 1000	16	4.76	0.8	T0001948	●	●	●

LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VNMG 160408 NN LT 1005	16	4.76	0.8	T0004095	●	●	●

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VNMG 160408 NN LT 1025	16	4.76	0.8	T0004149	●	●	●

35° diamond shape inserts. Suitable for external copying operations.

Machining Recommendations

Details on page 14

F ⇒ Productivity

LT 10 and LT 1000

Stainless Steel V_c

LT 10 and LT 1000

V_c ⇒ Productivity

LT 1005

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

VNMG 160404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

VNMG 160408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.19	0.40	1.44	180	330	**2.7**	**0.32**	**240**
			2		190 HB	0.5	4.0	0.19	0.40	1.44	180	280	**2.7**	**0.32**	**220**
			3		250 HB	0.5	4.0	0.19	0.36	1.20	180	250	**2.7**	**0.32**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.19	0.36	0.96	120	280	**2.7**	**0.29**	**200**
			4,6		230 HB	0.5	3.2	0.19	0.36	0.96	120	250	**2.7**	**0.29**	**180**
			5,7		280 HB	0.5	3.2	0.16	0.32	0.96	120	210	**2.7**	**0.27**	**150**
			8		350 HB	0.5	2.8	0.16	0.32	0.80	120	180	**2.7**	**0.27**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.16	0.32	0.96	70	190	**2.3**	**0.27**	**140**
			10		280 HB	0.5	3.2	0.16	0.32	0.96	70	150	**2.3**	**0.27**	**120**
			11		320 HB	0.5	2.4	0.16	0.28	0.64	70	130	**2.3**	**0.25**	**100**
			11		350 HB	0.5	2.4	0.16	0.28	0.64	70	110	**2.3**	**0.25**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.18	0.32	0.96	170	270	**2.7**	**0.32**	**190**
			14		240 HB	0.5	4.0	0.18	0.32	0.80	160	220	**2.7**	**0.29**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.16	0.28	0.64	80	150	**2.3**	**0.25**	**100**
			14		310 HB	0.5	3.2	0.16	0.28	0.64	70	140	**2.3**	**0.25**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.20	0.32	0.80	170	250	**2.7**	**0.29**	**190**
			13		42 HRc	0.5	3.2	0.20	0.32	0.80	120	190	**2.5**	**0.29**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.14	0.48	1.60	170	250	**2.7**	**0.32**	**200**
			15		200 HB	0.5	4.0	0.14	0.48	1.44	160	230	**2.7**	**0.32**	**180**
			16		250 HB	0.5	4.0	0.14	0.44	1.44	150	210	**2.7**	**0.32**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.14	0.40	1.20	120	250	**2.7**	**0.27**	**180**
			17,19		200 HB	0.5	4.0	0.14	0.40	1.04	120	230	**2.7**	**0.27**	**160**
			18,20		250 HB	0.5	4.0	0.14	0.40	0.96	120	190	**2.7**	**0.27**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.18	0.28	0.56	25	45	**2.0**	**0.25**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.18	0.28	0.56	25	45	**2.0**	**0.25**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.18	0.28	0.56	23	40	**2.0**	**0.25**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	3.2	0.18	0.32	0.64	45	65	**2.0**	**0.30**	**55**
			37	T40	-	0.5	2.4	0.18	0.28	0.56	35	55	**2.0**	**0.27**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.0	0.10	0.24	0.48	50	100	**1.8**	**0.23**	**80**
			38		50 HRc	0.5	1.6	0.10	0.20	0.32	40	90	**1.4**	**0.18**	**70**
			38		55 HRc	0.5	1.2	0.10	0.16	0.24	40	80	**1.0**	**0.16**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.6	0.10	0.20	0.32	40	60	**1.4**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.10	0.16	0.24	30	50	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.8	0.18	0.48	1.40	200	400	**2.7**	**0.36**	**280**

VNMG 160408 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.19	0.40	1.44	180	430	**2.7**	**0.34**	**265**
			2		190 HB	0.5	4.0	0.19	0.40	1.44	180	365	**2.7**	**0.32**	**240**
			3		250 HB	0.5	4.0	0.19	0.36	1.20	180	325	**2.7**	**0.30**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.19	0.36	0.96	120	365	**2.7**	**0.29**	**220**
			4,6		230 HB	0.5	3.2	0.19	0.36	0.96	120	325	**2.7**	**0.29**	**200**
			5,7		280 HB	0.5	3.2	0.16	0.32	0.96	120	275	**2.7**	**0.27**	**165**
			8		350 HB	0.5	2.8	0.16	0.32	0.80	120	235	**2.4**	**0.27**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.16	0.32	0.96	70	245	**2.3**	**0.27**	**155**
			10		280 HB	0.5	3.2	0.16	0.32	0.96	70	195	**2.3**	**0.27**	**130**
			11		320 HB	0.5	2.4	0.16	0.28	0.64	70	170	**2.0**	**0.25**	**110**
			11		350 HB	0.5	2.4	0.16	0.28	0.64	70	145	**2.0**	**0.25**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.14	0.48	1.60	170	325	**2.7**	**0.32**	**220**
			15		200 HB	0.5	4.0	0.14	0.48	1.44	160	300	**2.7**	**0.32**	**200**
			16		250 HB	0.5	4.0	0.14	0.44	1.44	150	275	**2.7**	**0.32**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.14	0.40	1.20	120	325	**2.7**	**0.27**	**200**
			17,19		200 HB	0.5	4.0	0.14	0.40	1.04	120	300	**2.7**	**0.27**	**175**
			18,20		250 HB	0.5	4.0	0.14	0.40	0.96	120	245	**2.7**	**0.27**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.0	0.10	0.24	0.48	50	130	**1.8**	**0.23**	**90**
			38		50 HRc	0.5	1.6	0.10	0.20	0.32	40	115	**1.4**	**0.18**	**75**
			38		55 HRc	0.5	1.2	0.10	0.16	0.24	40	105	**0.9**	**0.16**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.6	0.10	0.20	0.32	40	80	**1.4**	**0.16**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.10	0.16	0.24	30	65	**0.9**	**0.14**	**45**

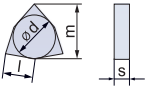
VNMG 160408 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.19	0.40	1.44	90	330	**2.7**	**0.34**	**240**
			2		190 HB	0.5	4.0	0.19	0.40	1.44	90	280	**2.7**	**0.32**	**220**
			3		250 HB	0.5	4.0	0.19	0.36	1.20	90	250	**2.7**	**0.30**	**200**
Steel	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.19	0.36	0.96	60	280	**2.7**	**0.29**	**200**
			4,6		230 HB	0.5	3.2	0.19	0.36	0.96	60	250	**2.7**	**0.29**	**180**
			5,7		280 HB	0.5	3.2	0.16	0.32	0.96	60	210	**2.7**	**0.27**	**150**
			8		350 HB	0.5	2.8	0.16	0.32	0.80	60	180	**2.4**	**0.27**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.16	0.32	0.96	35	190	**2.3**	**0.27**	**140**
			10		280 HB	0.5	3.2	0.16	0.32	0.96	35	150	**2.3**	**0.27**	**120**
			11		320 HB	0.5	2.4	0.16	0.28	0.64	35	130	**2.0**	**0.25**	**100**
			11		350 HB	0.5	2.4	0.16	0.28	0.64	35	110	**2.0**	**0.25**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.18	0.32	0.96	85	270	**2.7**	**0.23**	**190**
			14		240 HB	0.5	4.0	0.18	0.32	0.80	80	220	**2.7**	**0.20**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.16	0.28	0.64	40	150	**2.3**	**0.22**	**100**
			14		310 HB	0.5	3.2	0.16	0.28	0.64	35	140	**2.3**	**0.22**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.16	0.32	0.56	85	250	**2.3**	**0.18**	**190**
			13		42 HRc	0.5	3.2	0.16	0.32	0.56	60	190	**2.0**	**0.18**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.14	0.40	1.20	60	250	**2.7**	**0.27**	**180**
			17,19		200 HB	0.5	4.0	0.14	0.40	1.04	60	230	**2.7**	**0.27**	**160**
			18,20		250 HB	0.5	4.0	0.14	0.40	0.96	60	190	**2.7**	**0.27**	**140**

W N M A

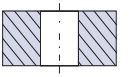
Shape

Clearance Angle



Tolerance

s ± 0.13
For l = 06, **d** ± 0.05 **m** ± 0.08
For l = 08, **d** ± 0.08 **m** ± 0.13



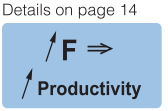
Fixing, Chipbreaker

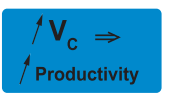
LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMA 080408 LT 1005	8	4.76	0.8	T0002840	●	●	●
WNMA 080412 LT 1005	8	4.76	1.2	T0002841	●	●	●

Strong edge preparation mainly for gray cast iron. For general purpose turning, facing and boring operations.

Machining Recommendations

Details on page 14





LT 1005

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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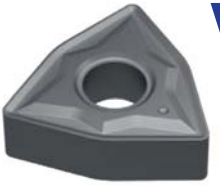
WNMA 080408 – LT 1005

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	4.0	0.20	0.40	1.4	270	450	**3.5**	**0.32**	**350**
			15		200 HB	0.7	4.0	0.20	0.38	1.2	200	320	**3.5**	**0.32**	**250**
			16		250 HB	0.7	4.0	0.20	0.36	1.2	170	240	**3.5**	**0.32**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	4.0	0.20	0.40	1.0	130	260	**2.5**	**0.30**	**240**
			17,19		200 HB	0.7	4.0	0.20	0.38	0.9	130	230	**2.5**	**0.30**	**210**
			18,20		250 HB	0.7	4.0	0.20	0.36	0.8	130	190	**2.5**	**0.30**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.20	0.3	40	60	**1.4**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.20	0.2	30	50	**1.1**	**0.15**	**40**

WNMA 080412 – LT 1005

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	4.0	0.20	0.60	1.7	270	450	**3.5**	**0.40**	**350**
			15		200 HB	0.7	4.0	0.20	0.58	1.5	200	320	**3.5**	**0.40**	**250**
			16		250 HB	0.7	4.0	0.20	0.56	1.5	170	240	**3.5**	**0.40**	**220**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	4.0	0.20	0.52	1.3	130	260	**3.0**	**0.30**	**240**
			17,19		200 HB	0.7	4.0	0.20	0.50	1.1	130	230	**3.0**	**0.30**	**210**
			18,20		250 HB	0.7	4.0	0.20	0.48	1.0	130	190	**3.0**	**0.30**	**180**
H	Chilled Cast Iron	11	40	Ni-Hard 2	400 HB	0.7	2.4	0.14	0.25	0.3	40	60	**1.5**	**0.19**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.8	0.14	0.20	0.3	30	50	**1.2**	**0.17**	**40**



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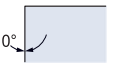
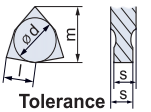
Shape

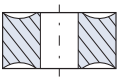


Clearance Angle



Tolerance

s ± 0.13
For l = 06, **d** ± 0.05 **m** ± 0.08
For l = 08, **d** ± 0.08 **m** ± 0.13



Fixing, Chipbreaker

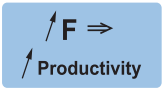
LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMG 060404 NN LT 10	6	4.76	0.4	T0000133	●	●	●
WNMG 060408 NN LT 10	6	4.76	0.8	T0000137	●	●	●
WNMG 080404 NN LT 10	8	4.76	0.4	T0000584	●	●	●
WNMG 080408 NN LT 10	8	4.76	0.8	T0000075	●	●	●
WNMG 080408 NM LT 10	8	4.76	0.8	T0001967	●	●	●
WNMG 080412 NN LT 10	8	4.76	1.2	T0000077	●	●	●

LT 1000 Multi-Mat™ General Usage - Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMG 060404 NN LT 1000	6	4.76	0.4	T0001949	●	●	●
WNMG 060408 NN LT 1000	6	4.76	0.8	T0001950	●	●	●
WNMG 060408 NX LT 1000	6	4.76	0.8	T0003014	●	●	●
WNMG 080404 NN LT 1000	8	4.76	0.4	T0001951	●	●	●
WNMG 080408 NN LT 1000	8	4.76	0.8	T0001952	●	●	●
WNMG 080408 NM LT 1000	8	4.76	0.8	T0001969	●	●	●
WNMG 080408 NX LT 1000	8	4.76	0.8	T0002742	●	●	●
WNMG 080412 NN LT 1000	8	4.76	1.2	T0001953	●	●	●

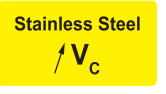
80° trigon shape inserts with 6 cutting edges. Suitable for all-purpose turning, facing and boring operations.

Machining Recommendations

Details on page 14



LT 10 and LT 1000



LT 10 and LT 1000

NX LT 10 and LT 1000

NX LT 10 and LT 1000

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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W N M G

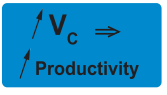
LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMG 060408 NN LT 1005	6	4.76	0.8	T0004099	●	●	●
WNMG 060408 NX LT 1005	6	4.76	0.8	T0004100	●	●	●
WNMG 080408 NN LT 1005	8	4.76	0.8	T0004103	●	●	●
WNMG 080408 NM LT 1005	8	4.76	0.8	T0004102	●	●	●
WNMG 080408 NX LT 1005	8	4.76	0.8	T0004104	●	●	●
WNMG 080412 NN LT 1005	8	4.76	1.2	T0004105	●	●	●

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMG 060408 NN LT 1025	6	4.76	0.8	T0004150	●	●	●
WNMG 060408 NX LT 1025	6	4.76	0.8	T0004151	●	●	●
WNMG 080408 NN LT 1025	8	4.76	0.8	T0004154	●	●	●
WNMG 080408 NM LT 1025	8	4.76	0.8	T0004153	●	●	●
WNMG 080408 NX LT 1025	8	4.76	0.8	T0004155	●	●	●
WNMG 080412 NN LT 1025	8	4.76	1.2	T0004156	●	●	●

Machining Recommendations

Details on page 14

NX for LT 1025



LT 1005

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

WNMG 060404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

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Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.21	0.50	1.17	180	330	**2.2**	**0.35**	**240**
			2		190 HB	0.5	2.5	0.21	0.50	1.17	180	280	**2.2**	**0.35**	**220**
			3		250 HB	0.5	2.5	0.21	0.45	0.98	180	250	**2.2**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.21	0.45	0.78	120	280	**2.2**	**0.32**	**200**
			4,6		230 HB	0.5	2.0	0.21	0.45	0.78	120	250	**1.8**	**0.32**	**180**
			5,7		280 HB	0.5	2.0	0.18	0.40	0.78	120	210	**1.8**	**0.30**	**150**
			8		350 HB	0.5	1.8	0.18	0.40	0.65	120	180	**1.6**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.18	0.40	0.78	70	190	**1.8**	**0.30**	**140**
			10		280 HB	0.5	2.0	0.18	0.40	0.78	70	150	**1.8**	**0.30**	**120**
			11		320 HB	0.5	1.5	0.18	0.35	0.52	70	130	**1.5**	**0.28**	**100**
			11		350 HB	0.5	1.5	0.18	0.35	0.52	70	110	**1.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.20	0.40	0.78	170	270	**2.2**	**0.35**	**190**
			14		240 HB	0.5	2.5	0.20	0.40	0.65	160	220	**2.2**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.18	0.35	0.52	80	150	**1.8**	**0.28**	**100**
			14		310 HB	0.5	2.0	0.18	0.35	0.52	70	140	**1.8**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.22	0.40	0.65	170	250	**2.2**	**0.32**	**190**
			13		42 HRc	0.5	2.0	0.22	0.40	0.65	120	190	**2.0**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.15	0.60	1.30	170	250	**2.2**	**0.35**	**200**
			15		200 HB	0.5	2.5	0.15	0.60	1.17	160	230	**2.2**	**0.35**	**180**
			16		250 HB	0.5	2.5	0.15	0.55	1.17	150	210	**2.2**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.50	0.98	120	250	**2.2**	**0.30**	**180**
			17,19		200 HB	0.5	2.5	0.15	0.50	0.85	120	230	**2.2**	**0.30**	**160**
			18,20		250 HB	0.5	2.5	0.15	0.50	0.78	120	190	**2.2**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.5	0.20	0.35	0.46	25	45	**1.5**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	1.5	0.20	0.35	0.46	25	45	**1.5**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	1.5	0.20	0.35	0.46	23	40	**1.5**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.0	0.20	0.40	0.52	45	65	**1.5**	**0.33**	**55**
			37	T40	-	0.5	1.5	0.20	0.35	0.46	35	55	**1.5**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.6	0.11	0.30	0.39	50	100	**1.5**	**0.25**	**80**
			38		50 HRc	0.5	1.3	0.11	0.25	0.26	40	90	**1.0**	**0.20**	**70**
			38		55 HRc	0.5	1.3	0.11	0.20	0.20	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.3	0.11	0.25	0.26	40	60	**1.0**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.3	0.11	0.20	0.20	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.0	0.20	0.60	1.80	200	400	**2.2**	**0.40**	**280**

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Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.21	0.50	1.17	180	430	1.8	0.38	265
			2		190 HB	0.5	2.5	0.21	0.50	1.17	180	365	1.8	0.35	240
			3		250 HB	0.5	2.5	0.21	0.45	0.98	180	325	1.8	0.33	220
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.21	0.45	0.78	120	365	1.8	0.32	220
			4,6		230 HB	0.5	2.0	0.21	0.45	0.78	120	325	1.8	0.32	200
			5,7		280 HB	0.5	2.0	0.18	0.40	0.78	120	275	1.8	0.30	165
			8		350 HB	0.5	1.8	0.18	0.40	0.65	120	235	1.6	0.30	145
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.18	0.40	0.78	70	245	1.5	0.30	155
			10		280 HB	0.5	2.0	0.18	0.40	0.78	70	195	1.5	0.30	130
			11		320 HB	0.5	1.5	0.18	0.35	0.52	70	170	1.3	0.28	110
			11		350 HB	0.5	1.5	0.18	0.35	0.52	70	145	1.3	0.28	100
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.15	0.60	1.30	170	325	1.8	0.35	220
			15		200 HB	0.5	2.5	0.15	0.60	1.17	160	300	1.8	0.35	200
			16		250 HB	0.5	2.5	0.15	0.55	1.17	150	275	1.8	0.35	175
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.50	0.98	120	325	1.8	0.30	200
			17,19		200 HB	0.5	2.5	0.15	0.50	0.85	120	300	1.8	0.30	175
			18,20		250 HB	0.5	2.5	0.15	0.50	0.78	120	245	1.8	0.30	155
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.3	0.11	0.30	0.39	50	130	1.2	0.25	90
			38		50 HRc	0.5	1.0	0.11	0.25	0.26	40	115	0.9	0.20	75
			38		55 HRc	0.5	0.8	0.11	0.20	0.20	40	105	0.6	0.18	65
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.0	0.11	0.25	0.26	40	80	0.9	0.18	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	0.8	0.11	0.20	0.20	30	65	0.6	0.15	45

WNMG 060408 NN – LT 1025

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.21	0.50	1.17	90	330	1.8	0.38	240
			2		190 HB	0.5	2.5	0.21	0.50	1.17	90	280	1.8	0.35	220
			3		250 HB	0.5	2.5	0.21	0.45	0.98	90	250	1.8	0.33	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.21	0.45	0.78	60	280	1.8	0.32	200
			4,6		230 HB	0.5	2.0	0.21	0.45	0.78	60	250	1.8	0.32	180
			5,7		280 HB	0.5	2.0	0.18	0.40	0.78	60	210	1.8	0.30	150
			8		350 HB	0.5	1.8	0.18	0.40	0.65	60	180	1.6	0.30	130
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.18	0.40	0.78	35	190	1.5	0.30	140
			10		280 HB	0.5	2.0	0.18	0.40	0.78	35	150	1.5	0.30	120
			11		320 HB	0.5	1.5	0.18	0.35	0.52	35	130	1.3	0.28	100
			11		350 HB	0.5	1.5	0.18	0.35	0.52	35	110	1.3	0.28	90
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.20	0.40	0.78	85	270	1.8	0.25	190
			14		240 HB	0.5	2.5	0.20	0.40	0.65	80	220	1.8	0.22	170
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.18	0.35	0.52	40	150	1.5	0.24	100
			14		310 HB	0.5	2.0	0.18	0.35	0.52	35	140	1.5	0.24	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.18	0.40	0.46	85	250	1.5	0.20	190
			13		42 HRc	0.5	2.0	0.18	0.40	0.46	60	190	1.3	0.20	130
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.50	0.98	60	250	1.8	0.30	180
			17,19		200 HB	0.5	2.5	0.15	0.50	0.85	60	230	1.8	0.30	160
			18,20		250 HB	0.5	2.5	0.15	0.50	0.78	60	190	1.8	0.30	140

WNMG 060408 NX – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.50	1.13	180	330	**1.8**	**0.36**	**240**
			2		190 HB	0.5	2.5	0.18	0.50	1.13	180	280	**1.8**	**0.33**	**220**
			3		250 HB	0.5	2.5	0.18	0.45	0.95	180	250	**1.8**	**0.31**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.18	0.45	0.76	120	280	**1.8**	**0.30**	**200**
			4,6		230 HB	0.5	2.0	0.18	0.45	0.76	120	250	**1.8**	**0.30**	**180**
			5,7		280 HB	0.5	2.0	0.16	0.40	0.76	120	210	**1.8**	**0.29**	**150**
			8		350 HB	0.5	1.8	0.16	0.40	0.63	120	180	**1.8**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.16	0.40	0.76	70	190	**1.5**	**0.29**	**140**
			10		280 HB	0.5	2.0	0.16	0.40	0.76	70	150	**1.5**	**0.29**	**120**
			11		320 HB	0.5	1.5	0.16	0.35	0.50	70	130	**1.3**	**0.27**	**100**
			11		350 HB	0.5	1.5	0.16	0.35	0.50	70	110	**1.3**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.18	0.40	0.76	170	270	**1.8**	**0.24**	**190**
			14		240 HB	0.5	2.5	0.18	0.40	0.63	160	220	**1.8**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.16	0.35	0.50	80	150	**1.5**	**0.23**	**100**
			14		310 HB	0.5	2.0	0.16	0.35	0.50	70	140	**1.5**	**0.23**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.16	0.40	0.44	170	250	**1.5**	**0.19**	**190**
			13		42 HRc	0.5	2.0	0.16	0.40	0.44	120	190	**1.3**	**0.19**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.13	0.60	1.26	170	250	**1.8**	**0.33**	**200**
			15		200 HB	0.5	2.5	0.13	0.60	1.13	160	230	**1.8**	**0.33**	**180**
			16		250 HB	0.5	2.5	0.13	0.55	1.13	150	210	**1.8**	**0.33**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.13	0.50	0.95	120	250	**1.8**	**0.29**	**180**
			17,19		200 HB	0.5	2.5	0.13	0.50	0.82	120	230	**1.8**	**0.29**	**160**
			18,20		250 HB	0.5	2.5	0.13	0.50	0.76	120	190	**1.8**	**0.29**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.5	0.18	0.35	0.44	25	45	**1.2**	**0.27**	**30**
			33	Inconel 700	250 HB	0.5	1.5	0.18	0.35	0.44	25	45	**1.2**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	1.5	0.18	0.35	0.44	25	40	**1.2**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	1.8	0.18	0.40	0.50	45	65	**1.2**	**0.31**	**55**
			37	T40	-	0.5	1.5	0.18	0.35	0.44	35	55	**1.2**	**0.29**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.3	0.10	0.30	0.38	50	100	**1.2**	**0.24**	**80**
			38		50 HRc	0.5	1.0	0.10	0.25	0.25	40	90	**0.9**	**0.19**	**70**
			38		55 HRc	0.5	0.8	0.10	0.20	0.19	40	80	**0.6**	**0.17**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.0	0.10	0.25	0.25	40	60	**0.9**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	0.8	0.10	0.20	0.19	30	50	**0.6**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.0	0.18	0.60	1.13	200	400	**1.8**	**0.38**	**280**

WNMG 060408 NX – LT 1005

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.50	1.13	180	430	1.8	0.36	265
			2		190 HB	0.5	2.5	0.18	0.50	1.13	180	365	1.8	0.33	240
			3		250 HB	0.5	2.5	0.18	0.45	0.95	180	325	1.8	0.31	220
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.18	0.45	0.76	120	365	1.8	0.30	220
			4,6		230 HB	0.5	2.0	0.18	0.45	0.76	120	325	1.8	0.30	200
			5,7		280 HB	0.5	2.0	0.16	0.40	0.76	120	275	1.8	0.29	165
			8		350 HB	0.5	1.8	0.16	0.40	0.63	120	235	1.6	0.29	145
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.16	0.40	0.76	70	245	1.5	0.29	155
			10		280 HB	0.5	2.0	0.16	0.40	0.76	70	195	1.5	0.29	130
			11		320 HB	0.5	1.5	0.16	0.35	0.50	70	170	1.3	0.27	110
			11		350 HB	0.5	1.5	0.16	0.35	0.50	70	145	1.3	0.27	100
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.13	0.60	1.26	170	325	1.8	0.33	220
			15		200 HB	0.5	2.5	0.13	0.60	1.13	160	300	1.8	0.33	200
			16		250 HB	0.5	2.5	0.13	0.55	1.13	150	275	1.8	0.33	175
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.13	0.50	0.95	120	325	1.8	0.29	200
			17,19		200 HB	0.5	2.5	0.13	0.50	0.82	120	300	1.8	0.29	175
			18,20		250 HB	0.5	2.5	0.13	0.50	0.76	120	245	1.8	0.29	155
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.3	0.10	0.30	0.38	50	130	1.2	0.24	90
			38		50 HRc	0.5	1.0	0.10	0.25	0.25	40	115	0.9	0.19	75
			38		55 HRc	0.5	0.8	0.10	0.20	0.19	40	105	0.6	0.17	65
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.0	0.10	0.25	0.25	40	80	0.9	0.17	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	0.8	0.10	0.20	0.19	30	65	0.6	0.14	45

WNMG 060408 NX – LT 1025

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.50	1.13	90	330	1.8	0.36	240
			2		190 HB	0.5	2.5	0.18	0.50	1.13	90	280	1.8	0.33	220
			3		250 HB	0.5	2.5	0.18	0.45	0.95	90	250	1.8	0.31	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.18	0.45	0.76	60	280	1.8	0.30	200
			4,6		230 HB	0.5	2.0	0.18	0.45	0.76	60	250	1.8	0.30	180
			5,7		280 HB	0.5	2.0	0.16	0.40	0.76	60	210	1.8	0.29	150
			8		350 HB	0.5	1.8	0.16	0.40	0.63	60	180	1.6	0.29	130
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.16	0.40	0.76	35	190	1.5	0.29	140
			10		280 HB	0.5	2.0	0.16	0.40	0.76	35	150	1.5	0.29	120
			11		320 HB	0.5	1.5	0.16	0.35	0.50	35	130	1.3	0.27	100
			11		350 HB	0.5	1.5	0.16	0.35	0.50	35	110	1.3	0.27	90
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.18	0.40	0.76	85	270	1.8	0.24	190
			14		240 HB	0.5	2.5	0.18	0.40	0.63	80	220	1.8	0.21	170
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.16	0.35	0.50	40	150	1.5	0.23	100
			14		310 HB	0.5	2.0	0.16	0.35	0.50	35	140	1.5	0.23	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.16	0.40	0.44	85	250	1.5	0.19	190
			13		42 HRc	0.5	2.0	0.16	0.40	0.44	60	190	1.3	0.19	130
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.13	0.50	0.95	60	250	1.8	0.29	180
			17,19		200 HB	0.5	2.5	0.13	0.50	0.82	60	230	1.8	0.29	160
			18,20		250 HB	0.5	2.5	0.13	0.50	0.76	60	190	1.8	0.29	140

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WNMG 080404 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

WNMG 080408 NM – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1		C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.25	0.65	2.16	180	330	**3.0**	**0.44**	**240**
		2			190 HB	0.5	3.5	0.25	0.65	2.16	180	280	**3.0**	**0.44**	**220**
		3			250 HB	0.5	3.5	0.25	0.59	1.80	180	250	**3.0**	**0.44**	**200**
	Low Alloyed	6		42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.25	0.59	1.44	120	280	**3.0**	**0.40**	**200**
		4,6			230 HB	0.5	2.8	0.25	0.59	1.44	120	250	**3.0**	**0.40**	**180**
		5,7			280 HB	0.5	2.8	0.22	0.52	1.44	120	210	**3.0**	**0.38**	**150**
		8			350 HB	0.5	2.5	0.22	0.52	1.20	120	180	**3.0**	**0.38**	**130**
	High Alloyed	10		X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.22	0.52	1.44	70	190	**2.5**	**0.38**	**140**
		10			280 HB	0.5	2.8	0.22	0.52	1.44	70	150	**2.5**	**0.38**	**120**
		11			320 HB	0.5	2.1	0.22	0.46	0.96	70	130	**2.5**	**0.35**	**100**
		11			350 HB	0.5	2.1	0.22	0.46	0.96	70	110	**2.5**	**0.35**	**90**
Stainless Steel	Austenitic	14		304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.24	0.52	1.44	170	270	**3.0**	**0.44**	**190**
		14			240 HB	0.5	3.5	0.24	0.52	1.20	160	220	**3.0**	**0.40**	**170**
	Duplex	14		X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.22	0.46	0.96	80	150	**2.5**	**0.35**	**100**
		14			310 HB	0.5	2.8	0.22	0.46	0.96	70	140	**2.5**	**0.35**	**90**
	Ferritic & Martensitic	12		410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.26	0.52	1.20	170	250	**3.0**	**0.40**	**190**
		13			42 HRc	0.5	2.8	0.26	0.52	1.20	120	190	**2.5**	**0.40**	**130**
Cast Iron	Grey	15		GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.18	0.78	2.40	170	250	**3.0**	**0.44**	**200**
		15			200 HB	0.5	3.5	0.18	0.78	2.16	160	230	**3.0**	**0.44**	**180**
		16			250 HB	0.5	3.5	0.18	0.72	2.16	150	210	**3.0**	**0.44**	**160**
	Malleable & Nodular	17,19		GGG40, GGG70, 50005	150 HB	0.5	3.5	0.18	0.65	1.80	120	250	**3.0**	**0.38**	**180**
		17,19			200 HB	0.5	3.5	0.18	0.65	1.56	120	230	**3.0**	**0.38**	**160**
		18,20			250 HB	0.5	3.5	0.18	0.65	1.44	120	190	**3.0**	**0.38**	**140**
High Temp. Alloys	Fe, Ni & Co Based	31,32		Incoloy 800	240 HB	0.5	2.1	0.24	0.46	0.84	25	45	**2.0**	**0.35**	**32**
		33		Inconel 700	250 HB	0.5	2.1	0.24	0.46	0.84	25	45	**2.0**	**0.35**	**30**
		34		Stellite 21	350 HB	0.5	2.1	0.24	0.46	0.84	23	40	**2.0**	**0.35**	**28**
	Ti Based	36		TiAl6V4	-	0.5	2.8	0.24	0.52	0.96	45	65	**2.0**	**0.41**	**55**
		37		T40	-	0.5	2.1	0.24	0.46	0.84	35	55	**2.0**	**0.38**	**45**
Hardened Mat.	Steel	38		X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.13	0.39	0.72	50	100	**2.0**	**0.31**	**80**
		38			50 HRc	0.5	1.5	0.13	0.33	0.48	40	90	**1.5**	**0.25**	**70**
		38			55 HRc	0.5	1.5	0.13	0.26	0.36	40	80	**1.0**	**0.23**	**60**
	Chilled Cast Iron	40		Ni-Hard 2	400 HB	0.5	1.5	0.13	0.33	0.48	40	60	**1.5**	**0.23**	**50**
	White Cast Iron	41		G-X300CrMo15	55 HRc	0.5	1.5	0.13	0.26	0.36	30	50	**1.0**	**0.19**	**40**
NF	Al (>8%Si)	25		AlSi12	130 HB	0.5	4.2	0.24	0.78	2.20	200	400	**3.0**	**0.50**	**280**

WNMG 080408 NM – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.25	0.65	2.16	180	430	**2.6**	**0.48**	**265**
			2		190 HB	0.5	3.5	0.25	0.65	2.16	180	365	**2.6**	**0.44**	**240**
			3		250 HB	0.5	3.5	0.25	0.59	1.80	180	325	**2.6**	**0.41**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.25	0.59	1.44	120	365	**2.6**	**0.40**	**220**
			4,6		230 HB	0.5	2.8	0.25	0.59	1.44	120	325	**2.6**	**0.40**	**200**
			5,7		280 HB	0.5	2.8	0.22	0.52	1.44	120	275	**2.6**	**0.38**	**165**
			8		350 HB	0.5	2.5	0.22	0.52	1.20	120	235	**2.3**	**0.38**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.22	0.52	1.44	70	245	**2.1**	**0.38**	**155**
			10		280 HB	0.5	2.8	0.22	0.52	1.44	70	195	**2.1**	**0.38**	**130**
			11		320 HB	0.5	2.1	0.22	0.46	0.96	70	170	**1.9**	**0.35**	**110**
			11		350 HB	0.5	2.1	0.22	0.46	0.96	70	145	**1.9**	**0.35**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.18	0.78	2.40	170	325	**2.6**	**0.44**	**220**
			15		200 HB	0.5	3.5	0.18	0.78	2.16	160	300	**2.6**	**0.44**	**200**
			16		250 HB	0.5	3.5	0.18	0.72	2.16	150	275	**2.6**	**0.44**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.18	0.65	1.80	120	325	**2.6**	**0.38**	**200**
			17,19		200 HB	0.5	3.5	0.18	0.65	1.56	120	300	**2.6**	**0.38**	**175**
			18,20		250 HB	0.5	3.5	0.18	0.65	1.44	120	245	**2.6**	**0.38**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.13	0.39	0.72	50	130	**1.7**	**0.31**	**90**
			38		50 HRc	0.5	1.4	0.13	0.33	0.48	40	115	**1.3**	**0.25**	**75**
			38		55 HRc	0.5	1.1	0.13	0.26	0.36	40	105	**0.9**	**0.23**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.13	0.33	0.48	40	80	**1.3**	**0.23**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.13	0.26	0.36	30	65	**0.9**	**0.19**	**45**

WNMG 080408 NM – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.25	0.65	2.16	90	330	**2.6**	**0.48**	**240**
			2		190 HB	0.5	3.5	0.25	0.65	2.16	90	280	**2.6**	**0.44**	**220**
			3		250 HB	0.5	3.5	0.25	0.59	1.80	90	250	**2.6**	**0.41**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.25	0.59	1.44	60	280	**2.6**	**0.40**	**200**
			4,6		230 HB	0.5	2.8	0.25	0.59	1.44	60	250	**2.6**	**0.40**	**180**
			5,7		280 HB	0.5	2.8	0.22	0.52	1.44	60	210	**2.6**	**0.38**	**150**
			8		350 HB	0.5	2.5	0.22	0.52	1.20	60	180	**2.3**	**0.38**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.22	0.52	1.44	35	190	**2.1**	**0.38**	**140**
			10		280 HB	0.5	2.8	0.22	0.52	1.44	35	150	**2.1**	**0.38**	**120**
			11		320 HB	0.5	2.1	0.22	0.46	0.96	35	130	**1.9**	**0.35**	**100**
			11		350 HB	0.5	2.1	0.22	0.46	0.96	35	110	**1.9**	**0.35**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.24	0.52	1.44	85	270	**2.6**	**0.31**	**190**
			14		240 HB	0.5	3.5	0.24	0.52	1.20	80	220	**2.6**	**0.28**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.22	0.46	0.96	40	150	**2.1**	**0.30**	**100**
			14		310 HB	0.5	2.8	0.22	0.46	0.96	35	140	**2.1**	**0.30**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.22	0.52	0.84	85	250	**2.1**	**0.25**	**190**
			13		42 HRc	0.5	2.8	0.22	0.52	0.84	60	190	**1.9**	**0.25**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.18	0.65	1.80	60	250	**2.6**	**0.38**	**180**
			17,19		200 HB	0.5	3.5	0.18	0.65	1.56	60	230	**2.6**	**0.38**	**160**
			18,20		250 HB	0.5	3.5	0.18	0.65	1.44	60	190	**2.6**	**0.38**	**140**

WNMG 080408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.21	0.50	1.80	180	330	**2.4**	**0.35**	**240**
			2		190 HB	0.5	3.5	0.21	0.50	1.80	180	280	**2.4**	**0.35**	**220**
			3		250 HB	0.5	3.5	0.21	0.45	1.50	180	250	**2.4**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.21	0.45	1.20	120	280	**2.4**	**0.32**	**200**
			4,6		230 HB	0.5	2.8	0.21	0.45	1.20	120	250	**2.4**	**0.32**	**180**
			5,7		280 HB	0.5	2.8	0.18	0.40	1.20	120	210	**2.4**	**0.30**	**150**
			8		350 HB	0.5	2.5	0.18	0.40	1.00	120	180	**2.4**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.18	0.40	1.20	70	190	**2.0**	**0.30**	**140**
			10		280 HB	0.5	2.8	0.18	0.40	1.20	70	150	**2.0**	**0.30**	**120**
			11		320 HB	0.5	2.1	0.18	0.35	0.80	70	130	**2.0**	**0.28**	**100**
			11		350 HB	0.5	2.1	0.18	0.35	0.80	70	110	**2.0**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.20	0.40	1.20	170	270	**2.4**	**0.35**	**190**
			14		240 HB	0.5	3.5	0.20	0.40	1.00	160	220	**2.4**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.18	0.35	0.80	80	150	**2.0**	**0.28**	**100**
			14		310 HB	0.5	2.8	0.18	0.35	0.80	70	140	**2.0**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.22	0.40	1.00	170	250	**2.4**	**0.32**	**190**
			13		42 HRc	0.5	2.8	0.22	0.40	1.00	120	190	**2.0**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.15	0.60	2.00	170	250	**2.4**	**0.35**	**200**
			15		200 HB	0.5	3.5	0.15	0.60	1.80	160	230	**2.4**	**0.35**	**180**
			16		250 HB	0.5	3.5	0.15	0.55	1.80	150	210	**2.4**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.15	0.50	1.50	120	250	**2.4**	**0.30**	**180**
			17,19		200 HB	0.5	3.5	0.15	0.50	1.30	120	230	**2.4**	**0.30**	**160**
			18,20		250 HB	0.5	3.5	0.15	0.50	1.20	120	190	**2.4**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.1	0.20	0.35	0.70	25	45	**1.6**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	2.1	0.20	0.35	0.70	25	45	**1.6**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	2.1	0.20	0.35	0.70	23	40	**1.6**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.8	0.20	0.40	0.80	45	65	**1.6**	**0.33**	**55**
			37	T40	-	0.5	2.1	0.20	0.35	0.70	35	55	**1.6**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.11	0.30	0.60	50	100	**1.6**	**0.25**	**80**
			38		50 HRc	0.5	1.5	0.11	0.25	0.40	40	90	**1.2**	**0.20**	**70**
			38		55 HRc	0.5	1.5	0.11	0.20	0.30	40	80	**0.8**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.5	0.11	0.25	0.40	40	60	**1.2**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.11	0.20	0.30	30	50	**0.8**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.2	0.20	0.60	1.80	200	400	**2.4**	**0.40**	**280**

WNMG 080408 NN – LT 1005

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.21	0.50	1.80	180	430	**2.4**	**0.38**	**265**
			2		190 HB	0.5	3.5	0.21	0.50	1.80	180	365	**2.4**	**0.35**	**240**
			3		250 HB	0.5	3.5	0.21	0.45	1.50	180	325	**2.4**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.21	0.45	1.20	120	365	**2.4**	**0.32**	**220**
			4,6		230 HB	0.5	2.8	0.21	0.45	1.20	120	325	**2.4**	**0.32**	**200**
			5,7		280 HB	0.5	2.8	0.18	0.40	1.20	120	275	**2.4**	**0.30**	**165**
			8		350 HB	0.5	2.5	0.18	0.40	1.00	120	235	**2.2**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.18	0.40	1.20	70	245	**2.0**	**0.30**	**155**
			10		280 HB	0.5	2.8	0.18	0.40	1.20	70	195	**2.0**	**0.30**	**130**
			11		320 HB	0.5	2.1	0.18	0.35	0.80	70	170	**1.8**	**0.28**	**110**
			11		350 HB	0.5	2.1	0.18	0.35	0.80	70	145	**1.8**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.15	0.60	2.00	170	325	**2.4**	**0.35**	**220**
			15		200 HB	0.5	3.5	0.15	0.60	1.80	160	300	**2.4**	**0.35**	**200**
			16		250 HB	0.5	3.5	0.15	0.55	1.80	150	275	**2.4**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.15	0.50	1.50	120	325	**2.4**	**0.30**	**200**
			17,19		200 HB	0.5	3.5	0.15	0.50	1.30	120	300	**2.4**	**0.30**	**175**
			18,20		250 HB	0.5	3.5	0.15	0.50	1.20	120	245	**2.4**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.11	0.30	0.60	50	130	**1.6**	**0.25**	**90**
			38		50 HRc	0.5	1.4	0.11	0.25	0.40	40	115	**1.2**	**0.20**	**75**
			38		55 HRc	0.5	1.1	0.11	0.20	0.30	40	105	**0.8**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.11	0.25	0.40	40	80	**1.2**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.11	0.20	0.30	30	65	**0.8**	**0.15**	**45**

WNMG 080408 NN – LT 1025

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.21	0.50	1.80	90	330	**2.4**	**0.38**	**240**
			2		190 HB	0.5	3.5	0.21	0.50	1.80	90	280	**2.4**	**0.35**	**220**
			3		250 HB	0.5	3.5	0.21	0.45	1.50	90	250	**2.4**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.21	0.45	1.20	60	280	**2.4**	**0.32**	**200**
			4,6		230 HB	0.5	2.8	0.21	0.45	1.20	60	250	**2.4**	**0.32**	**180**
			5,7		280 HB	0.5	2.8	0.18	0.40	1.20	60	210	**2.4**	**0.30**	**150**
			8		350 HB	0.5	2.5	0.18	0.40	1.00	60	180	**2.2**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.18	0.40	1.20	35	190	**2.0**	**0.30**	**140**
			10		280 HB	0.5	2.8	0.18	0.40	1.20	35	150	**2.0**	**0.30**	**120**
			11		320 HB	0.5	2.1	0.18	0.35	0.80	35	130	**1.8**	**0.28**	**100**
			11		350 HB	0.5	2.1	0.18	0.35	0.80	35	110	**1.8**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.20	0.40	1.20	85	270	**2.4**	**0.25**	**190**
			14		240 HB	0.5	3.5	0.20	0.40	1.00	80	220	**2.4**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.18	0.35	0.80	40	150	**2.0**	**0.24**	**100**
			14		310 HB	0.5	2.8	0.18	0.35	0.80	35	140	**2.0**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.18	0.40	0.70	85	250	**2.0**	**0.20**	**190**
			13		42 HRc	0.5	2.8	0.18	0.40	0.70	60	190	**1.8**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.15	0.50	1.50	60	250	**2.4**	**0.30**	**180**
			17,19		200 HB	0.5	3.5	0.15	0.50	1.30	60	230	**2.4**	**0.30**	**160**
			18,20		250 HB	0.5	3.5	0.15	0.50	1.20	60	190	**2.4**	**0.30**	**140**

WNMG 080408 NX – **LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.18	0.50	1.71	180	330	**2.4**	**0.36**	**240**
			2		190 HB	0.5	3.5	0.18	0.50	1.71	180	280	**2.4**	**0.33**	**220**
			3		250 HB	0.5	3.5	0.18	0.45	1.43	180	250	**2.4**	**0.31**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.18	0.45	1.14	120	280	**2.4**	**0.30**	**200**
			4,6		230 HB	0.5	2.8	0.18	0.45	1.14	120	250	**2.4**	**0.30**	**180**
			5,7		280 HB	0.5	2.8	0.16	0.40	1.14	120	210	**2.4**	**0.29**	**150**
			8		350 HB	0.5	2.5	0.16	0.40	0.95	120	180	**2.2**	**0.29**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.16	0.40	1.14	70	190	**2.0**	**0.29**	**140**
			10		280 HB	0.5	2.8	0.16	0.40	1.14	70	150	**2.0**	**0.29**	**120**
			11		320 HB	0.5	2.1	0.16	0.35	0.76	70	130	**1.8**	**0.27**	**100**
			11		350 HB	0.5	2.1	0.16	0.35	0.76	70	110	**1.8**	**0.27**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.40	1.14	170	270	**2.4**	**0.24**	**190**
			14		240 HB	0.5	3.5	0.18	0.40	0.95	160	220	**2.4**	**0.21**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.16	0.35	0.76	80	150	**2.0**	**0.23**	**100**
			14		310 HB	0.5	2.8	0.16	0.35	0.76	70	140	**2.0**	**0.23**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.16	0.40	0.67	170	250	**2.0**	**0.19**	**190**
			13		42 HRc	0.5	2.8	0.16	0.40	0.67	120	190	**1.8**	**0.19**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.13	0.60	1.90	170	250	**2.4**	**0.33**	**200**
			15		200 HB	0.5	3.5	0.13	0.60	1.71	160	230	**2.4**	**0.33**	**180**
			16		250 HB	0.5	3.5	0.13	0.55	1.71	150	210	**2.4**	**0.33**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.13	0.50	1.43	120	250	**2.4**	**0.29**	**180**
			17,19		200 HB	0.5	3.5	0.13	0.50	1.24	120	230	**2.4**	**0.29**	**160**
			18,20		250 HB	0.5	3.5	0.13	0.50	1.14	120	190	**2.4**	**0.29**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.1	0.18	0.35	0.67	25	45	**1.6**	**0.27**	**30**
			33	Inconel 700	250 HB	0.5	2.1	0.18	0.35	0.67	25	45	**1.6**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	2.1	0.18	0.35	0.67	25	40	**1.6**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.5	0.18	0.40	0.76	45	65	**1.6**	**0.31**	**55**
			37	T40	-	0.5	2.1	0.18	0.35	0.67	35	55	**1.6**	**0.29**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.10	0.30	0.57	50	100	**1.6**	**0.24**	**80**
			38		50 HRc	0.5	1.4	0.10	0.25	0.38	40	90	**1.2**	**0.19**	**70**
			38		55 HRc	0.5	1.1	0.10	0.20	0.29	40	80	**0.8**	**0.17**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.10	0.25	0.38	40	60	**1.2**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.10	0.20	0.29	30	50	**0.8**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.2	0.18	0.60	1.71	200	400	**2.4**	**0.38**	**280**

WNMG 080408 NX – LT 1005

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.18	0.50	1.71	180	430	2.4	0.36	265
			2		190 HB	0.5	3.5	0.18	0.50	1.71	180	365	2.4	0.33	240
			3		250 HB	0.5	3.5	0.18	0.45	1.43	180	325	2.4	0.31	220
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.18	0.45	1.14	120	365	2.4	0.30	220
			4,6		230 HB	0.5	2.8	0.18	0.45	1.14	120	325	2.4	0.30	200
			5,7		280 HB	0.5	2.8	0.16	0.40	1.14	120	275	2.4	0.29	165
			8		350 HB	0.5	2.5	0.16	0.40	0.95	120	235	2.2	0.29	145
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.16	0.40	1.14	70	245	2.0	0.29	155
			10		280 HB	0.5	2.8	0.16	0.40	1.14	70	195	2.0	0.29	130
			11		320 HB	0.5	2.1	0.16	0.35	0.76	70	170	1.8	0.27	110
			11		350 HB	0.5	2.1	0.16	0.35	0.76	70	145	1.8	0.27	100
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.13	0.60	1.90	170	325	2.4	0.33	220
			15		200 HB	0.5	3.5	0.13	0.60	1.71	160	300	2.4	0.33	200
			16		250 HB	0.5	3.5	0.13	0.55	1.71	150	275	2.4	0.33	175
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.13	0.50	1.43	120	325	2.4	0.29	200
			17,19		200 HB	0.5	3.5	0.13	0.50	1.24	120	300	2.4	0.29	175
			18,20		250 HB	0.5	3.5	0.13	0.50	1.14	120	245	2.4	0.29	155
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.10	0.30	0.57	50	130	1.6	0.24	90
			38		50 HRc	0.5	1.4	0.10	0.25	0.38	40	115	1.2	0.19	75
			38		55 HRc	0.5	1.1	0.10	0.20	0.29	40	105	0.8	0.17	65
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.10	0.25	0.38	40	80	1.2	0.17	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.10	0.20	0.29	30	65	0.8	0.14	45

WNMG 080408 NX – LT 1025

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.18	0.50	1.71	90	330	2.4	0.36	240
			2		190 HB	0.5	3.5	0.18	0.50	1.71	90	280	2.4	0.33	220
			3		250 HB	0.5	3.5	0.18	0.45	1.43	90	250	2.4	0.31	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.18	0.45	1.14	60	280	2.4	0.30	200
			4,6		230 HB	0.5	2.8	0.18	0.45	1.14	60	250	2.4	0.30	180
			5,7		280 HB	0.5	2.8	0.16	0.40	1.14	60	210	2.4	0.29	150
			8		350 HB	0.5	2.5	0.16	0.40	0.95	60	180	2.2	0.29	130
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.16	0.40	1.14	35	190	2.0	0.29	140
			10		280 HB	0.5	2.8	0.16	0.40	1.14	35	150	2.0	0.29	120
			11		320 HB	0.5	2.1	0.16	0.35	0.76	35	130	1.8	0.27	100
			11		350 HB	0.5	2.1	0.16	0.35	0.76	35	110	1.8	0.27	90
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.40	1.14	85	270	2.4	0.24	190
			14		240 HB	0.5	3.5	0.18	0.40	0.95	80	220	2.4	0.21	170
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.16	0.35	0.76	40	150	2.0	0.23	100
			14		310 HB	0.5	2.8	0.16	0.35	0.76	35	140	2.0	0.23	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.16	0.40	0.67	85	250	2.0	0.19	190
			13		42 HRc	0.5	2.8	0.16	0.40	0.67	60	190	1.8	0.19	130
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.13	0.50	1.43	60	250	2.4	0.29	180
			17,19		200 HB	0.5	3.5	0.13	0.50	1.24	60	230	2.4	0.29	160
			18,20		250 HB	0.5	3.5	0.13	0.50	1.14	60	190	2.4	0.29	140

WNMG 080412 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	3.5	0.25	0.65	2.16	180	330	**3.0**	**0.44**	**240**
			2		190 HB	0.7	3.5	0.25	0.65	2.16	180	280	**3.0**	**0.44**	**220**
			3		250 HB	0.7	3.5	0.25	0.59	1.80	180	250	**3.0**	**0.44**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	3.5	0.25	0.59	1.44	120	280	**3.0**	**0.40**	**200**
			4,6		230 HB	0.7	2.8	0.25	0.59	1.44	120	250	**3.0**	**0.40**	**180**
			5,7		280 HB	0.7	2.8	0.22	0.52	1.44	120	210	**3.0**	**0.38**	**150**
			8		350 HB	0.7	2.5	0.22	0.52	1.20	120	180	**3.0**	**0.38**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	2.8	0.22	0.52	1.44	70	190	**2.5**	**0.38**	**140**
			10		280 HB	0.7	2.8	0.22	0.52	1.44	70	150	**2.5**	**0.38**	**120**
			11		320 HB	0.7	2.1	0.22	0.46	0.96	70	130	**2.5**	**0.35**	**100**
			11		350 HB	0.7	2.1	0.22	0.46	0.96	70	110	**2.5**	**0.35**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	3.5	0.24	0.52	1.44	170	270	**3.0**	**0.40**	**190**
			14		240 HB	0.7	3.5	0.24	0.52	1.20	160	220	**3.0**	**0.36**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	2.8	0.22	0.46	0.96	80	150	**2.5**	**0.32**	**100**
			14		310 HB	0.7	2.8	0.22	0.46	0.96	70	140	**2.5**	**0.32**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	3.5	0.26	0.52	1.20	170	250	**3.0**	**0.40**	**190**
			13		42 HRc	0.7	2.8	0.26	0.52	1.20	120	190	**2.5**	**0.36**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	3.5	0.18	0.78	2.40	170	250	**3.0**	**0.44**	**200**
			15		200 HB	0.7	3.5	0.18	0.78	2.16	160	230	**3.0**	**0.44**	**180**
			16		250 HB	0.7	3.5	0.18	0.72	2.16	150	210	**3.0**	**0.44**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	3.5	0.18	0.65	1.80	120	250	**3.0**	**0.38**	**180**
			17,19		200 HB	0.7	3.5	0.18	0.65	1.56	120	230	**3.0**	**0.38**	**160**
			18,20		250 HB	0.7	3.5	0.18	0.65	1.44	120	190	**3.0**	**0.38**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.7	2.1	0.24	0.46	0.84	25	45	**2.0**	**0.35**	**32**
			33	Inconel 700	250 HB	0.7	2.1	0.24	0.46	0.84	25	45	**2.0**	**0.35**	**30**
			34	Stellite 21	350 HB	0.7	2.1	0.24	0.46	0.84	23	40	**2.0**	**0.35**	**28**
	Ti Based	10	36	TiAl6V4	-	0.7	2.8	0.24	0.52	0.96	45	65	**2.0**	**0.40**	**55**
			37	T40	-	0.7	2.1	0.24	0.46	0.84	35	55	**2.0**	**0.36**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	1.8	0.13	0.39	0.72	50	100	**2.0**	**0.31**	**80**
			38		50 HRc	0.7	1.5	0.13	0.33	0.48	40	90	**1.5**	**0.25**	**70**
			38		55 HRc	0.7	1.5	0.13	0.26	0.36	40	80	**1.0**	**0.23**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	1.5	0.13	0.33	0.48	40	60	**1.5**	**0.23**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.5	0.13	0.26	0.36	30	50	**1.0**	**0.19**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.7	4.2	0.24	0.78	2.20	200	400	**3.0**	**0.50**	**280**

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WNMG 080412 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	3.5	0.25	0.65	2.16	180	430	2.6	0.48	265
			2		190 HB	0.7	3.5	0.25	0.65	2.16	180	365	2.6	0.44	240
			3		250 HB	0.7	3.5	0.25	0.59	1.80	180	325	2.6	0.41	220
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	3.5	0.25	0.59	1.44	120	365	2.6	0.40	220
			4,6		230 HB	0.7	2.8	0.25	0.59	1.44	120	325	2.6	0.40	200
			5,7		280 HB	0.7	2.8	0.22	0.52	1.44	120	275	2.6	0.38	165
			8		350 HB	0.7	2.5	0.22	0.52	1.20	120	235	2.3	0.38	145
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	2.8	0.22	0.52	1.44	70	245	2.1	0.38	155
			10		280 HB	0.7	2.8	0.22	0.52	1.44	70	195	2.1	0.38	130
			11		320 HB	0.7	2.1	0.22	0.46	0.96	70	170	1.9	0.35	110
			11		350 HB	0.7	2.1	0.22	0.46	0.96	70	145	1.9	0.35	100
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	3.5	0.18	0.78	2.40	170	325	2.6	0.44	220
			15		200 HB	0.7	3.5	0.18	0.78	2.16	160	300	2.6	0.44	200
			16		250 HB	0.7	3.5	0.18	0.72	2.16	150	275	2.6	0.44	175
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	3.5	0.18	0.65	1.80	120	325	2.6	0.38	200
			17,19		200 HB	0.7	3.5	0.18	0.65	1.56	120	300	2.6	0.38	175
			18,20		250 HB	0.7	3.5	0.18	0.65	1.44	120	245	2.6	0.38	155
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	1.8	0.13	0.39	0.72	50	130	1.7	0.31	90
			38		50 HRc	0.7	1.4	0.13	0.33	0.48	40	115	1.3	0.25	75
			38		55 HRc	0.7	1.1	0.13	0.26	0.36	40	105	0.9	0.23	65
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.7	1.4	0.13	0.33	0.48	40	80	1.3	0.23	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.7	1.1	0.13	0.26	0.36	30	65	0.9	0.19	45

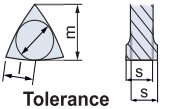
WNMG 080412 NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	3.5	0.25	0.65	2.16	90	330	2.6	0.48	240
			2		190 HB	0.7	3.5	0.25	0.65	2.16	90	280	2.6	0.44	220
			3		250 HB	0.7	3.5	0.25	0.59	1.80	90	250	2.6	0.41	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	3.5	0.25	0.59	1.44	60	280	2.6	0.40	200
			4,6		230 HB	0.7	2.8	0.25	0.59	1.44	60	250	2.6	0.40	180
			5,7		280 HB	0.7	2.8	0.22	0.52	1.44	60	210	2.6	0.38	150
			8		350 HB	0.7	2.5	0.22	0.52	1.20	60	180	2.3	0.38	130
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	2.8	0.22	0.52	1.44	35	190	2.1	0.38	140
			10		280 HB	0.7	2.8	0.22	0.52	1.44	35	150	2.1	0.38	120
			11		320 HB	0.7	2.1	0.22	0.46	0.96	35	130	1.9	0.35	100
			11		350 HB	0.7	2.1	0.22	0.46	0.96	35	110	1.9	0.35	90
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.7	3.5	0.24	0.52	1.44	85	270	2.6	0.31	190
			14		240 HB	0.7	3.5	0.24	0.52	1.20	80	220	2.6	0.28	170
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.7	2.8	0.22	0.46	0.96	40	150	2.1	0.30	100
			14		310 HB	0.7	2.8	0.22	0.46	0.96	35	140	2.1	0.30	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	3.5	0.22	0.52	0.84	85	250	2.1	0.25	190
			13		42 HRc	0.7	2.8	0.22	0.52	0.84	60	190	1.9	0.25	130
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.7	3.5	0.18	0.65	1.80	60	250	2.6	0.38	180
			17,19		200 HB	0.7	3.5	0.18	0.65	1.56	60	230	2.6	0.38	160
			18,20		250 HB	0.7	3.5	0.18	0.65	1.44	60	190	2.6	0.38	140

W N M P

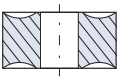
Shape

Clearance Angle



Tolerance

s ± 0.13
For l = 06, **d** ± 0.05 **m** ± 0.08
For l = 08, **d** ± 0.08 **m** ± 0.13



Fixing, Chipbreaker

LT 10 Multi-Mat™ General Usage – Standard					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMP 060404 NN LT 10	6	4.76	0.4	T0000306	●	●	●
WNMP 060408 NN LT 10	6	4.76	0.8	T0000307	●	●	●
WNMP 080408 NN LT 10	8	4.76	0.8	T0000308	●	●	●

LT 1000 Multi-Mat™ General Usage – Premium					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMP 060404 NN LT 1000	6	4.76	0.4	T0001954	●	●	●
WNMP 060408 NN LT 1000	6	4.76	0.8	T0001955	●	●	●
WNMP 080408 NN LT 1000	8	4.76	0.8	T0001956	●	●	●

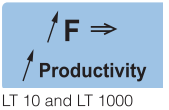
LT 1005 Recommended for moderate to high speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMP 080408 NN LT 1005	8	4.76	0.8	T0004106	●	●	●

LT 1025 Recommended for moderate to low speed					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNMP 080408 NN LT 1025	8	4.76	0.8	T0004157	●	●	●

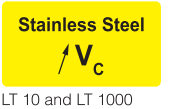
80° trigon shape inserts with positive chipbreaker geometry. Generates lower cutting forces. Suitable for high temperature alloys and stainless steel operations.

Machining Recommendations

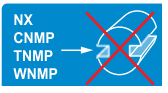
Details on page 14



LT 10 and LT 1000



LT 10 and LT 1000



Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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WNMP 060404 NN – LT 10 | LT 1000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	3.0	0.11	0.23	0.60	180	330	**2.0**	**0.18**	**300**
			2		190 HB	0.3	2.5	0.11	0.22	0.52	180	280	**2.0**	**0.18**	**260**
			3		250 HB	0.3	2.5	0.11	0.20	0.48	180	250	**2.0**	**0.18**	**240**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	2.5	0.10	0.20	0.50	120	280	**2.0**	**0.14**	**260**
			4,6		230 HB	0.3	2.5	0.10	0.20	0.48	120	250	**2.0**	**0.14**	**240**
			5,7		280 HB	0.3	2.0	0.10	0.18	0.40	120	210	**2.0**	**0.13**	**200**
			8		350 HB	0.3	2.0	0.10	0.18	0.36	120	180	**2.0**	**0.13**	**180**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	2.5	0.09	0.18	0.40	70	190	**1.7**	**0.10**	**180**
			10		280 HB	0.3	2.5	0.09	0.16	0.40	70	150	**1.7**	**0.10**	**140**
			11		320 HB	0.3	2.0	0.09	0.14	0.32	70	130	**1.7**	**0.10**	**120**
			11		350 HB	0.3	2.0	0.09	0.14	0.26	70	110	**1.7**	**0.10**	**110**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	2.5	0.08	0.18	0.32	170	270	**2.0**	**0.09**	**260**
			14		240 HB	0.3	2.5	0.08	0.18	0.26	160	220	**2.0**	**0.08**	**210**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	2.0	0.08	0.14	0.20	80	150	**1.7**	**0.08**	**140**
			14		310 HB	0.3	2.0	0.08	0.14	0.20	70	140	**1.7**	**0.08**	**140**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	2.5	0.08	0.18	0.32	170	250	**1.7**	**0.09**	**240**
			13		42 HRc	0.3	2.0	0.08	0.16	0.26	120	190	**1.5**	**0.08**	**180**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	3.0	0.08	0.20	0.64	170	250	**2.0**	**0.18**	**240**
			15		200 HB	0.3	3.0	0.08	0.20	0.60	160	230	**2.0**	**0.18**	**220**
			16		250 HB	0.3	3.0	0.08	0.20	0.60	150	210	**2.0**	**0.18**	**200**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.5	0.08	0.18	0.48	120	250	**2.0**	**0.13**	**240**
			17,19		200 HB	0.3	2.5	0.08	0.18	0.40	120	230	**2.0**	**0.13**	**220**
			18,20		250 HB	0.3	2.5	0.08	0.18	0.40	120	190	**2.0**	**0.13**	**180**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			33	Inconel 700	250 HB	0.3	2.0	0.09	0.15	0.26	25	50	**1.3**	**0.10**	**40**
			34	Stellite 21	350 HB	0.3	2.0	0.09	0.15	0.26	23	45	**1.3**	**0.10**	**35**
	Ti Based	10	36	TiAl6V4	-	0.3	2.0	0.09	0.16	0.32	45	65	**1.3**	**0.14**	**60**
			37	T40	-	0.3	2.0	0.09	0.14	0.26	35	60	**1.3**	**0.10**	**50**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.8	0.05	0.12	0.20	50	100	**1.4**	**0.10**	**90**
			38		50 HRc	0.3	1.5	0.05	0.10	0.17	40	90	**1.1**	**0.08**	**80**
			38		55 HRc	0.3	1.4	0.05	0.09	0.13	40	80	**0.9**	**0.06**	**70**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.05	0.12	0.17	40	60	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	1.4	0.05	0.09	0.13	30	50	**0.9**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	4.0	0.10	0.30	0.70	200	400	**2.0**	**0.23**	**350**

WNMP 060408 NN – **LT 10 | LT 1000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.21	0.50	1.17	180	330	**2.2**	**0.35**	**240**
			2		190 HB	0.5	2.5	0.21	0.50	1.17	180	280	**2.2**	**0.35**	**220**
			3		250 HB	0.5	2.5	0.21	0.45	0.98	180	250	**2.2**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.21	0.45	0.78	120	280	**2.2**	**0.32**	**200**
			4,6		230 HB	0.5	2.0	0.21	0.45	0.78	120	250	**1.8**	**0.32**	**180**
			5,7		280 HB	0.5	2.0	0.18	0.40	0.78	120	210	**1.8**	**0.30**	**150**
			8		350 HB	0.5	1.8	0.18	0.40	0.65	120	180	**1.6**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.18	0.40	0.78	70	190	**1.8**	**0.30**	**140**
			10		280 HB	0.5	2.0	0.18	0.40	0.78	70	150	**1.8**	**0.30**	**120**
			11		320 HB	0.5	1.5	0.18	0.35	0.52	70	130	**1.5**	**0.28**	**100**
			11		350 HB	0.5	1.5	0.18	0.35	0.52	70	110	**1.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.20	0.40	0.78	170	270	**2.2**	**0.35**	**190**
			14		240 HB	0.5	2.5	0.20	0.40	0.65	160	220	**2.2**	**0.32**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.18	0.35	0.52	80	150	**1.8**	**0.28**	**100**
			14		310 HB	0.5	2.0	0.18	0.35	0.52	70	140	**1.8**	**0.28**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.22	0.40	0.65	170	250	**2.2**	**0.32**	**190**
			13		42 HRc	0.5	2.0	0.22	0.40	0.65	120	190	**2.0**	**0.32**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.15	0.60	1.30	170	250	**2.2**	**0.35**	**200**
			15		200 HB	0.5	2.5	0.15	0.60	1.17	160	230	**2.2**	**0.35**	**180**
			16		250 HB	0.5	2.5	0.15	0.55	1.17	150	210	**2.2**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.50	0.98	120	250	**2.2**	**0.30**	**180**
			17,19		200 HB	0.5	2.5	0.15	0.50	0.85	120	230	**2.2**	**0.30**	**160**
			18,20		250 HB	0.5	2.5	0.15	0.50	0.78	120	190	**2.2**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.5	0.20	0.35	0.46	25	45	**1.5**	**0.28**	**32**
			33	Inconel 700	250 HB	0.5	1.5	0.20	0.35	0.46	25	45	**1.5**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	1.5	0.20	0.35	0.46	23	40	**1.5**	**0.28**	**28**
	Ti Based	10	36	TiAl6V4	-	0.5	2.0	0.20	0.40	0.52	45	65	**1.5**	**0.33**	**55**
			37	T40	-	0.5	1.5	0.20	0.35	0.46	35	55	**1.5**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.6	0.11	0.30	0.39	50	100	**1.5**	**0.25**	**80**
			38		50 HRc	0.5	1.3	0.11	0.25	0.26	40	90	**1.0**	**0.20**	**70**
			38		55 HRc	0.5	1.3	0.11	0.20	0.20	40	80	**1.0**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.3	0.11	0.25	0.26	40	60	**1.0**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.3	0.11	0.20	0.20	30	50	**1.0**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.0	0.20	0.60	1.80	200	400	**2.2**	**0.40**	**280**

WNMP 080408 NN – LT 10 | LT 1000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.21	0.50	1.17	180	330	**2.1**	**0.38**	**240**
			2		190 HB	0.5	3.5	0.21	0.50	1.17	180	280	**2.1**	**0.35**	**220**
			3		250 HB	0.5	3.5	0.21	0.45	0.98	180	250	**2.1**	**0.33**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.21	0.45	0.78	120	280	**2.1**	**0.32**	**200**
			4,6		230 HB	0.5	2.8	0.21	0.45	0.78	120	250	**2.1**	**0.32**	**180**
			5,7		280 HB	0.5	2.8	0.18	0.40	0.78	120	210	**2.1**	**0.30**	**150**
			8		350 HB	0.5	2.5	0.18	0.40	0.65	120	180	**1.9**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.18	0.40	0.78	70	190	**1.8**	**0.30**	**140**
			10		280 HB	0.5	2.8	0.18	0.40	0.78	70	150	**1.8**	**0.30**	**120**
			11		320 HB	0.5	2.1	0.18	0.35	0.52	70	130	**1.5**	**0.28**	**100**
			11		350 HB	0.5	2.1	0.18	0.35	0.52	70	110	**1.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.20	0.40	0.78	170	270	**2.1**	**0.25**	**190**
			14		240 HB	0.5	3.5	0.20	0.40	0.65	160	220	**2.1**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.18	0.35	0.52	80	150	**1.8**	**0.24**	**100**
			14		310 HB	0.5	2.8	0.18	0.35	0.52	70	140	**1.8**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.18	0.40	0.46	170	250	**1.8**	**0.20**	**190**
			13		42 HRc	0.5	2.8	0.18	0.40	0.46	120	190	**1.5**	**0.20**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.15	0.60	1.30	170	250	**2.1**	**0.35**	**200**
			15		200 HB	0.5	3.5	0.15	0.60	1.17	160	230	**2.1**	**0.35**	**180**
			16		250 HB	0.5	3.5	0.15	0.55	1.17	150	210	**2.1**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.15	0.50	0.98	120	250	**2.1**	**0.30**	**180**
			17,19		200 HB	0.5	3.5	0.15	0.50	0.85	120	230	**2.1**	**0.30**	**160**
			18,20		250 HB	0.5	3.5	0.15	0.50	0.78	120	190	**2.1**	**0.30**	**140**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.1	0.20	0.35	0.46	25	45	**1.4**	**0.28**	**30**
			33	Inconel 700	250 HB	0.5	2.1	0.20	0.35	0.46	25	45	**1.4**	**0.28**	**30**
			34	Stellite 21	350 HB	0.5	2.1	0.20	0.35	0.46	25	40	**1.4**	**0.28**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.5	0.20	0.40	0.52	45	65	**1.4**	**0.33**	**55**
			37	T40	-	0.5	2.1	0.20	0.35	0.46	35	55	**1.4**	**0.30**	**45**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.11	0.30	0.39	50	100	**1.4**	**0.25**	**80**
			38		50 HRc	0.5	1.4	0.11	0.25	0.26	40	90	**1.1**	**0.20**	**70**
			38		55 HRc	0.5	1.1	0.11	0.20	0.20	40	80	**0.7**	**0.18**	**60**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.11	0.25	0.26	40	60	**1.1**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.11	0.20	0.20	30	50	**0.7**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.2	0.20	0.60	1.17	200	400	**2.1**	**0.40**	**280**

WNMP 080408 NN – **LT 1005**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.21	0.50	1.80	180	430	**2.4**	**0.38**	**265**
			2		190 HB	0.5	3.5	0.21	0.50	1.80	180	365	**2.4**	**0.35**	**240**
			3		250 HB	0.5	3.5	0.21	0.45	1.50	180	325	**2.4**	**0.33**	**220**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.21	0.45	1.20	120	365	**2.4**	**0.32**	**220**
			4,6		230 HB	0.5	2.8	0.21	0.45	1.20	120	325	**2.4**	**0.32**	**200**
			5,7		280 HB	0.5	2.8	0.18	0.40	1.20	120	275	**2.4**	**0.30**	**165**
			8		350 HB	0.5	2.5	0.18	0.40	1.00	120	235	**2.2**	**0.30**	**145**
	High alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.18	0.40	1.20	70	245	**2.0**	**0.30**	**155**
			10		280 HB	0.5	2.8	0.18	0.40	1.20	70	195	**2.0**	**0.30**	**130**
			11		320 HB	0.5	2.1	0.18	0.35	0.80	70	170	**1.8**	**0.28**	**110**
			11		350 HB	0.5	2.1	0.18	0.35	0.80	70	145	**1.8**	**0.28**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.15	0.60	2.00	170	325	**2.4**	**0.35**	**220**
			15		200 HB	0.5	3.5	0.15	0.60	1.80	160	300	**2.4**	**0.35**	**200**
			16		250 HB	0.5	3.5	0.15	0.55	1.80	150	275	**2.4**	**0.35**	**175**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.15	0.50	1.50	120	325	**2.4**	**0.30**	**200**
			17,19		200 HB	0.5	3.5	0.15	0.50	1.30	120	300	**2.4**	**0.30**	**175**
			18,20		250 HB	0.5	3.5	0.15	0.50	1.20	120	245	**2.4**	**0.30**	**155**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.11	0.30	0.60	50	130	**1.6**	**0.25**	**90**
			38		50 HRc	0.5	1.4	0.11	0.25	0.40	40	115	**1.2**	**0.20**	**75**
			38		55 HRc	0.5	1.1	0.11	0.20	0.30	40	105	**0.8**	**0.18**	**65**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.4	0.11	0.25	0.40	40	80	**1.2**	**0.18**	**55**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.11	0.20	0.30	30	65	**0.8**	**0.15**	**45**

WNMP 080408 NN NN – **LT 1025**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.21	0.50	1.17	90	330	**2.1**	**0.38**	**240**
			2		190 HB	0.5	3.5	0.21	0.50	1.17	90	280	**2.1**	**0.35**	**220**
			3		250 HB	0.5	3.5	0.21	0.45	0.98	90	250	**2.1**	**0.33**	**200**
Steel	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.21	0.45	0.78	60	280	**2.1**	**0.32**	**200**
			4,6		230 HB	0.5	2.8	0.21	0.45	0.78	60	250	**2.1**	**0.32**	**180**
			5,7		280 HB	0.5	2.8	0.18	0.40	0.78	60	210	**2.1**	**0.30**	**150**
			8		350 HB	0.5	2.5	0.18	0.40	0.65	60	180	**1.9**	**0.30**	**130**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.18	0.40	0.78	35	190	**1.8**	**0.30**	**140**
			10		280 HB	0.5	2.8	0.18	0.40	0.78	35	150	**1.8**	**0.30**	**120**
			11		320 HB	0.5	2.1	0.18	0.35	0.52	35	130	**1.5**	**0.28**	**100**
			11		350 HB	0.5	2.1	0.18	0.35	0.52	35	110	**1.5**	**0.28**	**90**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.20	0.40	0.78	85	270	**2.1**	**0.25**	**190**
			14		240 HB	0.5	3.5	0.20	0.40	0.65	80	220	**2.1**	**0.22**	**170**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.18	0.35	0.52	40	150	**1.8**	**0.24**	**100**
			14		310 HB	0.5	2.8	0.18	0.35	0.52	35	140	**1.8**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.18	0.40	0.46	85	250	**1.8**	**0.20**	**190**
			13		42 HRc	0.5	2.8	0.18	0.40	0.46	60	190	**1.5**	**0.20**	**130**
Cast Iron	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.15	0.50	0.98	60	250	**2.1**	**0.30**	**180**
			17,19		200 HB	0.5	3.5	0.15	0.50	0.85	60	230	**2.1**	**0.30**	**160**
			18,20		250 HB	0.5	3.5	0.15	0.50	0.78	60	190	**2.1**	**0.30**	**140**

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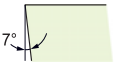
ALU-TURNING

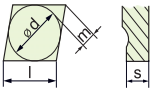
LT 05

C C G T

Shape

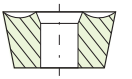


Clearance Angle



Tolerance

d ± 0.025
m ± 0.025
s ± 0.130



Fixing, Chipbreaker

LT 05					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CCGT 060204 ALU LT 05	6	2.38	0.4	T0004162	●	●	●
CCGT 09T304 ALU LT 05	9	3.97	0.4	T0004163	●	●	●

ISO standard with extreme and unique positive chipbreaker geometry for aluminium turning operations. Suitable mostly for external operations but good also for internal operations, roughing and finishing.

Machining Recommendations

Details on page 14

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

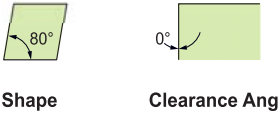
CCGT 060204 ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	2.5	0.12	0.33		400	1200	**1.5**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	2.5	0.10	0.29		250	600	**1.5**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	2.5	0.10	0.29		150	800	**1.5**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	2.5	0.10	0.19		70	500	**1.2**	**0.15**	**150**
			30	Hard Rubber	-	0.3	2.5	0.10	0.19		80	300	**1.2**	**0.15**	**150**
			-	Graphite	-	0.3	2.5	0.10	0.19		100	200	**1.2**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	1.0	0.09	0.15		35	60	**0.9**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	1.0	0.12	0.19		28	40	**0.9**	**0.12**	**35**

CCGT 09T304 ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.5	0.12	0.35	1.50	400	1200	**2.5**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	4.5	0.10	0.30	1.20	250	600	**2.5**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.5	0.10	0.30	1.20	150	800	**2.5**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.5	0.10	0.20	1.20	70	500	**2.0**	**0.15**	**150**
			30	Hard Rubber	-	0.3	4.5	0.10	0.20	1.20	80	300	**2.0**	**0.15**	**150**
			-	Graphite	-	0.3	4.5	0.10	0.20	1.20	100	200	**2.0**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	1.8	0.09	0.16	0.28	35	60	**1.5**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	1.8	0.12	0.20	0.24	28	40	**1.5**	**0.12**	**35**

C N G G



Shape | **Clearance Angle** | **Tolerance** | **Fixing, Chipbreaker**

Tolerance
d ± 0.025
m ± 0.025
s ± 0.13

LT 05					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
CNGG 09T304 ALU LT 05	9	3.97	0.4	T0003298	●	●	●
CNGG 120404 ALU LT 05	12	4.76	0.4	T0001025	●	●	●
CNGG 120408 ALU LT 05	12	4.76	0.8	T0001019	●	●	●

ISO standard with extreme and unique positive chipbreaker geometry for aluminium turning operations. Suitable mostly for external operations but good also for internal op-erations, roughing and finishing.

Machining Recommendations

Details on page 14

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

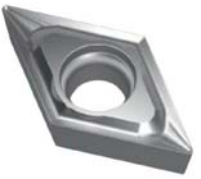
CNGG 09T304 ALU – LT 05

CNGG 120404 ALU – LT 05

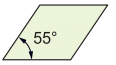
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	5.0	0.12	0.35	1.50	400	1200	2.5	0.23	400
				4% < Si < 8 %	100 HB	0.3	5.0	0.10	0.30	1.20	250	600	2.5	0.23	300
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	5.0	0.10	0.30	1.20	150	800	2.5	0.23	250
	Non-Metallic	15	29	Fiber Plastics	-	0.3	5.0	0.10	0.20	1.20	70	500	2.0	0.15	150
			30	Hard Rubber	-	0.3	5.0	0.10	0.20	1.20	80	300	2.0	0.15	150
			-	Graphite	-	0.3	5.0	0.10	0.20	1.20	100	200	2.0	0.15	150
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	2.0	0.09	0.16	0.28	35	60	1.5	0.13	45
			37	TiAl 6 V4	-	0.3	2.0	0.12	0.20	0.24	28	40	1.5	0.12	35

CNGG 120408 ALU – LT 05

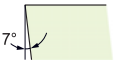
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	5.0	0.18	0.60	1.50	400	1200	3.0	0.32	400
				4% < Si < 8 %	100 HB	0.3	5.0	0.18	0.50	1.20	250	600	3.0	0.32	300
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	5.0	0.15	0.40	1.20	150	800	3.0	0.25	250
	Non-Metallic	15	29	Fiber Plastics	-	0.3	5.0	0.15	0.40	1.20	70	500	3.0	0.25	150
			30	Hard Rubber	-	0.3	5.0	0.15	0.40	1.20	80	300	3.0	0.25	150
			-	Graphite	-	0.3	5.0	0.15	0.40	1.20	100	200	3.0	0.25	150
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	4.0	0.15	0.28	0.28	35	60	2.5	0.20	45
			37	TiAl 6 V4	-	0.3	4.0	0.15	0.26	0.24	28	40	2.5	0.18	35



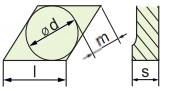
D C G T



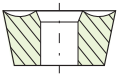
Shape



Clearance Angle



Tolerance
d ± 0.025
m ± 0.025
s ± 0.130



Fixing, Chipbreaker

LT 05					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DCGT 11T304 ALU LT 05	11	3.97	0.4	T0006164	●	●	●

ISO standard with extreme and unique positive chipbreaker geometry for aluminium turning operations.
Suitable mostly for external operations but good also for internal operations, roughing and finishing.

Machining Recommendations

Details on page 14

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

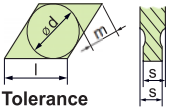
DCGT 11T304 ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.5	0.12	0.35	1.50	400	1200	**2.3**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	4.5	0.10	0.30	1.20	250	600	**2.3**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.5	0.10	0.30	1.20	150	800	**2.3**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.5	0.10	0.20	1.20	70	500	**1.8**	**0.15**	**150**
			30	Hard Rubber	-	0.3	4.5	0.10	0.20	1.20	80	300	**1.8**	**0.15**	**150**
			-	Graphite	-	0.3	4.5	0.10	0.20	1.20	100	200	**1.8**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	1.8	0.09	0.16	0.28	35	60	**1.4**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	1.8	0.12	0.20	0.24	28	40	**1.4**	**0.12**	**35**

D N G G

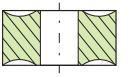
Shape

Clearance Angle



Tolerance

d ± 0.025
m ± 0.025
s ± 0.13



Fixing, Chipbreaker

LT 05					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
DNGG 110404 ALU LT 05	11	4.76	0.4	T0001026	●	●	●
DNGG 110408 ALU LT 05	11	4.76	0.8	T0001010	●	●	●

ISO standard with extreme and unique positive chipbreaker geometry for aluminium turning operations. Suitable mostly for external operations but good also for internal op-erations, roughing and finishing.

Machining Recommendations

Details on page 14

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

DNGG 110404 ALU – LT 05

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.0	0.12	0.35	1.50	400	1200	**2.5**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	4.0	0.10	0.30	1.20	250	600	**2.5**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	1.20	150	800	**2.5**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.0	0.10	0.20	1.20	70	500	**2.0**	**0.15**	**150**
			30	Hard Rubber	-	0.3	4.0	0.10	0.20	1.20	80	300	**2.0**	**0.15**	**150**
			-	Graphite	-	0.3	4.0	0.10	0.20	1.20	100	200	**2.0**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	2.0	0.09	0.16	0.28	35	60	**1.5**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	2.0	0.12	0.20	0.24	28	40	**1.5**	**0.12**	**35**

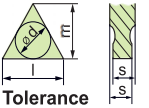
DNGG 110408 ALU – LT 05

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.0	0.18	0.60	1.50	400	1200	**2.0**	**0.25**	**400**
				4% < Si < 8 %	100 HB	0.3	4.0	0.18	0.50	1.20	250	600	**2.0**	**0.25**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.15	0.40	1.20	150	800	**2.0**	**0.25**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.0	0.15	0.40	1.20	70	500	**2.0**	**0.25**	**150**
			30	Hard Rubber	-	0.3	4.0	0.15	0.40	1.20	80	300	**2.0**	**0.25**	**150**
			-	Graphite	-	0.3	4.0	0.15	0.40	1.20	100	200	**2.0**	**0.25**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	3.0	0.15	0.28	0.28	35	60	**2.0**	**0.20**	**45**
			37	TiAl 6 V4	-	0.3	3.0	0.15	0.26	0.24	28	40	**2.0**	**0.18**	**35**

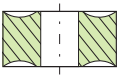
T N G G

Shape

Clearance Angle



Tolerance
d ± 0.025
m ± 0.025
s ± 0.13



Fixing, Chipbreaker

LT 05					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
TNGG 160404 ALU LT 05	16	4.76	0.4	T0001105	●	●	●

ISO standard with extreme and unique positive chipbreaker geometry for aluminium turning operations. Suitable mostly for external operations but good also for internal op-erations, roughing and finishing.

Machining Recommendations

Details on page 14

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

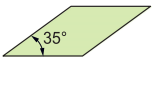
Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

TNGG 160404 ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.0	0.12	0.35	1.50	400	1200	**2.5**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	4.0	0.10	0.30	1.20	250	600	**2.5**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	1.20	150	800	**2.5**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.0	0.10	0.20	1.20	70	500	**2.0**	**0.15**	**150**
			30	Hard Rubber	-	0.3	4.0	0.10	0.20	1.20	80	300	**2.0**	**0.15**	**150**
			-	Graphite	-	0.3	4.0	0.10	0.20	1.20	100	200	**2.0**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	2.0	0.09	0.16	0.28	35	60	**1.5**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	2.0	0.12	0.20	0.24	28	40	**1.5**	**0.12**	**35**

V N G G



Shape | **Clearance Angle** | **Tolerance** | **Fixing, Chipbreaker**

Tolerance
d ± 0.025
m ± 0.025
s ± 0.13

LT 05					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
VNGG 160404 ALU LT 05	16	4.76	0.4	T0001006	●	●	●
VNGG 160408 ALU LT 05	16	4.76	0.8	T0001032	●	●	●

ISO standard with extreme and unique positive chipbreaker geometry for aluminium turning operations. Suitable mostly for external operations but good also for internal op-erations, roughing and finishing.

Machining Recommendations

Details on page 14

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

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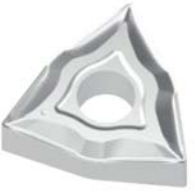
VNGG 160404 ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.0	0.12	0.35	1.20	400	1200	**2.3**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	4.0	0.10	0.30	0.96	250	600	**2.3**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	0.96	150	800	**2.3**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.0	0.10	0.20	0.96	70	500	**1.8**	**0.15**	**150**
			30	Hard Rubber	-	0.3	4.0	0.10	0.20	0.96	80	300	**1.8**	**0.15**	**150**
			-	Graphite	-	0.3	4.0	0.10	0.20	0.96	100	200	**1.8**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	2.0	0.09	0.16	0.22	35	60	**1.4**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	2.0	0.12	0.20	0.19	28	40	**1.4**	**0.12**	**35**

VNGG 160408 ALU – **LT 05**

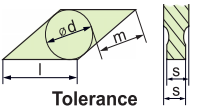
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.010	0.236	0.007	0.024	0.0023	1320	3960	**0.118**	**0.010**	**1320**
				4% < Si < 8 %	100 HB	0.010	0.236	0.007	0.020	0.0019	825	1980	**0.118**	**0.010**	**990**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.010	0.236	0.006	0.016	0.0019	495	2640	**0.118**	**0.010**	**825**
	Non-Metallic	15	29	Fiber Plastics	-	0.010	0.236	0.006	0.016	0.0019	231	1650	**0.118**	**0.010**	**495**
			30	Hard Rubber	-	0.010	0.236	0.006	0.016	0.0019	264	990	**0.118**	**0.010**	**495**
			-	Graphite	-	0.010	0.236	0.006	0.016	0.0019	330	660	**0.118**	**0.010**	**495**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.010	0.118	0.006	0.011	0.0004	115.5	198	**0.079**	**0.008**	**148.5**
			37	TiAl 6 V4	-	0.010	0.118	0.006	0.010	0.0004	92.4	132	**0.079**	**0.007**	**115.5**



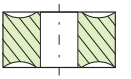
W N G G

Shape

Clearance Angle



Tolerance
d ± 0.025
m ± 0.025
s ± 0.13



Fixing, Chipbreaker

LT 05					Application Guide		
Insert Designation	l	s	r	Catalog Nr.	F	M	R
WNGG 060404 ALU LT 05	6	4.76	0.4	T0003299	●	●	●
WNGG 080404 ALU LT 05	8	4.76	0.4	T0003300	●	●	●

ISO standard with extreme and unique positive chipbreaker geometry for aluminium turning operations. Suitable mostly for external operations but good also for internal op-erations, roughing and finishing.

Machining Recommendations

Details on page 14

Application Guide

Finishing: (**F**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Medium: (**M**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

Roughing: (**R**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

● = Good ● = Acceptable ● = Not recommended

WNGG 060404 ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.0	0.12	0.35	1.20	400	1200	**2.3**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	4.0	0.10	0.30	0.96	250	600	**2.3**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	0.96	150	800	**2.3**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.0	0.10	0.20	0.96	70	500	**1.8**	**0.15**	**150**
			30	Hard Rubber	-	0.3	4.0	0.10	0.20	0.96	80	300	**1.8**	**0.15**	**150**
			-	Graphite	-	0.3	4.0	0.10	0.20	0.96	100	200	**1.8**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	2.0	0.09	0.16	0.22	35	60	**1.4**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	2.0	0.12	0.20	0.19	28	40	**1.4**	**0.12**	**35**

WNGG 080404 ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm] min	D.O.C [mm] max	Feed [mm/rev] min	Feed [mm/rev] max	Amax [mm²]	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.0	0.12	0.35	1.20	400	1200	**2.3**	**0.23**	**400**
				4% < Si < 8 %	100 HB	0.3	4.0	0.10	0.30	0.96	250	600	**2.3**	**0.23**	**300**
	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	0.96	150	800	**2.3**	**0.23**	**250**
	Non-Metallic	15	29	Fiber Plastics	-	0.3	4.0	0.10	0.20	0.96	70	500	**1.8**	**0.15**	**150**
			30	Hard Rubber	-	0.3	4.0	0.10	0.20	0.96	80	300	**1.8**	**0.15**	**150**
			-	Graphite	-	0.3	4.0	0.10	0.20	0.96	100	200	**1.8**	**0.15**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	2.0	0.09	0.16	0.22	35	60	**1.4**	**0.13**	**45**
			37	TiAl 6 V4	-	0.3	2.0	0.12	0.20	0.19	28	40	**1.4**	**0.12**	**35**

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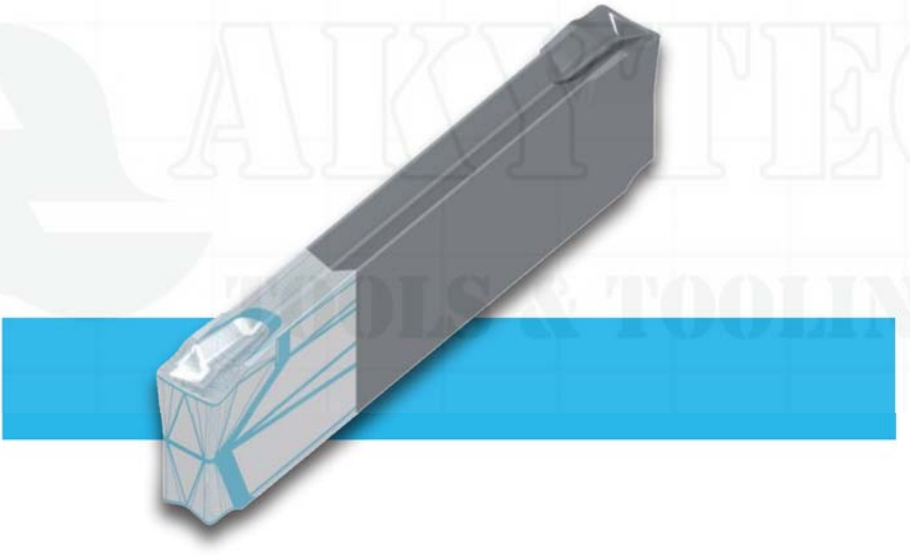
PARTING & GROOVING

LT 1000 I LT 10



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G C T X

Shape
"Dog bone"

Clearance Angle
C = 7° Rake angle

Tolerance
d ± 0.05
m ± 0.16
s ± 0.13

Insert Type
Special

LT 1000 Multi-Mat™ General Usage - Premium				Application Guide		
Insert Designation	W	R	Catalog Nr.	P	G	ST
GCTX 2002 NN LT 1000	2.00	0.18	T0002825	●	●	●
GCTX 3003 NN LT 1000	3.00	0.25	T0002826	●	●	●
GCTX 3003 PP LT 1000	3.00	0.25	T0002826	●	●	●

LT 10 Multi-Mat™ General Usage - Standard				Application Guide		
Insert Designation	W	R	Catalog Nr.	P	G	ST
MGMN 200 G LT 10	2.00	0.2	T0003909	●	●	●
MGMN 300 M LT 10	3.00	0.4	T0003910	●	●	●
MGMN 400 M LT 10	4.00	0.4	T0003911	●	●	●
MGMN 500 M LT 10	5.00	0.8	T0003921	●	●	●

LT 10 Multi-Mat™ General Usage - Standard				Application Guide		
Insert Designation	W	R	Catalog Nr.	P	G	ST
WGE 2000 LT 10	2.00	0.2	T0003932	●	●	●
WGE 3000 LT 10	3.00	0.4	T0003933	●	●	●
WGE 4000 LT 10	4.00	0.4	T0003934	●	●	●
WGE 5000 LT 10	5.00	0.8	T0003935	●	●	●

PP: All-purpose chipbreaker NN: For steel and cast iron

Machining Recommendations

Details on page 14

Application Guide

Parting : (**P**)
d.o.c. =0.30 - 1.50 mm
fn =0.08 - 0.20 mm/rev

Grooving: (**G**)
d.o.c. =3.00 - 7.00 mm
fn =0.35 - 0.70 mm/rev

Side Turning : (**ST**)
d.o.c. =0.70 - 4.50 mm
fn =0.15 - 0.45 mm/rev

● = Good ● = Acceptable ● = Not recommended

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Parting Tool Holders for GCTX 2002

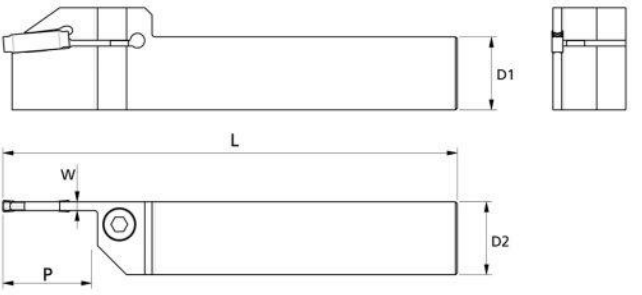
Designation	D1	D2	L	W	P_{max}	Hand	Catalog Nr.
LT PNG-L 12-2.0	12	12	120	1.6	15	Left	T2001164
LT PNG-R 12-2.0	12	12	120	1.6	15	Right	T2001165
LT PNG-L 16-2.0	16	16	120	1.6	15	Left	T2001166
LT PNG-R 16-2.0	16	16	120	1.6	15	Right	T2001167
LT PNG-L 20-2.0	20	20	120	1.6	15	Left	T2001484
LT PNG-R 20-2.0	20	20	120	1.6	15	Right	T2001485
LT PNG-L 25-2.0	25	25	120	1.6	15	Left	T2001482
LT PNG-R 25-2.0	25	25	120	1.6	15	Right	T2001483

Screw: M2001797
Key: M2000609

Parting Tool Holders for GCTX 3003

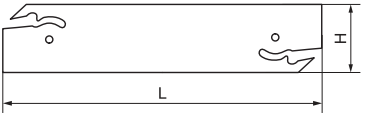
Designation	D1	D2	L	W	P_{max}	Hand	Catalog Nr.
LT PNG-L 16-3.0	16	16	120	2.4	15	Left	T2001168
LT PNG-R 16-3.0	16	16	120	2.4	15	Right	T2001169
LT PNG-L 20-3.0	20	20	125	2.4	15	Left	T2001170
LT PNG-R 20-3.0	20	20	125	2.4	15	Right	T2001171
LT PNG-L 25-3.0	25	25	125	2.4	15	Left	T2001197
LT PNG-R 25-3.0	25	25	125	2.4	15	Right	T2001198

Screw: M2001797
Key: M2000609



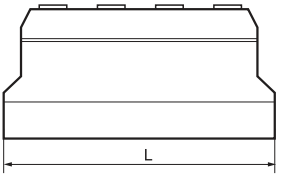
Blades			
Designation	L	H	Catalog Nr.
LT BNG-32-3	145	32	T2002751

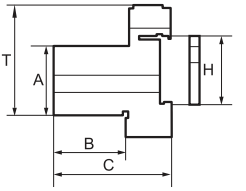
Key: T2002761



Blocks							
Designation	H	A	B	C	L	T	Catalog Nr.
LT PNB-N 2020-32	32	20	19	38	120	48	T2002762
LT PNB-N 2525-32	32	25	23	42	120	48	T2002763

Screw: T2002785
Key: T2002786





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GCTX 2002 NN – **LT 1000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.05	0.17	130	220	**0.11**	**175**
			2		190 HB	0.05	0.17	130	220	**0.11**	**175**
			3		250 HB	0.05	0.17	130	200	**0.11**	**165**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.05	0.15	90	200	**0.10**	**145**
			4,6		230 HB	0.05	0.15	90	200	**0.10**	**145**
			5,7		280 HB	0.05	0.15	90	170	**0.10**	**130**
			8		350 HB	0.05	0.15	90	150	**0.10**	**120**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.05	0.14	60	170	**0.10**	**115**
			10		280 HB	0.05	0.14	60	150	**0.10**	**105**
			11		320 HB	0.05	0.13	60	130	**0.09**	**95**
			11		350 HB	0.05	0.12	60	100	**0.09**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.05	0.10	90	150	**0.07**	**120**
			14		240 HB	0.05	0.10	70	140	**0.07**	**105**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.05	0.09	60	100	**0.07**	**80**
			14		310 HB	0.05	0.09	60	100	**0.07**	**80**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.05	0.09	60	130	**0.07**	**95**
			13		42 HRc	0.05	0.08	50	90	**0.07**	**70**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.05	0.16	130	190	**0.11**	**160**
			15		200 HB	0.05	0.16	130	190	**0.11**	**160**
			16		250 HB	0.05	0.16	130	190	**0.11**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.05	0.14	90	150	**0.10**	**120**
			17,19		200 HB	0.05	0.14	90	150	**0.10**	**120**
			18,20		250 HB	0.05	0.14	90	150	**0.10**	**120**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.05	0.08	25	35	**0.07**	**30**
			33	Inconel 700	250 HB	0.05	0.08	25	35	**0.07**	**30**
			34	Stellite 21	350 HB	0.05	0.08	23	35	**0.07**	**29**
	Ti Based	10	36	TiAl6V4	-	0.05	0.08	35	60	**0.07**	**45**
			37	T40	-	0.05	0.08	28	40	**0.07**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.05	0.11	50	90	**0.08**	**70**
			38		50 HRc	0.05	0.10	40	70	**0.08**	**55**
			38		55 HRc	0.05	0.09	30	60	**0.07**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.05	0.08	40	60	**0.07**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.05	0.08	30	50	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.05	0.10	100	300	**0.08**	**200**

GCTX 3003 NN – **LT 1000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.07	0.20	130	220	**0.14**	**175**
			2		190 HB	0.07	0.20	130	220	**0.14**	**175**
			3		250 HB	0.07	0.20	130	200	**0.14**	**165**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.07	0.18	90	200	**0.13**	**145**
			4,6		230 HB	0.07	0.18	90	200	**0.13**	**145**
			5,7		280 HB	0.07	0.18	90	170	**0.13**	**130**
			8		350 HB	0.07	0.18	90	150	**0.13**	**120**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.07	0.17	60	170	**0.12**	**115**
			10		280 HB	0.07	0.17	60	150	**0.12**	**105**
			11		320 HB	0.07	0.16	60	130	**0.11**	**95**
			11		350 HB	0.07	0.14	60	100	**0.11**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.07	0.12	90	150	**0.09**	**120**
			14		240 HB	0.07	0.12	70	140	**0.09**	**105**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.07	0.11	60	100	**0.09**	**80**
			14		310 HB	0.07	0.11	60	100	**0.09**	**80**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.07	0.11	60	130	**0.09**	**95**
			13		42 HRc	0.07	0.10	50	90	**0.08**	**70**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.07	0.19	130	190	**0.13**	**160**
			15		200 HB	0.07	0.19	130	190	**0.13**	**160**
			16		250 HB	0.07	0.19	130	190	**0.13**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.07	0.17	90	150	**0.12**	**120**
			17,19		200 HB	0.07	0.17	90	150	**0.12**	**120**
			18,20		250 HB	0.07	0.17	90	150	**0.12**	**120**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.07	0.10	25	35	**0.08**	**30**
			33	Inconel 700	250 HB	0.07	0.10	25	35	**0.08**	**30**
			34	Stellite 21	350 HB	0.07	0.10	23	35	**0.08**	**29**
	Ti Based	10	36	TiAl6V4	-	0.07	0.10	35	60	**0.08**	**45**
			37	T40	-	0.07	0.10	28	40	**0.08**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.07	0.13	50	90	**0.10**	**70**
			38		50 HRc	0.07	0.12	40	70	**0.10**	**55**
			38		55 HRc	0.07	0.11	30	60	**0.09**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.07	0.10	40	60	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.07	0.10	30	50	**0.08**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.07	0.12	100	300	**0.10**	**200**

GCTX 3003 PP – **LT 1000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.05	0.17	130	220	**0.11**	**175**
			2		190 HB	0.05	0.17	130	220	**0.11**	**175**
			3		250 HB	0.05	0.17	130	200	**0.11**	**165**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.05	0.15	90	200	**0.10**	**145**
			4,6		230 HB	0.05	0.15	90	200	**0.10**	**145**
			5,7		280 HB	0.05	0.15	90	170	**0.10**	**130**
			8		350 HB	0.05	0.15	90	150	**0.10**	**120**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.05	0.14	60	170	**0.10**	**115**
			10		280 HB	0.05	0.14	60	150	**0.10**	**105**
			11		320 HB	0.05	0.13	60	130	**0.09**	**95**
			11		350 HB	0.05	0.12	60	100	**0.09**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.05	0.10	90	150	**0.07**	**120**
			14		240 HB	0.05	0.10	70	140	**0.07**	**105**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.05	0.09	60	100	**0.07**	**80**
			14		310 HB	0.05	0.09	60	100	**0.07**	**80**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.05	0.09	60	130	**0.07**	**95**
			13		42 HRc	0.05	0.08	50	90	**0.07**	**70**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.05	0.16	130	190	**0.11**	**160**
			15		200 HB	0.05	0.16	130	190	**0.11**	**160**
			16		250 HB	0.05	0.16	130	190	**0.11**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.05	0.14	90	150	**0.10**	**120**
			17,19		200 HB	0.05	0.14	90	150	**0.10**	**120**
			18,20		250 HB	0.05	0.14	90	150	**0.10**	**120**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.05	0.08	25	35	**0.07**	**30**
			33	Inconel 700	250 HB	0.05	0.08	25	35	**0.07**	**30**
			34	Stellite 21	350 HB	0.05	0.08	23	35	**0.07**	**29**
	Ti Based	10	36	TiAl6V4	-	0.05	0.08	35	60	**0.07**	**45**
			37	T40	-	0.05	0.08	28	40	**0.07**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.05	0.11	50	90	**0.08**	**70**
			38		50 HRc	0.05	0.10	40	70	**0.08**	**55**
			38		55 HRc	0.05	0.09	30	60	**0.07**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.05	0.08	40	60	**0.07**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.05	0.08	30	50	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.05	0.10	100	300	**0.08**	**200**

MGMN 200 G – **LT 10**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	1.5	0.09	0.18	0.21	110	210	**1.0**	**0.11**	**160**
			2		190 HB	0.3	1.3	0.09	0.18	0.18	110	180	**1.0**	**0.11**	**150**
			3		250 HB	0.3	1.3	0.09	0.16	0.17	110	160	**1.0**	**0.11**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	1.3	0.08	0.16	0.18	70	180	**1.0**	**0.09**	**130**
			4,6		230 HB	0.3	1.3	0.08	0.16	0.17	70	160	**1.0**	**0.09**	**120**
			5,7		280 HB	0.3	1.0	0.08	0.14	0.14	70	140	**1.0**	**0.09**	**110**
			8		350 HB	0.3	1.0	0.08	0.14	0.13	70	120	1.0	0.09	100
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	1.3	0.07	0.14	0.14	40	120	1.0	0.07	80
			10		280 HB	0.3	1.3	0.07	0.13	0.14	40	100	1.0	0.07	70
			11		320 HB	0.3	1.0	0.07	0.11	0.11	40	80	1.0	0.07	60
			11		350 HB	0.3	1.0	0.07	0.11	0.09	40	70	1.0	0.07	60
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	1.3	0.08	0.14	0.11	100	180	1.0	0.07	140
			14		240 HB	0.3	1.3	0.08	0.14	0.09	100	140	1.0	0.07	120
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	1.0	0.07	0.11	0.07	50	100	1.0	0.07	80
			14		310 HB	0.3	1.0	0.07	0.11	0.07	40	90	1.0	0.07	70
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	1.3	0.08	0.14	0.11	100	160	1.0	0.09	130
			13		42 HRc	0.3	1.0	0.08	0.13	0.09	70	120	1.0	0.07	100
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	1.5	0.06	0.16	0.22	100	160	1.0	0.11	130
			15		200 HB	0.3	1.5	0.06	0.16	0.21	100	150	1.0	0.11	130
			16		250 HB	0.3	1.5	0.06	0.16	0.21	90	140	1.0	0.11	120
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	1.3	0.06	0.14	0.17	70	160	1.0	0.09	120
			17,19		200 HB	0.3	1.3	0.06	0.14	0.14	70	150	1.0	0.09	110
			18,20		250 HB	0.3	1.3	0.06	0.14	0.14	70	120	1.0	0.09	100
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	1.0	0.07	0.12	0.09	15	33	1.0	0.07	20
			33	Inconel 700	250 HB	0.3	1.0	0.07	0.12	0.09	15	33	**1.0**	**0.07**	**20**
			34	Stellite 21	350 HB	0.3	1.0	0.07	0.12	0.09	14	29	**1.0**	**0.07**	**20**
	Ti Based	10	36	TiAl6V4	-	0.3	1.0	0.07	0.13	0.11	27	42	**1.0**	**0.09**	**30**
			37	T40	-	0.3	1.0	0.07	0.11	0.09	21	39	**1.0**	**0.07**	**30**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.9	0.04	0.10	0.07	30	65	**0.8**	**0.07**	**50**
			38		50 HRc	0.3	0.8	0.04	0.08	0.06	24	59	**0.6**	**0.06**	**40**
			38		55 HRc	0.3	0.7	0.04	0.07	0.05	24	52	**0.5**	**0.04**	**40**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.8	0.04	0.10	0.06	24	39	**0.6**	**0.07**	**30**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.7	0.04	0.07	0.05	18	33	**0.5**	**0.04**	**30**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	2.0	0.08	0.24	0.25	120	260	**1.0**	**0.12**	**190**

MGMN 300 M – **LT 10**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.4	0.11	0.23	0.42	110	210	**1.5**	**0.13**	**160**
			2		190 HB	0.5	2.0	0.11	0.22	0.36	110	180	**1.5**	**0.13**	**150**
			3		250 HB	0.5	2.0	0.11	0.20	0.34	110	160	**1.5**	**0.13**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.0	0.10	0.20	0.35	70	180	**1.5**	**0.11**	**130**
			4,6		230 HB	0.5	2.0	0.10	0.20	0.34	70	160	**1.5**	**0.11**	**120**
			5,7		280 HB	0.5	1.6	0.10	0.18	0.28	70	140	**1.5**	**0.11**	**110**
			8		350 HB	0.5	1.6	0.10	0.18	0.25	70	120	1.5	0.11	100
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.0	0.09	0.18	0.28	40	120	1.5	0.08	80
			10		280 HB	0.5	2.0	0.09	0.16	0.28	40	100	1.5	0.08	70
			11		320 HB	0.5	1.6	0.09	0.14	0.22	40	80	1.5	0.08	60
			11		350 HB	0.5	1.6	0.09	0.14	0.18	40	70	1.5	0.08	60
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.0	0.10	0.18	0.22	100	180	1.5	0.08	140
			14		240 HB	0.5	2.0	0.10	0.18	0.18	100	140	1.5	0.08	120
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	1.6	0.09	0.14	0.14	50	100	1.5	0.08	80
			14		310 HB	0.5	1.6	0.09	0.14	0.14	40	90	1.5	0.08	70
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.0	0.10	0.18	0.22	100	160	1.5	0.11	130
			13		42 HRc	0.5	1.6	0.10	0.16	0.18	70	120	1.5	0.08	100
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.4	0.08	0.20	0.45	100	160	1.5	0.13	130
			15		200 HB	0.5	2.4	0.08	0.20	0.42	100	150	1.5	0.13	130
			16		250 HB	0.5	2.4	0.08	0.20	0.42	90	140	1.5	0.13	120
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.0	0.08	0.18	0.34	70	160	1.5	0.11	120
			17,19		200 HB	0.5	2.0	0.08	0.18	0.28	70	150	1.5	0.11	110
			18,20		250 HB	0.5	2.0	0.08	0.18	0.28	70	120	1.5	0.11	100
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.6	0.09	0.15	0.18	15	33	1.5	0.08	20
			33	Inconel 700	250 HB	0.5	1.6	0.09	0.15	0.18	15	33	**1.5**	**0.08**	**20**
			34	Stellite 21	350 HB	0.5	1.6	0.09	0.15	0.18	14	29	**1.5**	**0.08**	**20**
	Ti Based	10	36	TiAl6V4	-	0.5	1.6	0.09	0.16	0.22	27	42	**1.5**	**0.11**	**30**
			37	T40	-	0.5	1.6	0.09	0.14	0.18	21	39	**1.5**	**0.08**	**30**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.4	0.05	0.12	0.14	30	65	**1.1**	**0.08**	**50**
			38		50 HRc	0.5	1.2	0.05	0.10	0.12	24	59	**0.9**	**0.06**	**40**
			38		55 HRc	0.5	1.1	0.05	0.09	0.09	24	52	**0.7**	**0.05**	**40**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	1.3	0.05	0.12	0.12	24	39	**0.9**	**0.08**	**30**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.05	0.09	0.09	18	33	**0.7**	**0.05**	**30**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.2	0.10	0.30	0.49	120	260	**1.5**	**0.14**	**190**

MGMN 400 M – **LT 10**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.0	3.6	0.13	0.28	0.60	110	210	**2.5**	**0.22**	**160**
			2		190 HB	1.0	3.0	0.13	0.26	0.52	110	180	**2.5**	**0.22**	**150**
			3		250 HB	1.0	3.0	0.13	0.24	0.48	110	160	**2.5**	**0.22**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.0	3.0	0.12	0.24	0.50	70	180	**2.5**	**0.18**	**130**
			4,6		230 HB	1.0	3.0	0.12	0.24	0.48	70	160	**2.5**	**0.18**	**120**
			5,7		280 HB	1.0	2.4	0.12	0.22	0.40	70	140	**2.5**	**0.18**	**110**
			8		350 HB	1.0	2.4	0.12	0.22	0.36	70	120	**2.5**	**0.18**	**100**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.0	3.0	0.11	0.22	0.40	40	120	**2.5**	**0.14**	**80**
			10		280 HB	1.0	3.0	0.11	0.19	0.40	40	100	**2.5**	**0.14**	**70**
			11		320 HB	1.0	2.4	0.11	0.17	0.32	40	80	**2.5**	**0.14**	**60**
			11		350 HB	1.0	2.4	0.11	0.17	0.26	40	70	**2.5**	**0.14**	**60**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.0	3.0	0.12	0.22	0.32	100	180	**2.5**	**0.14**	**140**
			14		240 HB	1.0	3.0	0.12	0.22	0.26	100	140	**2.5**	**0.14**	**120**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.0	2.4	0.11	0.17	0.20	50	100	**2.5**	**0.14**	**80**
			14		310 HB	1.0	2.4	0.11	0.17	0.20	40	90	**2.5**	**0.14**	**70**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.0	3.0	0.12	0.22	0.32	100	160	**2.5**	**0.18**	**130**
			13		42 HRc	1.0	2.4	0.12	0.19	0.26	70	120	**2.5**	**0.14**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.0	3.6	0.10	0.24	0.64	100	160	**2.5**	**0.22**	**130**
			15		200 HB	1.0	3.6	0.10	0.24	0.60	100	150	**2.5**	**0.22**	**130**
			16		250 HB	1.0	3.6	0.10	0.24	0.60	90	140	**2.5**	**0.22**	**120**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.0	3.0	0.10	0.22	0.48	70	160	**2.5**	**0.18**	**120**
			17,19		200 HB	1.0	3.0	0.10	0.22	0.40	70	150	**2.5**	**0.18**	**110**
			18,20		250 HB	1.0	3.0	0.10	0.22	0.40	70	120	**2.5**	**0.18**	**100**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.0	2.4	0.11	0.18	0.26	15	33	**2.5**	**0.14**	**20**
			33	Inconel 700	250 HB	1.0	2.4	0.11	0.18	0.26	15	33	**2.5**	**0.14**	**20**
			34	Stellite 21	350 HB	1.0	2.4	0.11	0.18	0.26	14	29	**2.5**	**0.14**	**20**
	Ti Based	10	36	TiAl6V4	-	1.0	2.4	0.11	0.19	0.32	27	42	**2.5**	**0.18**	**30**
			37	T40	-	1.0	2.4	0.11	0.17	0.26	21	39	**2.5**	**0.14**	**30**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.0	2.2	0.06	0.14	0.20	30	65	**1.9**	**0.13**	**50**
			38		50 HRc	1.0	1.8	0.06	0.12	0.17	24	59	**1.5**	**0.11**	**40**
			38		55 HRc	1.0	1.7	0.06	0.11	0.13	24	52	**1.3**	**0.08**	**40**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.0	1.9	0.06	0.14	0.17	24	39	**1.5**	**0.13**	**30**
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.0	1.7	0.06	0.11	0.13	18	33	**1.3**	**0.08**	**30**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.0	4.8	0.12	0.36	0.70	120	260	**2.5**	**0.24**	**190**

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MGMN 500 M – **LT 10**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max		min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.2	4.2	0.20	0.41	0.60	110	210	**3.0**	**0.30**	**160**
			2		190 HB	1.2	3.5	0.20	0.40	0.52	110	180	**3.0**	**0.30**	**150**
			3		250 HB	1.2	3.5	0.20	0.36	0.48	110	160	**3.0**	**0.30**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.2	3.5	0.18	0.36	0.50	70	180	**3.0**	**0.25**	**130**
			4,6		230 HB	1.2	3.5	0.18	0.36	0.48	70	160	**3.0**	**0.25**	**120**
			5,7		280 HB	1.2	2.8	0.18	0.32	0.40	70	140	**3.0**	**0.25**	**110**
			8		350 HB	1.2	2.8	0.18	0.32	0.36	70	120	**3.0**	**0.25**	**100**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.2	3.5	0.16	0.32	0.40	40	120	**3.0**	**0.20**	**80**
			10		280 HB	1.2	3.5	0.16	0.29	0.40	40	100	**3.0**	**0.20**	**70**
			11		320 HB	1.2	2.8	0.16	0.25	0.32	40	80	**3.0**	**0.20**	**60**
			11		350 HB	1.2	2.8	0.16	0.25	0.26	40	70	**3.0**	**0.20**	**60**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.2	3.5	0.18	0.32	0.32	100	180	**3.0**	**0.20**	**140**
			14		240 HB	1.2	3.5	0.18	0.32	0.26	100	140	**3.0**	**0.20**	**120**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.2	2.8	0.16	0.25	0.20	50	100	**3.0**	**0.20**	**80**
			14		310 HB	1.2	2.8	0.16	0.25	0.20	40	90	**3.0**	**0.20**	**70**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.2	3.5	0.18	0.32	0.32	100	160	**3.0**	**0.25**	**130**
			13		42 HRc	1.2	2.8	0.18	0.29	0.26	70	120	**3.0**	**0.20**	**100**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.2	4.2	0.14	0.36	0.64	100	160	**3.0**	**0.30**	**130**
			15		200 HB	1.2	4.2	0.14	0.36	0.60	100	150	**3.0**	**0.30**	**130**
			16		250 HB	1.2	4.2	0.14	0.36	0.60	90	140	**3.0**	**0.30**	**120**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.2	3.5	0.14	0.32	0.48	70	160	**3.0**	**0.25**	**120**
			17,19		200 HB	1.2	3.5	0.14	0.32	0.40	70	150	**3.0**	**0.25**	**110**
			18,20		250 HB	1.2	3.5	0.14	0.32	0.40	70	120	**3.0**	**0.25**	**100**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.2	2.8	0.16	0.27	0.26	15	33	**3.0**	**0.20**	**20**
			33	Inconel 700	250 HB	1.2	2.8	0.16	0.27	0.26	15	33	**3.0**	**0.20**	**20**
			34	Stellite 21	350 HB	1.2	2.8	0.16	0.27	0.26	14	29	**3.0**	**0.20**	**20**
	Ti Based	10	36	TiAl6V4	-	1.2	2.8	0.16	0.29	0.32	27	42	**3.0**	**0.25**	**30**
			37	T40	-	1.2	2.8	0.16	0.25	0.26	21	39	**3.0**	**0.20**	**30**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.2	2.5	0.09	0.22	0.20	30	65	**2.3**	**0.18**	**50**
			38		50 HRc	1.2	2.1	0.09	0.18	0.17	24	59	**1.8**	**0.15**	**40**
			38		55 HRc	1.2	2.0	0.09	0.16	0.13	24	52	**1.5**	**0.12**	**40**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.2	2.2	0.09	0.22	0.17	24	39	**1.8**	**0.18**	**30**
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.2	2.0	0.09	0.16	0.13	18	33	**1.5**	**0.12**	**30**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.2	5.6	0.18	0.54	0.70	120	260	**3.0**	**0.33**	**190**

WGE 2000 – **LT 10**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.04	0.12	110	215	**0.09**	**160**
			2		190 HB	0.04	0.11	110	180	**0.09**	**150**
			3		250 HB	0.04	0.10	110	165	**0.09**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.04	0.10	70	180	**0.08**	**130**
			4,6		230 HB	0.04	0.10	70	165	**0.08**	**120**
			5,7		280 HB	0.04	0.09	70	135	**0.08**	**110**
			8		350 HB	0.04	0.09	70	115	0.08	100
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.04	0.09	40	125	0.06	80
			10		280 HB	0.04	0.08	40	100	0.06	70
			11		320 HB	0.04	0.07	40	85	0.06	60
			11		350 HB	0.04	0.07	40	70	0.06	60
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.04	0.09	100	175	0.06	140
			14		240 HB	0.04	0.09	95	145	0.06	120
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.04	0.07	50	100	0.06	80
			14		310 HB	0.04	0.07	40	90	0.06	70
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.04	0.09	100	165	0.07	110
			13		42 HRc	0.04	0.08	70	125	0.06	70
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.03	0.10	100	165	0.09	130
			15		200 HB	0.03	0.10	95	150	0.09	130
			16		250 HB	0.03	0.10	90	135	0.09	120
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.03	0.09	70	165	0.08	120
			17,19		200 HB	0.03	0.09	70	150	0.08	110
			18,20		250 HB	0.03	0.09	70	125	0.08	100
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.04	0.08	15	35	0.06	20
			33	Inconel 700	250 HB	0.04	0.08	15	35	0.06	20
			34	Stellite 21	350 HB	0.04	0.08	15	30	0.06	20
	Ti Based	10	36	TiAl6V4	-	0.04	0.08	25	40	0.08	30
			37	T40	-	0.04	0.07	20	40	0.06	30
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.03	0.06	30	65	0.06	50
			38		50 HRc	0.03	0.05	25	60	0.05	40
			38		55 HRc	0.03	0.05	25	50	0.04	40
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.03	0.06	25	40	0.06	30
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.03	0.05	20	35	0.04	30
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.04	0.15	120	260	0.10	190

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WGE 3000 – **LT 10**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.07	0.24	110	215	**0.12**	**160**
			2		190 HB	0.07	0.23	110	180	**0.12**	**150**
			3		250 HB	0.07	0.21	110	165	**0.12**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.06	0.21	70	180	**0.10**	**130**
			4,6		230 HB	0.06	0.21	70	165	**0.10**	**120**
			5,7		280 HB	0.06	0.19	70	135	**0.10**	**110**
			8		350 HB	0.06	0.19	70	115	0.10	100
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.05	0.19	40	125	**0.08**	**80**
			10		280 HB	0.05	0.17	40	100	**0.08**	**70**
			11		320 HB	0.05	0.15	40	85	**0.08**	**60**
			11		350 HB	0.05	0.15	40	70	**0.08**	**60**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.06	0.19	100	175	**0.08**	**140**
			14		240 HB	0.06	0.19	95	145	**0.08**	**120**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.05	0.15	50	100	**0.08**	**80**
			14		310 HB	0.05	0.15	40	90	**0.08**	**70**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.06	0.19	100	165	**0.09**	**110**
			13		42 HRc	0.06	0.17	70	125	**0.08**	**70**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.05	0.21	100	165	**0.12**	**130**
			15		200 HB	0.05	0.21	95	150	**0.12**	**130**
			16		250 HB	0.05	0.21	90	135	**0.12**	**120**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.05	0.19	70	165	0.10	120
			17,19		200 HB	0.05	0.19	70	150	**0.10**	**110**
			18,20		250 HB	0.05	0.19	70	125	**0.10**	**100**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.05	0.16	15	35	**0.08**	**20**
			33	Inconel 700	250 HB	0.05	0.16	15	35	**0.08**	**20**
			34	Stellite 21	350 HB	0.05	0.16	15	30	**0.08**	**20**
	Ti Based	10	36	TiAl6V4	-	0.05	0.17	25	40	**0.10**	**30**
			37	T40	-	0.05	0.15	20	40	**0.08**	**30**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.03	0.13	30	65	**0.07**	**50**
			38		50 HRc	0.03	0.11	25	60	**0.06**	**40**
			38		55 HRc	0.03	0.09	25	50	**0.05**	**40**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.03	0.13	25	40	**0.07**	**30**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.03	0.09	20	35	**0.05**	**30**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.06	0.32	120	260	**0.13**	**190**

WGE 4000 – **LT 10**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.08	0.26	110	215	**0.14**	**160**
			2		190 HB	0.08	0.25	110	180	**0.14**	**150**
			3		250 HB	0.08	0.23	110	165	**0.14**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.07	0.23	70	180	**0.12**	**130**
			4,6		230 HB	0.07	0.23	70	165	**0.12**	**120**
			5,7		280 HB	0.07	0.21	70	135	**0.12**	**110**
			8		350 HB	0.07	0.21	70	115	**0.12**	**100**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.06	0.21	40	125	**0.10**	**80**
			10		280 HB	0.06	0.18	40	100	**0.10**	**70**
			11		320 HB	0.06	0.16	40	85	**0.10**	**60**
			11		350 HB	0.06	0.16	40	70	**0.10**	**60**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.07	0.21	100	175	**0.10**	**140**
			14		240 HB	0.07	0.21	95	145	**0.10**	**120**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.06	0.16	50	100	**0.10**	**80**
			14		310 HB	0.06	0.16	40	90	**0.10**	**70**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.07	0.21	100	165	**0.11**	**110**
			13		42 HRc	0.07	0.18	70	125	**0.10**	**70**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.06	0.23	100	165	**0.14**	**130**
			15		200 HB	0.06	0.23	95	150	**0.14**	**130**
			16		250 HB	0.06	0.23	90	135	**0.14**	**120**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.06	0.21	70	165	**0.12**	**120**
			17,19		200 HB	0.06	0.21	70	150	**0.12**	**110**
			18,20		250 HB	0.06	0.21	70	125	**0.12**	**100**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.06	0.17	15	35	**0.10**	**20**
			33	Inconel 700	250 HB	0.06	0.17	15	35	**0.10**	**20**
			34	Stellite 21	350 HB	0.06	0.17	15	30	**0.10**	**20**
	Ti Based	10	36	TiAl6V4	-	0.06	0.18	25	40	**0.12**	**30**
			37	T40	-	0.06	0.16	20	40	**0.10**	**30**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.04	0.14	30	65	**0.09**	**50**
			38		50 HRc	0.04	0.12	25	60	**0.07**	**40**
			38		55 HRc	0.04	0.10	25	50	**0.06**	**40**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.04	0.14	25	40	**0.09**	**30**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.04	0.10	20	35	**0.06**	**30**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.07	0.35	120	260	**0.16**	**190**

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WGE 5000 – **LT 10**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.08	0.30	110	215	**0.16**	**160**
			2		190 HB	0.08	0.29	110	180	**0.16**	**150**
			3		250 HB	0.08	0.26	110	165	**0.16**	**140**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.07	0.26	70	180	**0.14**	**130**
			4,6		230 HB	0.07	0.26	70	165	**0.14**	**120**
			5,7		280 HB	0.07	0.23	70	135	**0.14**	**110**
			8		350 HB	0.07	0.23	70	115	0.14	100
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.06	0.23	40	125	**0.11**	**80**
			10		280 HB	0.06	0.21	40	100	**0.11**	**70**
			11		320 HB	0.06	0.18	40	85	**0.11**	**60**
			11		350 HB	0.06	0.18	40	70	**0.11**	**60**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.07	0.23	100	175	**0.11**	**140**
			14		240 HB	0.07	0.23	95	145	**0.11**	**120**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.06	0.18	50	100	**0.11**	**80**
			14		310 HB	0.06	0.18	40	90	**0.11**	**70**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.07	0.23	100	165	**0.13**	**110**
			13		42 HRc	0.07	0.21	70	125	**0.11**	**70**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.06	0.26	100	165	**0.16**	**130**
			15		200 HB	0.06	0.26	95	150	**0.16**	**130**
			16		250 HB	0.06	0.26	90	135	**0.16**	**120**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.06	0.23	70	165	0.14	120
			17,19		200 HB	0.06	0.23	70	150	**0.14**	**110**
			18,20		250 HB	0.06	0.23	70	125	**0.14**	**100**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.06	0.20	15	35	**0.11**	**20**
			33	Inconel 700	250 HB	0.06	0.20	15	35	**0.11**	**20**
			34	Stellite 21	350 HB	0.06	0.20	15	30	**0.11**	**20**
	Ti Based	10	36	TiAl6V4	-	0.06	0.21	25	40	**0.14**	**30**
			37	T40	-	0.06	0.18	20	40	**0.11**	**30**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.04	0.16	30	65	**0.10**	**50**
			38		50 HRc	0.04	0.13	25	60	**0.08**	**40**
			38		55 HRc	0.04	0.12	25	50	**0.06**	**40**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.04	0.16	25	40	**0.10**	**30**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.04	0.12	20	35	**0.06**	**30**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.07	0.39	120	260	**0.18**	**190**

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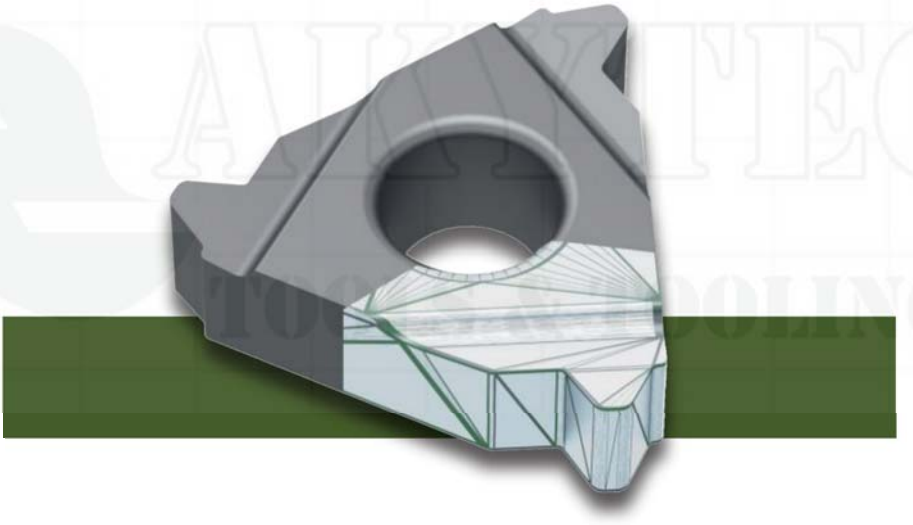
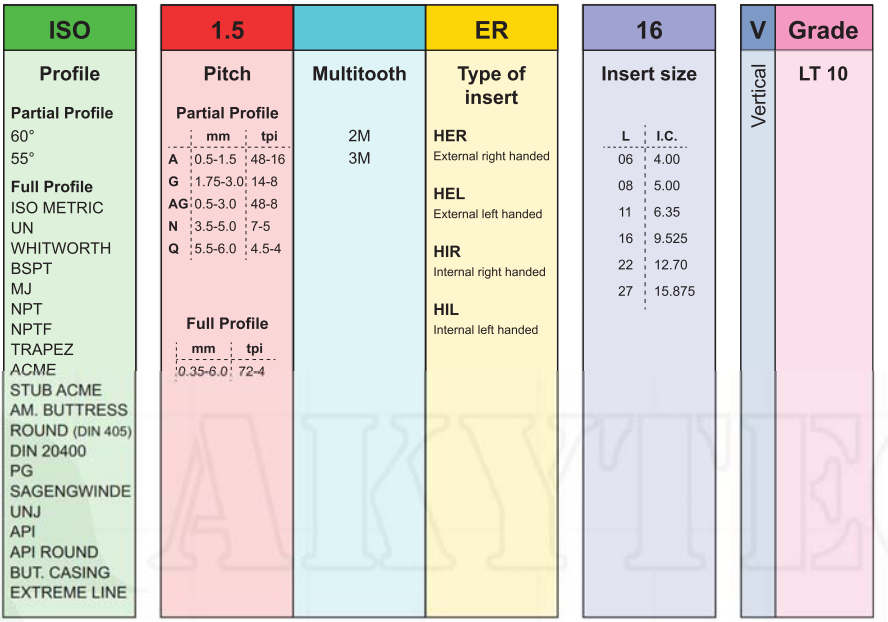
THREAD TURNING



Insert Ordering Code

Lamina threading line provides a large range of high quality standard threading inserts.



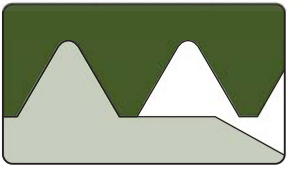
Partial and Full Profiles

Partial Profile:

Most economical solution.

Used for wide range of pitches.

It is partial because the exterior major or internal minor diameter is not machined.

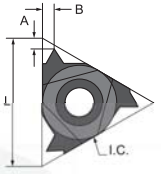


Full profile:

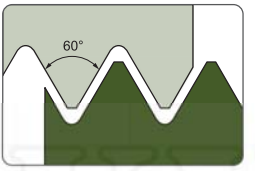
Cuts all thread shapes, according to the requirements.

Wide range of inserts needed in order to fit each standard and range of pitches.

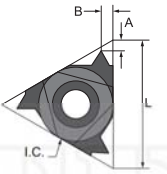
Partial Profile 60°								
Designation		Pitch Range		Dimensions				Catalog Nr.
EX / IN	Grade	mm	TPI	L mm	I.C.	A	B	
A60 IR11	LT 10	0.5 - 1.5	48 - 16	11	6.35	0.8	0.9	TH000001
A60 ER16	LT 10	0.5 - 1.5	48 - 16	16	9.525	0.8	0.9	TH000004
A60 IR16	LT 10	0.5 - 1.5	48 - 16	16	9.525	0.8	0.9	TH000007
G60 ER16	LT 10	1.75 - 3.0	14 - 8	16	9.525	1.2	1.7	TH000010
G60 IR16	LT 10	1.75 - 3.0	14 - 8	16	9.525	1.2	1.7	TH000013
AG60 ER16	LT 10	0.5 - 3.0	48 - 8	16	9.525	1.2	1.7	TH000016
AG60 IR16	LT 10	0.5 - 3.0	48 - 8	16	9.525	1.2	1.7	TH000019



External Right

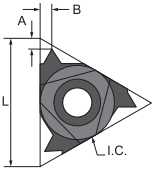


Partial Profile 60°

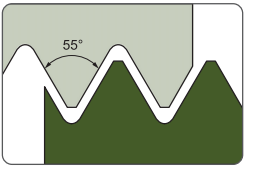


Internal Right

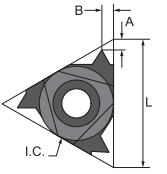
Partial Profile 55°								
Designation		Pitch Range		Dimensions				Catalog Nr.
EX / IN	Grade	mm	TPI	L mm	I.C.	A	B	
AG55 ER16	LT 10	0.5 - 3.0	48 - 8	16	9.525	1.2	1.7	TH000022
AG55 IR16	LT 10	0.5 - 3.0	48 - 8	16	9.525	1.2	1.7	TH000025
N55 ER22	LT 10	3.5 - 5.0	7 - 5	22	12.70	1.7	2.5	TH000120
N55 IR22	LT 10	3.5 - 5.0	7 - 5	22	12.70	1.7	2.5	TH000121



External Right



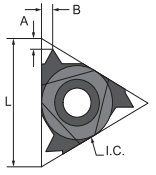
Partial Profile 55°



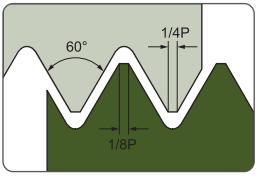
Internal Right

ISO METRIC

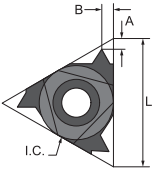
Designation		Pitch		Dimensions			Catalog Nr.
EX / IN	Grade	mm	L mm	I.C.	A	B	
ISO 0.5 ER16	LT10	0.50	16	9.525	0.6	0.4	TH000122
ISO 0.5 IR16	LT10	0.50	16	9.525	0.6	0.4	TH000128
ISO 0.6 ER16	LT10	0.60	16	9.525	0.6	0.4	TH000123
ISO 0.6 IR16	LT10	0.60	16	9.525	0.6	0.6	TH000129
ISO 0.7 ER16	LT10	0.70	16	9.525	0.6	0.4	TH000124
ISO 0.7 IR16	LT10	0.70	16	9.525	0.6	0.6	TH000130
ISO 0.75 ER16	LT10	0.75	16	9.525	0.6	0.6	TH000125
ISO 0.75 IR16	LT10	0.75	16	9.525	0.6	0.6	TH000131
ISO 0.8 IR16	LT10	0.80	16	9.525	0.6	0.6	TH000132
ISO 1.0 ER16	LT10	1.00	16	9.525	0.7	0.7	TH000037
ISO 1.0 IR11	LT10	1.00	11	6.350	0.7	0.7	TH000028
ISO 1.5 IR11	LT10	1.50	11	6.350	0.8	1.0	TH000031
ISO 2.0 IR11	LT10	2.00	11	6.350	0.8	0.9	TH000034
ISO 1.0 ER16	LT10	1.00	16	9.525	0.7	0.7	TH000037
ISO 1.0 IR16	LT10	1.00	16	9.525	0.7	0.7	TH000040
ISO 1.25 ER16	LT10	1.25	16	9.525	0.8	0.9	TH000043
ISO 1.25 IR16	LT10	1.25	16	9.525	0.8	0.9	TH000046
ISO 1.5 ER16	LT10	1.50	16	9.525	0.8	1.0	TH000049
ISO 1.5 IR16	LT10	1.50	16	9.525	0.8	1.0	TH000052
ISO 1.75 ER16	LT10	1.75	16	9.525	0.9	1.2	TH000055
ISO 1.75 IR16	LT10	1.75	16	9.525	0.9	1.2	TH000056
ISO 2.0 ER16	LT10	2.00	16	9.525	1.0	1.3	TH000058
ISO 2.0 IR16	LT10	2.00	16	9.525	1.0	1.3	TH000061
ISO 2.5 ER16	LT10	2.50	16	9.525	1.1	1.5	TH000064
ISO 2.5 IR16	LT10	2.50	16	9.525	1.1	1.5	TH000067
ISO 3.0 ER16	LT10	3.00	16	9.525	1.2	1.5	TH000070
ISO 3.0 IR16	LT10	3.00	16	9.525	1.2	1.5	TH000073
ISO 3.5 ER22	LT10	3.50	22	12.70	1.6	2.3	TH000126
ISO 4.0 ER22	LT10	4.00	22	12.70	1.6	2.3	TH000127
ISO 4.0 IR22	LT10	4.00	22	12.70	1.6	2.3	TH000133



External Right



ISO Metric ISO 965-1:1999-11
DIN 13: 2005-08



Internal Right

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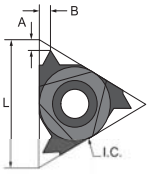
www.akytec.ru

TRAPEZ							
Designation		Pitch		Dimensions			Catalog Nr.
EX / IN	Grade	mm	L mm	I.C.	A	B	
TR3.0 ER16	LT10	3.00	16	9.525	1.3	1.5	TH000149
TR3.0 IR16	LT10	3.00	16	9.525	1.3	1.5	TH000151
TR4.0 ER16	LT10	4.00	22	12.70	1.7	1.9	TH000150
TR4.0 IR16	LT10	4.00	22	12.70	1.7	1.9	TH000152



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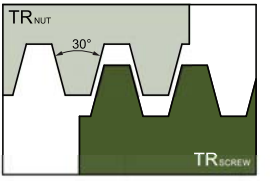
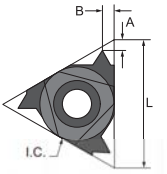
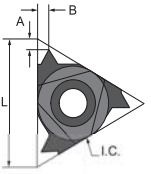


ISO Metric ISO 965-1:1999-11
DIN 13: 2005-08



Internal Right

UN							
Designation		Pitch		Dimensions			Catalog Nr.
EX / IN	Grade	TPI	L mm	I.C.	A	B	
UN 20 ER16	LT10	20	16	9.525	0.8	0.9	TH000076
UN 20 IR16	LT10	20	16	9.525	0.8	0.9	TH000079
UN 16 ER16	LT10	16	16	9.525	0.9	1.1	TH000082
UN 16 IR16	LT10	16	16	9.525	0.9	1.1	TH000085
UN 12 ER16	LT10	12	16	9.525	1.1	1.4	TH000088
UN 12 IR16	LT10	12	16	9.525	1.1	1.4	TH000091



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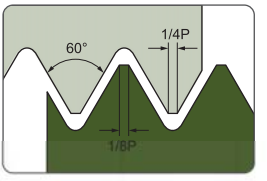
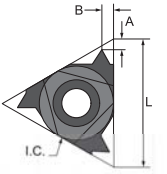
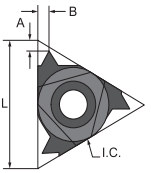


UNC, UNF, UNEF
ANSI B1.1-1982



Internal Right

WHITWORTH							
Designation		Pitch		Dimensions			Catalog Nr.
EX / IN	Grade	TPI	L mm	I.C.	A	B	
W 11 ER16	LT10	11	16	9.525	1.1	1.5	TH000100
W 11 IR16	LT10	11	16	9.525	1.1	1.5	TH000103
W 14 ER16	LT10	14	16	9.525	1.0	1.2	TH000094
W 14 IR16	LT10	14	16	9.525	1.0	1.2	TH000097
W 19 ER16	LT10	19	16	9.525	0.8	1.0	TH000134
W 19 IR16	LT10	19	16	9.525	0.8	1.0	TH000135



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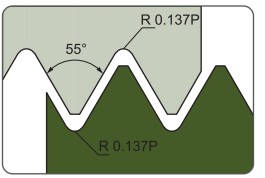
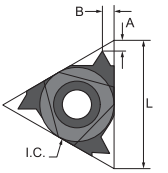


BSW, BSF, BSP
B.S.84: 1956
ISO 228-1: 1994



Internal Right

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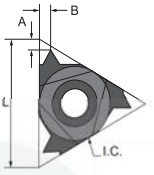
www.akytec.ru

NPT							
Designation		Pitch		Dimensions			Catalog Nr.
EX / IN	Grade	TPI	L mm	I.C.	A	B	
NPT8 ER16	LT10	8	16	9.525	1.3	1.8	TH000145
NPT8 IR16	LT10	8	16	9.525	1.3	1.8	TH000148
NPT11.5 ER	LT10	11.5	16	9.525	1.1	1.5	TH000144
NPT11.5 ER	LT10	11.5	16	9.525	1.1	1.5	TH000147
NPT14 ER	LT10	14	16	9.525	0.9	1.2	TH000143
NPT 14 IR	LT10	14	16	9.525	0.9	1.2	TH000146
NPT 18 ER	LT10	18	16	9.525	0.8	1.0	TH000142



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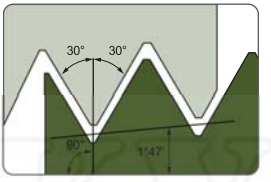
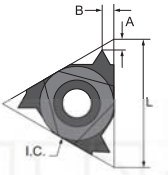
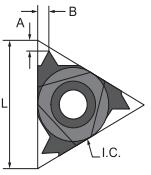


UNC, UNF, UNEF
ANSI B1.1-1982

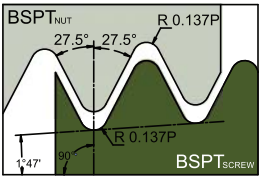


Internal Right

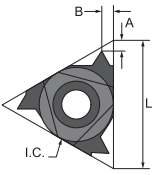
BSPT							
Designation		Pitch		Dimensions			Catalog Nr.
EX / IN	Grade	TPI	L mm	I.C.	A	B	
BSPT19 ER16	LT10	11	16	9.525	1.1	1.5	TH000138
BSPT19 IR16	LT10	11	16	9.525	1.1	1.5	TH000141
BSPT14 ER16	LT10	14	16	9.525	1.0	1.2	TH000137
BSPT14 IR16	LT10	14	16	9.525	1.0	1.2	TH000140
BSPT19 ER16	LT10	19	16	9.525	0.8	0.9	TH000136
BSPT19 IR16	LT10	19	16	9.525	0.8	0.9	TH000139



External Right



BSW, BSF, BSP
B.S.84: 1956
ISO 228-1: 1994



Internal Right

Tool Holder Ordering Code

HER	2020	K	16	
Holder type	**Shank**	**Tool length**	**Insert size**	**V-Vertical**
HER External right handed **HEL** External left handed **HIR** Internal right handed **HIL** Internal left handed	External Toolholders Square Shank 8 10 12 16 20 25 32 Internal Toolholders round shank 10 12 16 20 25 32 40	H - 100 K - 125 L - 140 M - 150 P - 170 R - 200 S - 250 T - 300	L / I.C. 06 / 4.00 08 / 5.00 11 / 6.35 16 / 9.525 22 / 12.70 27 / 15.875	

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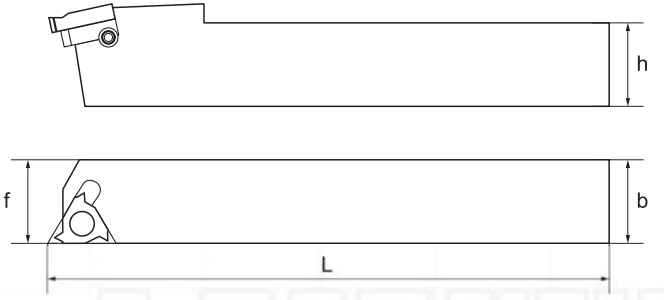
www.akytec.ru

External Tool Holders ER16						
Designation	Insert Type	h	b	f	l	Catalog Nr.
LT-HER 1616 H16	ER16	16	16	16	100	TH200001
LT-HER 2020 K16	ER16	20	20	20	125	TH200004
LT-HER 2525 M16	ER16	25	25	25	150	TH200007

Accessories: On request



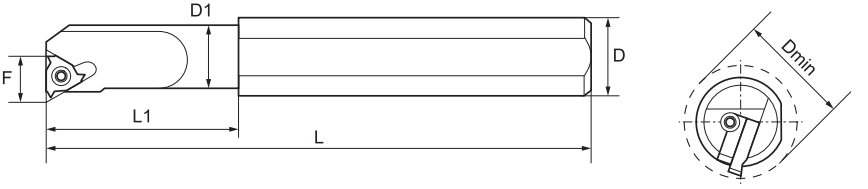
The holders are made for 1.5 helix angle. In case higher helix is required, it should be replaced by other shim.

Internal Tool Holders IR11								
Designation	Insert Type	D	D1	Dmin	L	L1	F	Catalog Nr.
LT-HIR 0010 H11	IR11	10	10	12.5	100	-	7.3	TH200010
LT-HIR 0010 K11	IR11	16	10	12.5	125	25	7.3	TH200013

Accessories: On request

Internal Tool Holders IR16								
Designation	Insert Type	D	D1	Dmin	L	L1	F	Catalog Nr.
LT-HIR 0013 M16	IR16	16	13	16.5	150	32	10.4	TH200016
LT-HIR 0016 P16	IR16	20	16	19.5	170	40	11.6	TH200019
LT-HIR 0020 P16	IR16	20	20	23.5	170	-	13.6	TH200022
LT-HIR 0025 R16	IR16	25	25	28.5	200	-	16.3	TH200025

Accessories: On request



The holders are made for 1.5 helix angle. In case higher helix is required, it should be replaced by other shim.

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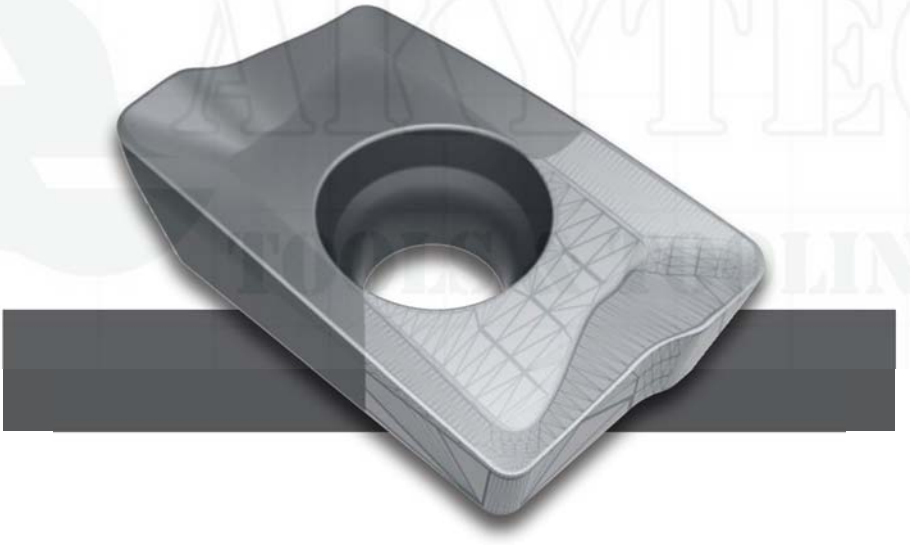
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	V_c [m/min] min	V_c [m/min] max
Stahl	Unlegiert	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	80	130
			2		190 HB	70	110
			3		250 HB	60	100
	Niedriglegiert	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	70	110
			4,6		230 HB	70	110
			5,7		280 HB	60	100
			8		350 HB	50	80
	Hochlegiert	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	70	110
			10		280 HB	60	100
			11		320 HB	50	80
			11		350 HB	50	70
Edelstahl	Austenitisch	4	14	304, 316, X5CrNi18-9	180 HB	70	110
			14		240 HB	60	90
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	60	80
			14		310 HB	60	80
	Ferritisch & Martensitisch	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	70	90
			13		42 HRc	60	80
Gusseisen	Grau	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	60	110
			15		200 HB	70	110
			16		250 HB	60	90
	Sphäroguss	8	17,19	GGG40, GGG70, 50005	150 HB	60	110
			17,19		200 HB	60	90
			18,20		250 HB	60	90
Superleg.	Fe, Ni & Co-Basiert	9	31,32	Incoloy 800	240 HB	40	60
			33	Inconel 700	250 HB	30	50
			34	Stellite 21	350 HB	20	40
	Ti-Basiert	10	36	TiAl6V4	-	40	70
			37	T40	-	25	50
Gehärtetes Mat.	Stahl	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	30	50
			38		50 HRc	25	50
			38		55 HRc	25	40
	Schalenhartguss		40	Ni-Hard 2	400 HB	25	40
	Weißes Guss.		41	G-X300CrMo15	55 HRc	25	40
NE	Al (>8%Si)	12	25	AlSi12	130 HB	80	300

Pitch mm	Pitch TPI	Passes min	Passes max
0.5	48	4	6
1.0	24	4	9
1.5	16	5	11
2.0	12	7	12
2.5	10	8	15
3.0	8	12	22

MILLING

LT 30 I LT 3000



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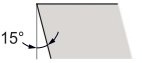
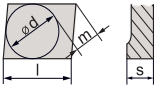
A D K T

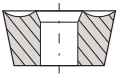
Shape



Clearance Angle



Tolerance
d ± 0.05
m ± 0.013
s ± 0.025



Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
ADKT 1505 PDTR LT 30	15.75	5.63	0.96	Right	M0001573

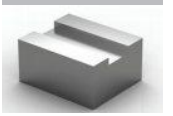
LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	r	Direction	Catalog Nr.
ADKT 1505 PDTR LT 3000	15.75	5.63	0.96	Right	M0002209

Application Guide

Helical Interpolation

Shoulder Mill

Slotting



Surfacing

Ramping Down

Plunging

Pocket Milling

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_C

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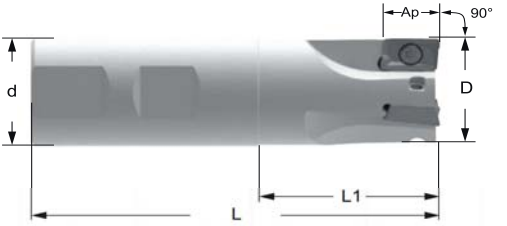
www.akytec.ru

End Mill for ADKT 1505 PDTR								
Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 790 W-W-D025/2*	25	25	44	100	15	2	5	M2001613
LT 790 W-W-D032/3*	32	32	50	110	15	3	3	M2001503
LT 790 W-W-D040/4*	40	32	45	115	15	4	2.5	M2001614

* On request

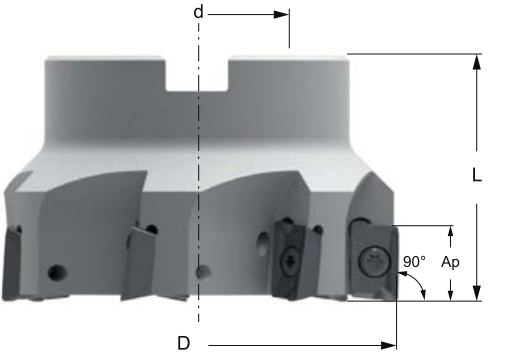
Screw: M2000597
Key: M2000602



Shell Mill for ADKT 1505 PDTR							
Cutter Designation	D	d	L	Ap	z	α	Catalog Nr.
LT 790 M-W-D040/4*	40	16	40	15	4	2.5	M2001615
LT 790 M-W-D050/5*	50	22	40	15	5	2.2	M2001504
LT 790 M-W-D063/6*	63	22	40	15	6	1.8	M2001616
LT 790 M-W-D080/7*	80	27	50	15	7	1.4	M2001617
LT 790 M-W-D100/8*	100	32	50	15	8	1.1	M2001618
LT 790 M-W-D125/9*	125	40	63	15	9	0.8	M2001619

* On request

Screw: M2000597
Key: M2000602

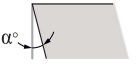


ADKT 1505 – **LT 30 | LT 3000**

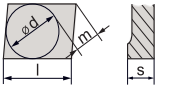
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	14.0	0.18	0.32	190	330	**4.0**	**0.23**	**250**
			2		190 HB	0.5	14.0	0.18	0.32	190	300	**4.0**	**0.23**	**220**
			3		250 HB	0.5	14.0	0.18	0.32	190	250	**4.0**	**0.23**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	14.0	0.15	0.25	150	240	**4.0**	**0.20**	**200**
			4,6		230 HB	0.5	14.0	0.15	0.25	150	210	**4.0**	**0.20**	**180**
			5,7		280 HB	0.5	14.0	0.15	0.22	130	190	**4.0**	**0.18**	**150**
			8		350 HB	0.5	14.0	0.15	0.22	130	170	**4.0**	**0.18**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.0	0.12	0.22	90	150	**3.0**	**0.18**	**130**
			10		280 HB	0.5	10.0	0.12	0.22	90	130	**3.0**	**0.18**	**120**
			11		320 HB	0.5	10.0	0.12	0.18	60	110	**3.0**	**0.16**	**100**
			11		350 HB	0.5	10.0	0.12	0.18	60	90	**3.0**	**0.16**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	14.0	0.15	0.25	190	250	**4.0**	**0.20**	**220**
			14		240 HB	0.5	14.0	0.12	0.22	160	210	**4.0**	**0.20**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.0	0.12	0.18	70	130	**3.0**	**0.16**	**100**
			14		310 HB	0.5	10.0	0.12	0.18	70	120	**3.0**	**0.16**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	14.0	0.15	0.25	150	210	**4.0**	**0.20**	**190**
			13		42 HRc	0.5	10.0	0.15	0.20	90	150	**3.0**	**0.16**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	14.0	0.18	0.32	150	240	**4.0**	**0.23**	**200**
			15		200 HB	0.5	14.0	0.18	0.32	150	220	**4.0**	**0.23**	**180**
			16		250 HB	0.5	14.0	0.18	0.32	150	190	**4.0**	**0.23**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	14.0	0.15	0.28	100	200	**4.0**	**0.20**	**180**
			17,19		200 HB	0.5	14.0	0.15	0.28	100	180	**4.0**	**0.20**	**150**
			18,20		250 HB	0.5	14.0	0.15	0.28	100	150	**4.0**	**0.20**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.0	0.12	0.18	25	45	**3.0**	**0.16**	**32**
			33	Inconel 700	250 HB	0.5	10.0	0.12	0.18	25	45	**3.0**	**0.16**	**30**
			34	Stellite 21	350 HB	0.5	10.0	0.12	0.18	25	45	**3.0**	**0.16**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.0	0.12	0.20	40	65	**3.0**	**0.18**	**55**
			37	T40	-	0.5	10.0	0.12	0.18	30	55	**3.0**	**0.16**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.0	0.10	0.18	40	80	**2.0**	**0.14**	**60**
			38		50 HRc	0.5	3.0	0.10	0.16	40	70	**1.5**	**0.13**	**55**
			38		55 HRc	0.5	1.5	0.10	0.14	40	60	**1.0**	**0.12**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.0	0.10	0.18	40	80	**1.5**	**0.14**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.14	30	60	**1.0**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	14.0	0.18	0.32	200	400	**4.0**	**0.25**	**280**

A O M T

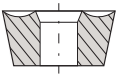
Shape



Clearance Angle
α = Special



Tolerance
d ± 0.05
m ± 0.08
s ± 0.13



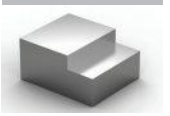
Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
AOMT 123608 PETR LT 30	11.93	3.62	0.7	Right	M0001640

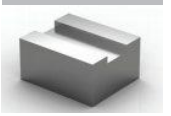
Application Guide

Helical Interpolation

Shoulder Milling



Slotting



Surfacing

Ramping Down

Plunging

Pocket Milling

Machining Recommendations

F ⇒
Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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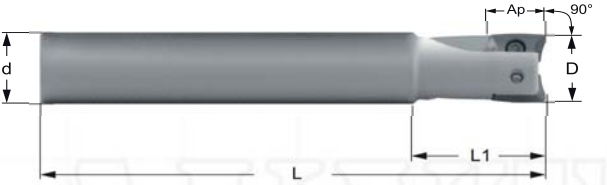
www.akytec.ru

End Mill for AOMT 123608 PETR								
Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 720 W-W-D016/2*	16	16	22	85	10	2	12	M2001781
LT 720 W-W-D020/3*	20	20	25	90	10	3	7	M2001782
LT 720 W-W-D025/3*	25	25	25	95	10	3	5	M2001783
LT 720 W-W-D025/4*	25	25	25	95	10	4	5	M2001819
LT 720 W-W-D032/5*	32	32	25	95	10	5	3	M2001784

* On request

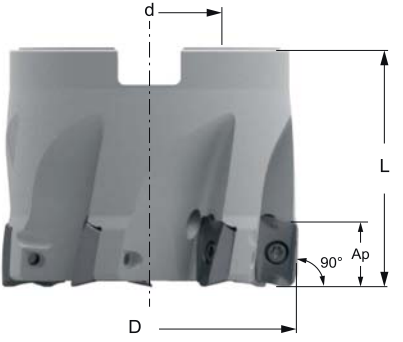
Screw: M2002181
Key: M2000601



Shell Mill for AOMT 123608 PETR							
Cutter Designation	D	d	L	Ap	z	α	Catalog Nr.
LT 720 M-W-D040/6*	40	22	40	10	6	2.5	M2001785
LT 720 M-W-D050/7*	50	22	40	10	7	2.2	M2001821

* On request

Screw: M2002181
Key: M2000601



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тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

AOMT 123608 PETR – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	11.0	0.13	0.22	190	330	**2.0**	**0.15**	**250**
			2		190 HB	0.5	11.0	0.13	0.22	190	300	**2.0**	**0.15**	**220**
			3		250 HB	0.5	11.0	0.13	0.22	190	250	**2.0**	**0.15**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	11.0	0.11	0.18	150	240	**2.0**	**0.13**	**200**
			4,6		230 HB	0.5	11.0	0.11	0.18	150	210	**2.0**	**0.13**	**180**
			5,7		280 HB	0.5	11.0	0.11	0.15	130	190	**2.0**	**0.12**	**150**
			8		350 HB	0.5	11.0	0.11	0.15	130	170	**2.0**	**0.12**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	7.9	0.08	0.15	90	150	**1.5**	**0.12**	**130**
			10		280 HB	0.5	7.9	0.08	0.15	90	130	**1.5**	**0.12**	**120**
			11		320 HB	0.5	7.9	0.08	0.13	60	110	**1.5**	**0.10**	**100**
			11		350 HB	0.5	7.9	0.08	0.13	60	90	**1.5**	**0.10**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	11.0	0.11	0.18	190	250	**2.0**	**0.13**	**220**
			14		240 HB	0.5	11.0	0.08	0.15	160	210	**2.0**	**0.13**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	7.9	0.08	0.13	70	130	**1.5**	**0.10**	**100**
			14		310 HB	0.5	7.9	0.08	0.13	70	120	**1.5**	**0.10**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	11.0	0.11	0.18	150	210	**2.0**	**0.13**	**190**
			13		42 HRc	0.5	7.9	0.08	0.14	90	150	**1.5**	**0.10**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	11.0	0.13	0.22	150	240	**2.0**	**0.15**	**200**
			15		200 HB	0.5	11.0	0.13	0.22	150	220	**2.0**	**0.15**	**180**
			16		250 HB	0.5	11.0	0.13	0.22	150	190	**2.0**	**0.15**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	11.0	0.11	0.20	100	200	**2.0**	**0.13**	**180**
			17,19		200 HB	0.5	11.0	0.11	0.20	100	180	**2.0**	**0.13**	**150**
			18,20		250 HB	0.5	11.0	0.11	0.20	100	150	**2.0**	**0.13**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	7.9	0.08	0.13	25	45	**1.5**	**0.10**	**32**
			33	Inconel 700	250 HB	0.5	7.9	0.08	0.13	25	45	**1.5**	**0.10**	**30**
			34	Stellite 21	350 HB	0.5	7.9	0.08	0.13	25	45	**1.5**	**0.10**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	7.9	0.08	0.14	40	65	**1.5**	**0.12**	**55**
			37	T40	-	0.5	7.9	0.08	0.13	30	55	**1.5**	**0.10**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.9	0.07	0.13	40	80	**1.0**	**0.09**	**60**
			38		50 HRc	0.5	2.4	0.07	0.11	40	70	**0.8**	**0.08**	**55**
			38		55 HRc	0.5	1.2	0.07	0.10	40	60	**0.5**	**0.08**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	3.1	0.07	0.13	40	80	**0.8**	**0.09**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.07	0.10	30	60	**0.5**	**0.08**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	11.0	0.13	0.22	200	400	**2.0**	**0.16**	**280**

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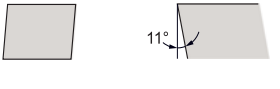


Shape | **Clearance Angle** | **Tolerance** | **Fixing, Chipbreaker**

Tolerance
d ± 0.05
m ± 0.013
s ± 0.025

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
APKT 060204 PDTR LT 30	06.00	2.16	0.40	Right	M0003885
APKT 100304 PDTR LT 30	10.39	3.53	0.40	Right	M0002920
APKT 1003 PDTR LT 30	10.39	3.53	0.80	Right	M0002918
APKT 100312 PDTR LT 30	10.39	3.53	1.20	Right	M0002921
APKT 100316 PDTR LT 30	10.39	3.53	1.60	Right	M0003094
APKT 100332 PDTR LT 30	10.39	3.53	3.20	Right	M0002922
APKT 100340 PDTR LT 30	10.39	3.53	4.00	Right	M0002923
APKT 1604 PDTR LT 30 (NEW)	15.3	4.76	0.80	Right	M0000022
APKT 1604 PDTR LT 30	15.3	4.76	0.95	Right	M0000021
APKT 160416 PDTR LT 30	15.3	4.76	1.60	Right	M0000172
APKT 160424 PDTR LT 30	15.3	4.76	2.40	Right	M0003833
APKT 160432 PDTR LT 30	15.3	4.76	3.20	Right	M0001569
APKT 1705 PETR LT 30	17.48	5.12	0.80	Right	M0001810

Application Guide

Helical Interpolation

Plunging

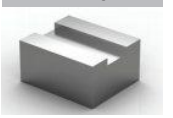
Pocket Milling

Surfacing

Ramping Down

Shoulder Milling

Slotting



Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel

V_c

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тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

A P K T

LT 3000 Multi-Mat™ General Usage – Premium

Insert Designation	l	s	r	Direction	Catalog Nr.
APKT 060204 PDTR LT 3000	6.00	2.16	0.40	Right	M0004026
APKT 100304 PDTR LT 3000	10.39	3.53	0.40	Right	M0003389
APKT 1003 PDTR LT 3000	10.39	3.53	0.80	Right	M0003388
APKT 100312 PDTR LT 3000	10.39	3.53	1.20	Right	M0003391
APKT 100316 PDTR LT 3000	10.39	3.53	1.60	Right	M0003392
APKT 100332 PDTR LT 3000	10.39	3.53	3.20	Right	M0003394
APKT 100340 PDTR LT 3000	10.39	3.53	4.00	Right	M0003395
APKT 1604 PDTR LT 3000 (NEW)	15.3	4.76	0.80	Right	M0002182
APKT 160416 PDTR LT 3000	15.3	4.76	1.60	Right	M0004027
APKT 160424 PDTR LT 3000	15.3	4.76	2.40	Right	M0004029
APKT 160432 PDTR LT 3000	15.3	4.76	3.20	Right	M0004030
APKT 1705 PETR LT 3000	17.48	5.12	0.80	Right	M0002212

Application Guide

Helical Interpolation

Plunging

Pocket-Milling

Surfacing

Ramping Down

Shoulder Milling

Slotting

Machining Recommendations

F ⇒

Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel

V_C

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End Mill for APKT 060204

Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 751 C-W-D010/2	10	10	22	72	5.2	2	10	M2003066
LT 751 CL-W-D010/2	10	10	40	100	5.2	2	10	M2003067
LT 751 CL-W-D012/2	12	12	45	110	5.2	2	7.5	M2003068
LT 751 C-W-D012/3	12	12	26	80	5.2	3	7.5	M2003069
LT 751 CL-W-D016/3	16	16	50	120	5.2	3	4	M2003070
LT 751 C-W-D016/4	16	16	32	90	5.2	4	4	M2003071
LT 751 C-W-D020/5	20	20	40	100	5.2	5	2.5	M2003072
LT 751 C-W-D025/7*	25	20	40	120	5.2	7	1.5	M2003073
LT 751 C-W-D032/8*	32	25	40	130	5.2	8	1	M2003074
LT 751 C-W-D040/10*	40	32	40	140	5.2	10	1	M2003075

* On request

Screw: M2001640
Key: M2003064

End Mill for APKT 100332/40 PDTR

Bezeichnung	D	d	L1	L	Ap	z	α	Katalognr.
LT 745 WL-W-D016/2*	16	16	35	150	9	2	10	M0001849
LT 745 W-W-D016/2*	16	16	25	100	9	2	10	M2001587
LT 745 W-W-D018/2*	18	20	30	100	9	2	8	M0001588
LT 745 WL-W-D020/3*	20	20	35	150	9	3	7	M0001850
LT 745 W-W-D020/3*	20	20	30	100	9	3	7	M0001589
LT 745 W-W-D022/3*	22	20	30	100	9	3	7	M2001590
LT 745 WL-W-D025/4*	25	25	40	200	9	4	5	M0001851
LT 745 W-W-D025/3*	25	25	30	120	9	3	5	M0001591
LT 745 W-W-D028/4*	28	25	30	120	9	4	-	M2001593
LT 745 W-W-D030/4*	30	25	30	120	9	4	-	M2001594
LT 745 WL-W-D032/4*	32	32	40	200	9	4	3	M2001852
LT 745 W-W-D032/5*	32	32	30	120	9	5	3	M2001848

* On request

Screw: M2002181
Key: M2000601

Shell Mill for APKT 100332/40 PDTR

Bezeichnung	D	d	L	Ap	z	Katalognr.
LT 745 M-W-D040/6	40	22	40	9	6	M2001580
LT 745 M-W-D050/7	50	22	40	9	7	M2001581
LT 745 M-W-D063/8	63	22	40	9	8	M2001582
LT 745 M-W-D080/11	80	27	50	9	10	M2001583

* On request

Screw: M2002181
Key: M2000601

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End Mill for APKT 1003 PDTR

Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 741 C-W-D010/1*	10	10	24	80	9	1	5	M2002802
LT 741 CL-W-D010/1*	10	16	32	150	9	1	5	M2002815
LT 741 C-W-D012/1*	12	12	24	80	9	1	5	M2002803
LT 741 CL-W-D012/1*	12	16	32	150	9	1	5	M2002816
LT 741 C-W-D014/1*	14	16	24	80	9	1	5	M2002804
LT 741 C-W-D016/2	16	16	25	100	9	2	12	M2002806
LT 741 CL-W-D016/2	16	16	40	150	9	2	12	M2002817
LT 741 C-W-D018/2	18	20	30	85	9	2	12	M2002807
LT 741 C-W-D020/3	20	20	25	100	9	3	7	M2002808
LT 741 CL-W-D020/3	20	20	40	150	9	3	7	M2002818
LT 741 C-W-D022/3	22	20	25	95	9	3	7	M2002809
LT 741 C-W-D025/3	25	25	32	120	9	3	5	M2002810
LT 741 C-W-D025/4	25	25	32	120	9	4	5	M2002811
LT 741 CL-W-D025/4	25	25	40	200	9	4	5	M2002819
LT 741 C-W-D028/4	28	25	32	120	9	4	2	M2002812
LT 741 C-W-D030/4	30	25	32	95	9	4	2	M2002813
LT 741 W-W-D032/5	32	32	32	95	9	5	3	M2002814
LT 741 WL-W-D032/4	32	32	32	200	9	4	3	M2002820

* On request

Screw: M2002181
Key: M2000601

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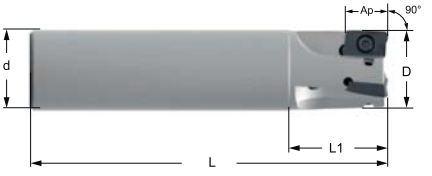

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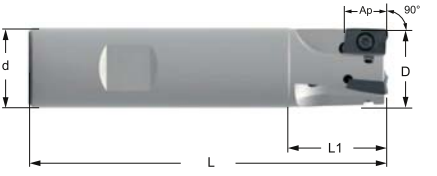
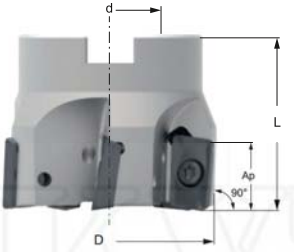


Shell Mill for APKT 1003 PDTR							
Cutter Designation	D	d	L	Ap	z	α	Catalog Nr.
LT 741 M-W-D040/6	40	16	40	9	6	2.5	M2002798
LT 741 M-W-D050/7	50	22	40	9	7	2.2	M2002799
LT 741 M-W-D063/8	63	22	40	9	8	1.8	M2002800
LT 741 M-W-D080/11*	80	27	50	9	10	1.4	M2002801

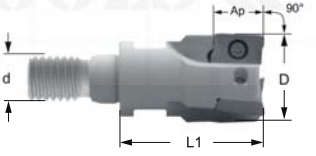
* On request

Screw: M2002181
Key: M2000601



Screw Coupling for APKT 1003 PDTR							
Cutter Designation	D	d	L1	Ap	z	α	Catalog Nr.
LT 741 S-W-D016/2	16	M8	25	9	2	12	M2002962
LT 741 S-W-D020/3	20	M10	30	9	3	7	M2002963
LT 741 S-W-D025/4	25	M12	35	9	4	5	M2002964

Screw: M2002181
Key: M2000601



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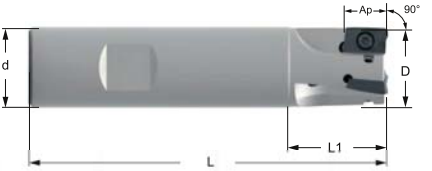
End Mill for APKT 1604 PDTR								
Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 731 WL-W-D025/2	25	25	90	220	15	2	5	M2002965
LT 731 W-W-D025/2	25	25	44	100	15	2	5	M2002966
LT 731 WL-W-D032/3	32	32	90	220	15	3	3	M2002967
LT 731 W-W-D032/3	32	32	50	110	15	3	3	M2002968
LT 731 WL-W-D040/4	40	32	90	220	15	4	2.5	M2002969
LT 731 W-W-D040/4	40	32	50	115	15	4	2.5	M2002970

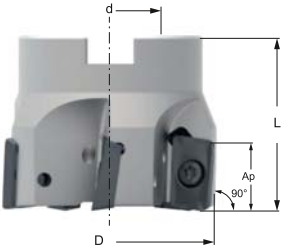
Screw: M2000597
Key: M2000602



Shell Mill for APKT 1604 PDTR							
Cutter Designation	D	d	L	Ap	z	α	Catalog Nr.
LT 731 M-W-D040/4	40	16	40	15	4	2.5	M2002971
LT 731 M-W-D050/5	50	22	40	15	5	2.2	M2002972
LT 731 M-W-D063/6	63	22	40	15	6	1.8	M2002973
LT 731 M-W-D080/7	80	27	50	15	7	1.4	M2002974
LT 731 M-W-D100/8	100	32	50	15	8	1.4	M2002975
LT 731 M-W-D125/9	125	40	63	15	9	0.8	M2002976
LT 731 M-W-D160/10*	160	40	63	15	10	-	M2002977

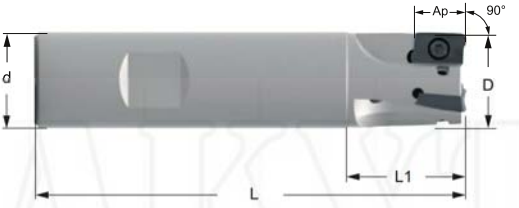
* On request

Screw: M2000597
Key: M2000602



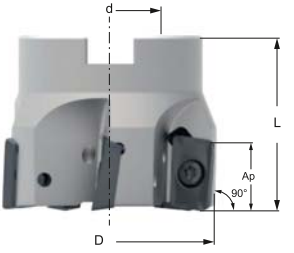
End Mill for APKT 1705 PETR									
Cutter Designation	D	D1	d	L1	L	Ap	z	α	Catalog Nr.
LT 737 W-W-D025/2	25	25	20	32	100	16	2	5	M2001833
LT 737 WL-W-D025/2	25	25	25	40	210	16	2	5	M2001836
LT 737 W-W-D032/3	32	32	32	40	110	16	3	3	M2001834
LT 737 WL-W-D032/3	32	32	32	65	200	16	3	3	M2001837
LT 737 W-W-D040/4	40	40	32	45	115	16	4	2.5	M2001835
LT 737 WL-W-D040/4	40	40	32	45	115	16	4	2.5	M2001982

Screw: M2000597
Key: M2000602



Shell Mill for APKT 1705 PETR								
Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 737 M-W-D040/4	40	40	16	40	16	4	2.5	M2001838
LT 737 M-W-D050/5	50	50	22	40	16	5	2.2	M2001839
LT 737 M-W-D063/6	63	63	22	40	16	6	1.8	M2001841
LT 737 M-W-D080/7	80	80	27	50	16	7	1.4	M2001842
LT 737 M-W-D100/7	100	100	32	50	16	7	1.4	M2001843
LT 737 M-W-D125/9	125	125	40	63	16	9	0.8	M2001844
LT 737 M-W-D160/10	160	160	40	63	16	10	-	M2001845

Screw: M2000597
Key: M2000602



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APKT 060204 PDTR – LT 30 | LT3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	5.5	0.04	0.13	190	330	**1.3**	**0.07**	**250**
			2		190 HB	0.3	5.5	0.04	0.13	190	300	**1.3**	**0.07**	**220**
			3		250 HB	0.3	5.5	0.04	0.13	190	250	**1.3**	**0.07**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	5.5	0.03	0.10	150	240	**1.3**	**0.06**	**200**
			4,6		230 HB	0.3	5.5	0.03	0.10	150	210	**1.3**	**0.06**	**180**
			5,7		280 HB	0.3	5.5	0.03	0.09	130	190	**1.3**	**0.05**	**150**
			8		350 HB	0.3	5.5	0.03	0.09	130	170	**1.3**	**0.05**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	3.9	0.03	0.09	90	150	**1.0**	**0.05**	**130**
			10		280 HB	0.3	3.9	0.03	0.09	90	130	**1.0**	**0.05**	**120**
			11		320 HB	0.3	3.9	0.03	0.07	60	110	**1.0**	**0.05**	**100**
			11		350 HB	0.3	3.9	0.03	0.07	60	90	**1.0**	**0.05**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	5.5	0.03	0.10	190	250	**1.3**	**0.06**	**220**
			14		240 HB	0.3	5.5	0.03	0.09	160	210	**1.3**	**0.06**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	3.9	0.03	0.07	70	130	**1.0**	**0.05**	**100**
			14		310 HB	0.3	3.9	0.03	0.07	70	120	**1.0**	**0.05**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	5.5	0.03	0.10	150	210	**1.3**	**0.06**	**190**
			13		42 HRc	0.3	3.9	0.03	0.08	90	150	**1.0**	**0.05**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	5.5	0.04	0.13	150	240	**1.3**	**0.07**	**200**
			15		200 HB	0.3	5.5	0.04	0.13	150	220	**1.3**	**0.07**	**180**
			16		250 HB	0.3	5.5	0.04	0.13	150	190	**1.3**	**0.07**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	5.5	0.03	0.11	100	200	**1.3**	**0.06**	**180**
			17,19		200 HB	0.3	5.5	0.03	0.11	100	180	**1.3**	**0.06**	**150**
			18,20		250 HB	0.3	5.5	0.03	0.11	100	150	**1.3**	**0.06**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	3.9	0.03	0.07	25	45	**1.0**	**0.05**	**32**
			33	Inconel 700	250 HB	0.3	3.9	0.03	0.07	25	45	**1.0**	**0.05**	**30**
			34	Stellite 21	350 HB	0.3	3.9	0.03	0.07	25	45	**1.0**	**0.05**	**30**
	Ti Based	10	36	TiAl6V4	-	0.3	3.9	0.03	0.08	40	65	**1.0**	**0.05**	**55**
			37	T40	-	0.3	3.9	0.03	0.07	30	55	**1.0**	**0.05**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	2.0	0.02	0.07	40	80	**0.7**	**0.04**	**60**
			38		50 HRc	0.3	1.2	0.02	0.06	40	70	**0.5**	**0.04**	**55**
			38		55 HRc	0.3	0.6	0.02	0.06	40	60	**0.3**	**0.04**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.6	0.02	0.07	40	80	**0.5**	**0.04**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.6	0.02	0.06	30	60	**0.3**	**0.04**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	5.5	0.04	0.13	200	400	**1.3**	**0.08**	**280**

APKT 1003 PDTR – LT 30 | LT3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.13	0.26	190	330	**2.0**	**0.17**	**250**
			2		190 HB	0.5	9.0	0.13	0.26	190	300	**2.0**	**0.17**	**220**
			3		250 HB	0.5	9.0	0.13	0.26	190	250	**2.0**	**0.17**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.11	0.21	150	240	**2.0**	**0.15**	**200**
			4,6		230 HB	0.5	9.0	0.11	0.21	150	210	**2.0**	**0.15**	**180**
			5,7		280 HB	0.5	9.0	0.11	0.18	130	190	**2.0**	**0.13**	**150**
			8		350 HB	0.5	9.0	0.11	0.18	130	170	**2.0**	**0.13**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.08	0.18	90	150	**1.5**	**0.13**	**130**
			10		280 HB	0.5	6.4	0.08	0.18	90	130	**1.5**	**0.13**	**120**
			11		320 HB	0.5	6.4	0.08	0.15	60	110	**1.5**	**0.12**	**100**
			11		350 HB	0.5	6.4	0.08	0.15	60	90	**1.5**	**0.12**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.11	0.21	190	250	**2.0**	**0.15**	**220**
			14		240 HB	0.5	9.0	0.08	0.18	160	210	**2.0**	**0.15**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.08	0.15	70	130	**1.5**	**0.12**	**100**
			14		310 HB	0.5	6.4	0.08	0.15	70	120	**1.5**	**0.12**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.11	0.21	150	210	**2.0**	**0.15**	**190**
			13		42 HRc	0.5	6.4	0.11	0.16	90	150	**1.5**	**0.12**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.13	0.26	150	240	**2.0**	**0.17**	**200**
			15		200 HB	0.5	9.0	0.13	0.26	150	220	**2.0**	**0.17**	**180**
			16		250 HB	0.5	9.0	0.13	0.26	150	190	**2.0**	**0.17**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.11	0.23	100	200	**2.0**	**0.15**	**180**
			17,19		200 HB	0.5	9.0	0.11	0.23	100	180	**2.0**	**0.15**	**150**
			18,20		250 HB	0.5	9.0	0.11	0.23	100	150	**2.0**	**0.15**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.4	0.08	0.15	25	45	**1.5**	**0.12**	**32**
			33	Inconel 700	250 HB	0.5	6.4	0.08	0.15	25	45	**1.5**	**0.12**	**30**
			34	Stellite 21	350 HB	0.5	6.4	0.08	0.15	25	45	**1.5**	**0.12**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	6.4	0.08	0.16	40	65	**1.5**	**0.13**	**55**
			37	T40	-	0.5	6.4	0.08	0.15	30	55	**1.5**	**0.12**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.07	0.15	40	80	**1.0**	**0.10**	**60**
			38		50 HRc	0.5	1.9	0.07	0.13	40	70	**0.8**	**0.09**	**55**
			38		55 HRc	0.5	1.0	0.07	0.11	40	60	**0.5**	**0.09**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.07	0.15	40	80	**0.8**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.0	0.07	0.11	30	60	**0.5**	**0.09**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.13	0.26	200	400	**2.0**	**0.18**	**280**

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APKT 100304 PDTR – **LT 30 | LT3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.11	0.20	190	330	**2.0**	**0.14**	**250**
			2		190 HB	0.5	9.0	0.11	0.20	190	300	**2.0**	**0.14**	**220**
			3		250 HB	0.5	9.0	0.11	0.20	190	250	**2.0**	**0.14**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.09	0.16	150	240	**2.0**	**0.12**	**200**
			4,6		230 HB	0.5	9.0	0.09	0.16	150	210	**2.0**	**0.12**	**180**
			5,7		280 HB	0.5	9.0	0.09	0.14	130	190	**2.0**	**0.11**	**150**
			8		350 HB	0.5	9.0	0.09	0.14	130	170	**2.0**	**0.11**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.07	0.14	90	150	**1.5**	**0.11**	**130**
			10		280 HB	0.5	6.4	0.07	0.14	90	130	**1.5**	**0.11**	**120**
			11		320 HB	0.5	6.4	0.07	0.11	60	110	**1.5**	**0.10**	**100**
			11		350 HB	0.5	6.4	0.07	0.11	60	90	**1.5**	**0.10**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.09	0.16	190	250	**2.0**	**0.12**	**220**
			14		240 HB	0.5	9.0	0.07	0.14	160	210	**2.0**	**0.12**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.07	0.11	70	130	**1.5**	**0.10**	**100**
			14		310 HB	0.5	6.4	0.07	0.11	70	120	**1.5**	**0.10**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.09	0.16	150	210	**2.0**	**0.12**	**190**
			13		42 HRc	0.5	6.4	0.09	0.12	90	150	**1.5**	**0.10**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.11	0.20	150	240	**2.0**	**0.14**	**200**
			15		200 HB	0.5	9.0	0.11	0.20	150	220	**2.0**	**0.14**	**180**
			16		250 HB	0.5	9.0	0.11	0.20	150	190	**2.0**	**0.14**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.09	0.17	100	200	**2.0**	**0.12**	**180**
			17,19		200 HB	0.5	9.0	0.09	0.17	100	180	**2.0**	**0.12**	**150**
			18,20		250 HB	0.5	9.0	0.09	0.17	100	150	**2.0**	**0.12**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.4	0.07	0.11	25	45	**1.5**	**0.10**	**32**
			33	Inconel 700	250 HB	0.5	6.4	0.07	0.11	25	45	**1.5**	**0.10**	**30**
			34	Stellite 21	350 HB	0.5	6.4	0.07	0.11	25	45	**1.5**	**0.10**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	6.4	0.07	0.12	40	65	**1.5**	**0.11**	**55**
			37	T40	-	0.5	6.4	0.07	0.11	30	55	**1.5**	**0.10**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.06	0.11	40	80	**1.0**	**0.09**	**60**
			38		50 HRc	0.5	1.9	0.06	0.10	40	70	**0.8**	**0.08**	**55**
			38		55 HRc	0.5	1.0	0.06	0.09	40	60	**0.5**	**0.07**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.06	0.11	40	80	**0.8**	**0.09**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.0	0.06	0.09	30	60	**0.5**	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.11	0.20	200	400	**2.0**	**0.16**	**280**

APKT 100312 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.13	0.28	190	330	**2.0**	**0.20**	**250**
			2		190 HB	0.5	9.0	0.13	0.28	190	300	**2.0**	**0.20**	**220**
			3		250 HB	0.5	9.0	0.13	0.28	190	250	**2.0**	**0.20**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.11	0.22	150	240	**2.0**	**0.18**	**200**
			4,6		230 HB	0.5	9.0	0.11	0.22	150	210	**2.0**	**0.18**	**180**
			5,7		280 HB	0.5	9.0	0.11	0.19	130	190	**2.0**	**0.16**	**150**
			8		350 HB	0.5	9.0	0.11	0.19	130	170	**2.0**	**0.16**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.08	0.19	90	150	**1.5**	**0.16**	**130**
			10		280 HB	0.5	6.4	0.08	0.19	90	130	**1.5**	**0.16**	**120**
			11		320 HB	0.5	6.4	0.08	0.16	60	110	**1.5**	**0.14**	**100**
			11		350 HB	0.5	6.4	0.08	0.16	60	90	**1.5**	**0.14**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.11	0.22	190	250	**2.0**	**0.18**	**220**
			14		240 HB	0.5	9.0	0.08	0.19	160	210	**2.0**	**0.18**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.08	0.16	70	130	**1.5**	**0.14**	**100**
			14		310 HB	0.5	6.4	0.08	0.16	70	120	**1.5**	**0.14**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.11	0.22	150	210	**2.0**	**0.18**	**190**
			13		42 HRc	0.5	6.4	0.11	0.18	90	150	**1.5**	**0.14**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.13	0.28	150	240	**2.0**	**0.20**	**200**
			15		200 HB	0.5	9.0	0.13	0.28	150	220	**2.0**	**0.20**	**180**
			16		250 HB	0.5	9.0	0.13	0.28	150	190	**2.0**	**0.20**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.11	0.25	100	200	**2.0**	**0.18**	**180**
			17,19		200 HB	0.5	9.0	0.11	0.25	100	180	**2.0**	**0.18**	**150**
			18,20		250 HB	0.5	9.0	0.11	0.25	100	150	**2.0**	**0.18**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.4	0.08	0.16	25	45	**1.5**	**0.14**	**32**
			33	Inconel 700	250 HB	0.5	6.4	0.08	0.16	25	45	**1.5**	**0.14**	**30**
			34	Stellite 21	350 HB	0.5	6.4	0.08	0.16	25	45	**1.5**	**0.14**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	6.4	0.08	0.18	40	65	**1.5**	**0.16**	**55**
			37	T40	-	0.5	6.4	0.08	0.16	30	55	**1.5**	**0.14**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.07	0.16	40	80	**1.0**	**0.12**	**60**
			38		50 HRc	0.5	1.9	0.07	0.14	40	70	**0.8**	**0.11**	**55**
			38		55 HRc	0.5	1.0	0.07	0.12	40	60	**0.5**	**0.11**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.07	0.16	40	80	**0.8**	**0.12**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.0	0.07	0.12	30	60	**0.5**	**0.11**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.13	0.28	200	400	**2.0**	**0.22**	**280**

APKT 100316 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.13	0.28	190	330	**2.0**	**0.20**	**250**
			2		190 HB	0.5	9.0	0.13	0.28	190	300	**2.0**	**0.20**	**220**
			3		250 HB	0.5	9.0	0.13	0.28	190	250	**2.0**	**0.20**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.11	0.22	150	240	**2.0**	**0.18**	**200**
			4,6		230 HB	0.5	9.0	0.11	0.22	150	210	**2.0**	**0.18**	**180**
			5,7		280 HB	0.5	9.0	0.11	0.19	130	190	**2.0**	**0.16**	**150**
			8		350 HB	0.5	9.0	0.11	0.19	130	170	**2.0**	**0.16**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.08	0.19	90	150	**1.5**	**0.16**	**130**
			10		280 HB	0.5	6.4	0.08	0.19	90	130	**1.5**	**0.16**	**120**
			11		320 HB	0.5	6.4	0.08	0.16	60	110	**1.5**	**0.14**	**100**
			11		350 HB	0.5	6.4	0.08	0.16	60	90	**1.5**	**0.14**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.11	0.22	190	250	**2.0**	**0.18**	**220**
			14		240 HB	0.5	9.0	0.08	0.19	160	210	**2.0**	**0.18**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.08	0.16	70	130	**1.5**	**0.14**	**100**
			14		310 HB	0.5	6.4	0.08	0.16	70	120	**1.5**	**0.14**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.11	0.22	150	210	**2.0**	**0.18**	**190**
			13		42 HRc	0.5	6.4	0.11	0.18	90	150	**1.5**	**0.14**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.13	0.28	150	240	**2.0**	**0.20**	**200**
			15		200 HB	0.5	9.0	0.13	0.28	150	220	**2.0**	**0.20**	**180**
			16		250 HB	0.5	9.0	0.13	0.28	150	190	**2.0**	**0.20**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.11	0.25	100	200	**2.0**	**0.18**	**180**
			17,19		200 HB	0.5	9.0	0.11	0.25	100	180	**2.0**	**0.18**	**150**
			18,20		250 HB	0.5	9.0	0.11	0.25	100	150	**2.0**	**0.18**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.4	0.08	0.16	25	45	**1.5**	**0.14**	**32**
			33	Inconel 700	250 HB	0.5	6.4	0.08	0.16	25	45	**1.5**	**0.14**	**30**
			34	Stellite 21	350 HB	0.5	6.4	0.08	0.16	25	45	**1.5**	**0.14**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	6.4	0.08	0.18	40	65	**1.5**	**0.16**	**55**
			37	T40	-	0.5	6.4	0.08	0.16	30	55	**1.5**	**0.14**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.07	0.16	40	80	**1.0**	**0.12**	**60**
			38		50 HRc	0.5	1.9	0.07	0.14	40	70	**0.8**	**0.11**	**55**
			38		55 HRc	0.5	1.0	0.07	0.12	40	60	**0.5**	**0.11**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.07	0.16	40	80	**0.8**	**0.12**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.0	0.07	0.12	30	60	**0.5**	**0.11**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.13	0.28	200	400	**2.0**	**0.22**	**280**

APKT 100332 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.13	0.28	190	330	**1.0**	**0.29**	**250**
			2		190 HB	0.5	9.0	0.13	0.28	190	300	**1.0**	**0.29**	**220**
			3		250 HB	0.5	9.0	0.13	0.28	190	250	**1.0**	**0.29**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.11	0.22	150	240	**1.0**	**0.25**	**200**
			4,6		230 HB	0.5	9.0	0.11	0.22	150	210	**1.0**	**0.25**	**180**
			5,7		280 HB	0.5	9.0	0.11	0.19	130	190	**1.0**	**0.22**	**150**
			8		350 HB	0.5	9.0	0.11	0.19	130	170	**1.0**	**0.22**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.08	0.19	90	150	**1.0**	**0.22**	**130**
			10		280 HB	0.5	6.4	0.08	0.19	90	130	**1.0**	**0.22**	**120**
			11		320 HB	0.5	6.4	0.08	0.16	60	110	**1.0**	**0.20**	**100**
			11		350 HB	0.5	6.4	0.08	0.16	60	90	**1.0**	**0.20**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.11	0.22	190	250	**1.0**	**0.25**	**220**
			14		240 HB	0.5	9.0	0.08	0.19	160	210	**1.0**	**0.25**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.08	0.16	70	130	**1.0**	**0.20**	**100**
			14		310 HB	0.5	6.4	0.08	0.16	70	120	**1.0**	**0.20**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.11	0.22	150	210	**1.0**	**0.25**	**190**
			13		42 HRc	0.5	6.4	0.11	0.18	90	150	**1.0**	**0.20**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.13	0.28	150	240	**1.0**	**0.29**	**200**
			15		200 HB	0.5	9.0	0.13	0.28	150	220	**1.0**	**0.29**	**180**
			16		250 HB	0.5	9.0	0.13	0.28	150	190	**1.0**	**0.29**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.11	0.25	100	200	**1.0**	**0.25**	**180**
			17,19		200 HB	0.5	9.0	0.11	0.25	100	180	**1.0**	**0.25**	**150**
			18,20		250 HB	0.5	9.0	0.11	0.25	100	150	**1.0**	**0.25**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.4	0.08	0.16	25	45	**1.0**	**0.20**	**32**
			33	Inconel 700	250 HB	0.5	6.4	0.08	0.16	25	45	**1.0**	**0.20**	**30**
			34	Stellite 21	350 HB	0.5	6.4	0.08	0.16	25	45	**1.0**	**0.20**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	6.4	0.08	0.18	40	65	**1.0**	**0.22**	**55**
			37	T40	-	0.5	6.4	0.08	0.16	30	55	**1.0**	**0.20**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	3.2	0.07	0.16	40	80	**0.7**	**0.17**	**60**
			38		50 HRc	0.4	1.9	0.07	0.14	40	70	**0.7**	**0.16**	**55**
			38		55 HRc	0.4	1.0	0.07	0.12	40	60	**0.7**	**0.15**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	2.6	0.07	0.16	40	80	**0.7**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.0	0.07	0.12	30	60	**0.7**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.13	0.28	200	400	**1.0**	**0.31**	**280**

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APKT 100340 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.13	0.46	190	330	1.0	0.35	250
			2		190 HB	0.5	9.0	0.13	0.46	190	300	1.0	0.35	220
			3		250 HB	0.5	9.0	0.13	0.46	190	250	1.0	0.35	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.11	0.36	150	240	1.0	0.30	200
			4,6		230 HB	0.5	9.0	0.11	0.36	150	210	1.0	0.30	180
			5,7		280 HB	0.5	9.0	0.11	0.32	130	190	1.0	0.27	150
			8		350 HB	0.5	9.0	0.11	0.32	130	170	1.0	0.27	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.08	0.32	90	150	1.0	0.27	130
			10		280 HB	0.5	6.4	0.08	0.32	90	130	1.0	0.27	120
			11		320 HB	0.5	6.4	0.08	0.26	60	110	1.0	0.24	100
			11		350 HB	0.5	6.4	0.08	0.26	60	90	1.0	0.24	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.11	0.36	190	250	1.0	0.30	220
			14		240 HB	0.5	9.0	0.08	0.32	160	210	1.0	0.30	190
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.08	0.26	70	130	1.0	0.24	100
			14		310 HB	0.5	6.4	0.08	0.26	70	120	1.0	0.24	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.11	0.36	150	210	1.0	0.30	190
			13		42 HRc	0.5	6.4	0.11	0.29	90	150	1.0	0.24	130
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.13	0.46	150	240	1.0	0.35	200
			15		200 HB	0.5	9.0	0.13	0.46	150	220	1.0	0.35	180
			16		250 HB	0.5	9.0	0.13	0.46	150	190	1.0	0.35	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.11	0.41	100	200	1.0	0.30	180
			17,19		200 HB	0.5	9.0	0.11	0.41	100	180	1.0	0.30	150
			18,20		250 HB	0.5	9.0	0.11	0.41	100	150	1.0	0.30	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.4	0.08	0.26	25	45	1.0	0.24	32
			33	Inconel 700	250 HB	0.5	6.4	0.08	0.26	25	45	1.0	0.24	30
			34	Stellite 21	350 HB	0.5	6.4	0.08	0.26	25	45	1.0	0.24	30
	Ti Based	10	36	TiAl6V4	-	0.5	6.4	0.08	0.29	40	65	1.0	0.27	55
			37	T40	-	0.5	6.4	0.08	0.26	30	55	1.0	0.24	40
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	3.2	0.07	0.26	40	80	0.7	0.21	60
			38		50 HRc	0.4	1.9	0.07	0.23	40	70	0.7	0.20	55
			38		55 HRc	0.4	1.0	0.07	0.20	40	60	0.7	0.18	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	2.6	0.07	0.26	40	80	0.7	0.21	50
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.0	0.07	0.20	30	60	0.7	0.18	40
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.13	0.46	200	400	1.0	0.38	280

APKT 1604 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.18	0.32	190	330	**4.0**	**0.23**	**250**
			2		190 HB	0.5	15.0	0.18	0.32	190	300	**4.0**	**0.23**	**220**
			3		250 HB	0.5	15.0	0.18	0.32	190	250	**4.0**	**0.23**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.15	0.25	150	240	**4.0**	**0.20**	**200**
			4,6		230 HB	0.5	15.0	0.15	0.25	150	210	**4.0**	**0.20**	**180**
			5,7		280 HB	0.5	15.0	0.15	0.22	130	190	**4.0**	**0.18**	**150**
			8		350 HB	0.5	15.0	0.15	0.22	130	170	**4.0**	**0.18**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.12	0.22	90	150	**3.0**	**0.18**	**130**
			10		280 HB	0.5	10.7	0.12	0.22	90	130	**3.0**	**0.18**	**120**
			11		320 HB	0.5	10.7	0.12	0.18	60	110	**3.0**	**0.16**	**100**
			11		350 HB	0.5	10.7	0.12	0.18	60	90	**3.0**	**0.16**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.15	0.25	190	250	**4.0**	**0.20**	**220**
			14		240 HB	0.5	15.0	0.12	0.22	160	210	**4.0**	**0.20**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.12	0.18	70	130	**3.0**	**0.16**	**100**
			14		310 HB	0.5	10.7	0.12	0.18	70	120	**3.0**	**0.16**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.15	0.25	150	210	**4.0**	**0.20**	**190**
			13		42 HRc	0.5	10.7	0.15	0.20	90	150	**3.0**	**0.16**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.18	0.32	150	240	**4.0**	**0.23**	**200**
			15		200 HB	0.5	15.0	0.18	0.32	150	220	**4.0**	**0.23**	**180**
			16		250 HB	0.5	15.0	0.18	0.32	150	190	**4.0**	**0.23**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.15	0.28	100	200	**4.0**	**0.20**	**180**
			17,19		200 HB	0.5	15.0	0.15	0.28	100	180	**4.0**	**0.20**	**150**
			18,20		250 HB	0.5	15.0	0.15	0.28	100	150	**4.0**	**0.20**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.7	0.12	0.18	25	45	**3.0**	**0.16**	**32**
			33	Inconel 700	250 HB	0.5	10.7	0.12	0.18	25	45	**3.0**	**0.16**	**30**
			34	Stellite 21	350 HB	0.5	10.7	0.12	0.18	25	45	**3.0**	**0.16**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.7	0.12	0.20	40	65	**3.0**	**0.18**	**55**
			37	T40	-	0.5	10.7	0.12	0.18	30	55	**3.0**	**0.16**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.4	0.10	0.18	40	80	**2.0**	**0.14**	**60**
			38		50 HRc	0.5	3.2	0.10	0.16	40	70	**1.5**	**0.13**	**55**
			38		55 HRc	0.5	1.6	0.10	0.14	40	60	**1.0**	**0.12**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.3	0.10	0.18	40	80	**1.5**	**0.14**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.10	0.14	30	60	**1.0**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.18	0.32	200	400	**4.0**	**0.25**	**280**

APKT 160416 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.18	0.32	190	330	**5.0**	**0.23**	**250**
			2		190 HB	0.5	15.0	0.18	0.32	190	300	**5.0**	**0.23**	**220**
			3		250 HB	0.5	15.0	0.18	0.32	190	250	**5.0**	**0.23**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.15	0.25	150	240	**5.0**	**0.20**	**200**
			4,6		230 HB	0.5	15.0	0.15	0.25	150	210	**5.0**	**0.20**	**180**
			5,7		280 HB	0.5	15.0	0.15	0.22	130	190	**5.0**	**0.18**	**150**
			8		350 HB	0.5	15.0	0.15	0.22	130	170	**5.0**	**0.18**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.12	0.22	90	150	**3.8**	**0.18**	**130**
			10		280 HB	0.5	10.7	0.12	0.22	90	130	**3.8**	**0.18**	**120**
			11		320 HB	0.5	10.7	0.12	0.18	60	110	**3.8**	**0.16**	**100**
			11		350 HB	0.5	10.7	0.12	0.18	60	90	**3.8**	**0.16**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.15	0.25	190	250	**5.0**	**0.20**	**220**
			14		240 HB	0.5	15.0	0.12	0.22	160	210	**5.0**	**0.20**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.12	0.18	70	130	**3.8**	**0.16**	**100**
			14		310 HB	0.5	10.7	0.12	0.18	70	120	**3.8**	**0.16**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.15	0.25	150	210	**5.0**	**0.20**	**190**
			13		42 HRc	0.5	10.7	0.15	0.20	90	150	**3.8**	**0.16**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.18	0.32	150	240	**5.0**	**0.23**	**200**
			15		200 HB	0.5	15.0	0.18	0.32	150	220	**5.0**	**0.23**	**180**
			16		250 HB	0.5	15.0	0.18	0.32	150	190	**5.0**	**0.23**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.15	0.28	100	200	**5.0**	**0.20**	**180**
			17,19		200 HB	0.5	15.0	0.15	0.28	100	180	**5.0**	**0.20**	**150**
			18,20		250 HB	0.5	15.0	0.15	0.28	100	150	**5.0**	**0.20**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**32**
			33	Inconel 700	250 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**30**
			34	Stellite 21	350 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.7	0.12	0.20	40	65	**3.8**	**0.18**	**55**
			37	T40	-	0.5	10.7	0.12	0.18	30	55	**3.8**	**0.16**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.4	0.10	0.18	40	80	**2.5**	**0.14**	**60**
			38		50 HRc	0.5	3.2	0.10	0.16	40	70	**1.9**	**0.13**	**55**
			38		55 HRc	0.5	1.6	0.10	0.14	40	60	**1.3**	**0.12**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.3	0.10	0.18	40	80	**1.9**	**0.14**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.10	0.14	30	60	**1.3**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.18	0.32	200	400	**5.0**	**0.25**	**280**

APKT 160424 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.18	0.32	190	330	**5.0**	**0.23**	**250**
			2		190 HB	0.5	15.0	0.18	0.32	190	300	**5.0**	**0.23**	**220**
			3		250 HB	0.5	15.0	0.18	0.32	190	250	**5.0**	**0.23**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.15	0.25	150	240	**5.0**	**0.20**	**200**
			4,6		230 HB	0.5	15.0	0.15	0.25	150	210	**5.0**	**0.20**	**180**
			5,7		280 HB	0.5	15.0	0.15	0.22	130	190	**5.0**	**0.18**	**150**
			8		350 HB	0.5	15.0	0.15	0.22	130	170	**5.0**	**0.18**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.12	0.22	90	150	**3.8**	**0.18**	**130**
			10		280 HB	0.5	10.7	0.12	0.22	90	130	**3.8**	**0.18**	**120**
			11		320 HB	0.5	10.7	0.12	0.18	60	110	**3.8**	**0.16**	**100**
			11		350 HB	0.5	10.7	0.12	0.18	60	90	**3.8**	**0.16**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.15	0.25	190	250	**5.0**	**0.20**	**220**
			14		240 HB	0.5	15.0	0.12	0.22	160	210	**5.0**	**0.20**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.12	0.18	70	130	**3.8**	**0.16**	**100**
			14		310 HB	0.5	10.7	0.12	0.18	70	120	**3.8**	**0.16**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.15	0.25	150	210	**5.0**	**0.20**	**190**
			13		42 HRc	0.5	10.7	0.15	0.20	90	150	**3.8**	**0.16**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.18	0.32	150	240	**5.0**	**0.23**	**200**
			15		200 HB	0.5	15.0	0.18	0.32	150	220	**5.0**	**0.23**	**180**
			16		250 HB	0.5	15.0	0.18	0.32	150	190	**5.0**	**0.23**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.15	0.28	100	200	**5.0**	**0.20**	**180**
			17,19		200 HB	0.5	15.0	0.15	0.28	100	180	**5.0**	**0.20**	**150**
			18,20		250 HB	0.5	15.0	0.15	0.28	100	150	**5.0**	**0.20**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**32**
			33	Inconel 700	250 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**30**
			34	Stellite 21	350 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.7	0.12	0.20	40	65	**3.8**	**0.18**	**55**
			37	T40	-	0.5	10.7	0.12	0.18	30	55	**3.8**	**0.16**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.4	0.10	0.18	40	80	**2.5**	**0.14**	**60**
			38		50 HRc	0.5	3.2	0.10	0.16	40	70	**1.9**	**0.13**	**55**
			38		55 HRc	0.5	1.6	0.10	0.14	40	60	**1.3**	**0.12**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.3	0.10	0.18	40	80	**1.9**	**0.14**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.10	0.14	30	60	**1.3**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.18	0.32	200	400	**5.0**	**0.25**	**280**

APKT 160432 PDTR – LT 30 | LT 3000

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.18	0.32	190	330	**5.0**	**0.23**	**250**
			2		190 HB	0.5	15.0	0.18	0.32	190	300	**5.0**	**0.23**	**220**
			3		250 HB	0.5	15.0	0.18	0.32	190	250	**5.0**	**0.23**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.15	0.25	150	240	**5.0**	**0.20**	**200**
			4,6		230 HB	0.5	15.0	0.15	0.25	150	210	**5.0**	**0.20**	**180**
			5,7		280 HB	0.5	15.0	0.15	0.22	130	190	**5.0**	**0.18**	**150**
			8		350 HB	0.5	15.0	0.15	0.22	130	170	**5.0**	**0.18**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.12	0.22	90	150	**3.8**	**0.18**	**130**
			10		280 HB	0.5	10.7	0.12	0.22	90	130	**3.8**	**0.18**	**120**
			11		320 HB	0.5	10.7	0.12	0.18	60	110	**3.8**	**0.16**	**100**
			11		350 HB	0.5	10.7	0.12	0.18	60	90	**3.8**	**0.16**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.15	0.25	190	250	**5.0**	**0.20**	**220**
			14		240 HB	0.5	15.0	0.12	0.22	160	210	**5.0**	**0.20**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.12	0.18	70	130	**3.8**	**0.16**	**100**
			14		310 HB	0.5	10.7	0.12	0.18	70	120	**3.8**	**0.16**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.15	0.25	150	210	**5.0**	**0.20**	**190**
			13		42 HRc	0.5	10.7	0.15	0.20	90	150	**3.8**	**0.16**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.18	0.32	150	240	**5.0**	**0.23**	**200**
			15		200 HB	0.5	15.0	0.18	0.32	150	220	**5.0**	**0.23**	**180**
			16		250 HB	0.5	15.0	0.18	0.32	150	190	**5.0**	**0.23**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.15	0.28	100	200	**5.0**	**0.20**	**180**
			17,19		200 HB	0.5	15.0	0.15	0.28	100	180	**5.0**	**0.20**	**150**
			18,20		250 HB	0.5	15.0	0.15	0.28	100	150	**5.0**	**0.20**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**32**
			33	Inconel 700	250 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**30**
			34	Stellite 21	350 HB	0.5	10.7	0.12	0.18	25	45	**3.8**	**0.16**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.7	0.12	0.20	40	65	**3.8**	**0.18**	**55**
			37	T40	-	0.5	10.7	0.12	0.18	30	55	**3.8**	**0.16**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.4	0.10	0.18	40	80	**2.5**	**0.14**	**60**
			38		50 HRc	0.5	3.2	0.10	0.16	40	70	**1.9**	**0.13**	**55**
			38		55 HRc	0.5	1.6	0.10	0.14	40	60	**1.3**	**0.12**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.3	0.10	0.18	40	80	**1.9**	**0.14**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.10	0.14	30	60	**1.3**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.18	0.32	200	400	**5.0**	**0.25**	**280**

APKT 1705 PDTR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.18	0.40	190	330	**4.0**	**0.28**	**250**
			2		190 HB	0.5	15.0	0.18	0.40	190	300	**4.0**	**0.28**	**220**
			3		250 HB	0.5	15.0	0.18	0.40	190	250	**4.0**	**0.28**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.15	0.31	150	240	**4.0**	**0.24**	**200**
			4,6		230 HB	0.5	15.0	0.15	0.31	150	210	**4.0**	**0.24**	**180**
			5,7		280 HB	0.5	15.0	0.15	0.27	130	190	**4.0**	**0.22**	**150**
			8		350 HB	0.5	15.0	0.15	0.27	130	170	**4.0**	**0.22**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.12	0.27	90	150	**3.0**	**0.22**	**130**
			10		280 HB	0.5	10.7	0.12	0.27	90	130	**3.0**	**0.22**	**120**
			11		320 HB	0.5	10.7	0.12	0.22	60	110	**3.0**	**0.19**	**100**
			11		350 HB	0.5	10.7	0.12	0.22	60	90	**3.0**	**0.19**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.15	0.31	190	250	**4.0**	**0.24**	**220**
			14		240 HB	0.5	15.0	0.12	0.27	160	210	**4.0**	**0.24**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.12	0.22	70	130	**3.0**	**0.19**	**100**
			14		310 HB	0.5	10.7	0.12	0.22	70	120	**3.0**	**0.19**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.15	0.31	150	210	**4.0**	**0.24**	**190**
			13		42 HRc	0.5	10.7	0.15	0.25	90	150	**3.0**	**0.19**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.18	0.40	150	240	**4.0**	**0.28**	**200**
			15		200 HB	0.5	15.0	0.18	0.40	150	220	**4.0**	**0.28**	**180**
			16		250 HB	0.5	15.0	0.18	0.40	150	190	**4.0**	**0.28**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.15	0.35	100	200	**4.0**	**0.24**	**180**
			17,19		200 HB	0.5	15.0	0.15	0.35	100	180	**4.0**	**0.24**	**150**
			18,20		250 HB	0.5	15.0	0.15	0.35	100	150	**4.0**	**0.24**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.7	0.12	0.22	25	45	**3.0**	**0.19**	**32**
			33	Inconel 700	250 HB	0.5	10.7	0.12	0.22	25	45	**3.0**	**0.19**	**30**
			34	Stellite 21	350 HB	0.5	10.7	0.12	0.22	25	45	**3.0**	**0.19**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.7	0.12	0.25	40	65	**3.0**	**0.22**	**55**
			37	T40	-	0.5	10.7	0.12	0.22	30	55	**3.0**	**0.19**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.4	0.10	0.22	40	80	**2.0**	**0.17**	**60**
			38		50 HRc	0.5	3.2	0.10	0.20	40	70	**1.5**	**0.16**	**55**
			38		55 HRc	0.5	1.6	0.10	0.17	40	60	**1.0**	**0.14**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.3	0.10	0.22	40	80	**1.5**	**0.17**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.10	0.17	30	60	**1.0**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.18	0.40	200	400	**4.0**	**0.30**	**280**

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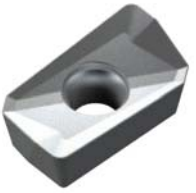

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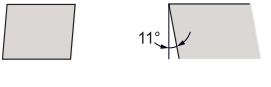


Shape | **Clearance Angle** | **Tolerance** | **Fixing, Chipbreaker**

Tolerance
d ± 0.05
m ± 0.08
s ± 0.13

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
APMT 1135 PDTR LT 30	11.45	3.52	0.7	Right	M0001133
APMT 1604 PDTR LT 30	17.01	4.82	0.66	Right	M0001134
APMT 160408 PDTR LT 30	17.01	4.82	0.66	Right	M0001733

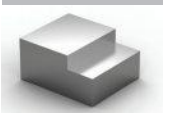
LT 3000 Multi-Mat™ General Usage – Premium

Insert Designation	l	s	r	Direction	Catalog Nr.
APMT 0903 PDTR LT 3000	9.94	3.38	0.4	Right	M0004161
APMT 1135 PDTR LT 3000	11.45	3.52	0.7	Right	M0002216
APMT 1604 PDTR LT 3000	17.01	4.82	0.66	Right	M0002183
APMT 160408 PDTR LT 3000	17.01	4.82	0.66	Right	M0002218

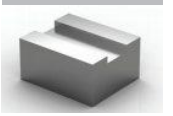
Application Guide

Helical Interpolation

Shoulder Milling



Slotting

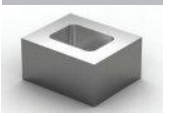


Surfacing

Ramping Down

Plunging

Pocket Milling



Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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End Mill for APMT 1135 PDTR

Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 755 WL-W-D016/2*	16	16	30	150	9	2	12	M2001658
LT 755 W-W-D016/2*	16	16	30	120	9	2	12	M2001654
LT 755 WL-W-D020/2*	20	20	35	150	9	2	7	M2001659
LT 755 W-W-D020/3*	20	20	35	120	9	3	7	M2001655
LT 755 W-W-D025/4*	25	25	40	200	9	5	4	M2001660
LT 755 WL-W-D025/4*	25	25	40	150	9	4	4	M2001656
LT 755 W-W-D032/5*	32	25	40	150	9	5	3	M2001657
LT 755 WL-W-D032/5*	32	25	40	200	9	5	3	M2001661

* On request

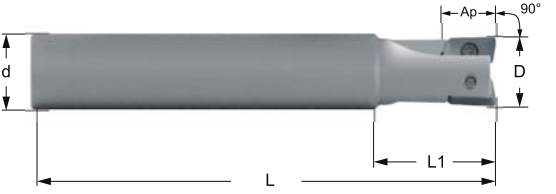
Screw: M2002778
Key: M2002912

End Mill for APMT 1604 PDTR

Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 760 WL-W-D025/2*	25	25	70	200	15	2	5	M2001665
LT 760 W-W-D025/2*	25	25	50	150	15	2	5	M2001662
LT 760 WL-W-D032/3*	32	32	100	250	15	3	3	M2001666
LT 760 W-W-D032/3*	32	32	100	200	15	3	3	M2001663
LT 760 WL-W-D040/4*	40	32	100	250	15	4	2.5	M2001667
LT 760 W-W-D040/4*	40	32	100	200	15	4	2.5	M2001664

* On request

Screw: M2000597
Key: M2000602



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APMT 0903 PDTR – **LT 3000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	8.0	0.11	0.20	190	330	**2.0**	**0.14**	**250**
			2		190 HB	0.5	8.0	0.11	0.20	190	300	**2.0**	**0.14**	**220**
			3		250 HB	0.5	8.0	0.11	0.20	190	250	**2.0**	**0.14**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	8.0	0.09	0.16	150	240	**2.0**	**0.12**	**200**
			4,6		230 HB	0.5	8.0	0.09	0.16	150	210	**2.0**	**0.12**	**180**
			5,7		280 HB	0.5	8.0	0.09	0.14	130	190	**2.0**	**0.11**	**150**
			8		350 HB	0.5	8.0	0.09	0.14	130	170	**2.0**	**0.11**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.7	0.07	0.14	90	150	**1.5**	**0.11**	**130**
			10		280 HB	0.5	5.7	0.07	0.14	90	130	**1.5**	**0.11**	**120**
			11		320 HB	0.5	5.7	0.07	0.11	60	110	**1.5**	**0.10**	**100**
			11		350 HB	0.5	5.7	0.07	0.11	60	90	**1.5**	**0.10**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	8.0	0.09	0.16	190	250	**2.0**	**0.12**	**220**
			14		240 HB	0.5	8.0	0.07	0.14	160	210	**2.0**	**0.12**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.7	0.07	0.11	70	130	**1.5**	**0.10**	**100**
			14		310 HB	0.5	5.7	0.07	0.11	70	120	**1.5**	**0.10**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	8.0	0.09	0.16	150	210	**2.0**	**0.12**	**190**
			13		42 HRc	0.5	5.7	0.09	0.12	90	150	**1.5**	**0.10**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	8.0	0.11	0.20	150	240	**2.0**	**0.14**	**200**
			15		200 HB	0.5	8.0	0.11	0.20	150	220	**2.0**	**0.14**	**180**
			16		250 HB	0.5	8.0	0.11	0.20	150	190	**2.0**	**0.14**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	8.0	0.09	0.17	100	200	**2.0**	**0.12**	**180**
			17,19		200 HB	0.5	8.0	0.09	0.17	100	180	**2.0**	**0.12**	**150**
			18,20		250 HB	0.5	8.0	0.09	0.17	100	150	**2.0**	**0.12**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	5.7	0.07	0.11	25	45	**1.5**	**0.10**	**32**
			33	Inconel 700	250 HB	0.5	5.7	0.07	0.11	25	45	**1.5**	**0.10**	**30**
			34	Stellite 21	350 HB	0.5	5.7	0.07	0.11	25	45	**1.5**	**0.10**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	5.7	0.07	0.12	40	65	**1.5**	**0.11**	**55**
			37	T40	-	0.5	5.7	0.07	0.11	30	55	**1.5**	**0.10**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.9	0.06	0.11	40	80	**1.0**	**0.09**	**60**
			38		50 HRc	0.5	1.7	0.06	0.10	40	70	**0.8**	**0.08**	**55**
			38		55 HRc	0.5	1.2	0.06	0.09	40	60	**0.5**	**0.07**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.3	0.06	0.11	40	80	**0.8**	**0.09**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.2	0.06	0.09	30	60	**0.5**	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	8.0	0.11	0.20	200	400	**2.0**	**0.16**	**280**

APMT 1135 PDTR – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	10.0	0.13	0.22	190	330	**2.0**	**0.15**	**250**
			2		190 HB	0.5	10.0	0.13	0.22	190	300	**2.0**	**0.15**	**220**
			3		250 HB	0.5	10.0	0.13	0.22	190	250	**2.0**	**0.15**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	10.0	0.11	0.18	150	240	**2.0**	**0.13**	**200**
			4,6		230 HB	0.5	10.0	0.11	0.18	150	210	**2.0**	**0.13**	**180**
			5,7		280 HB	0.5	10.0	0.11	0.15	130	190	**2.0**	**0.12**	**150**
			8		350 HB	0.5	10.0	0.11	0.15	130	170	**2.0**	**0.12**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	7.2	0.08	0.15	90	150	**1.5**	**0.12**	**130**
			10		280 HB	0.5	7.2	0.08	0.15	90	130	**1.5**	**0.12**	**120**
			11		320 HB	0.5	7.2	0.08	0.13	60	110	**1.5**	**0.10**	**100**
			11		350 HB	0.5	7.2	0.08	0.13	60	90	**1.5**	**0.10**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	10.0	0.11	0.18	190	250	**2.0**	**0.13**	**220**
			14		240 HB	0.5	10.0	0.08	0.15	160	210	**2.0**	**0.13**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	7.2	0.08	0.13	70	130	**1.5**	**0.10**	**100**
			14		310 HB	0.5	7.2	0.08	0.13	70	120	**1.5**	**0.10**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	10.0	0.11	0.18	150	210	**2.0**	**0.13**	**190**
			13		42 HRc	0.5	7.2	0.08	0.14	90	150	**1.5**	**0.10**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	10.0	0.13	0.22	150	240	**2.0**	**0.15**	**200**
			15		200 HB	0.5	10.0	0.13	0.22	150	220	**2.0**	**0.15**	**180**
			16		250 HB	0.5	10.0	0.13	0.22	150	190	**2.0**	**0.15**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	10.0	0.11	0.20	100	200	**2.0**	**0.13**	**180**
			17,19		200 HB	0.5	10.0	0.11	0.20	100	180	**2.0**	**0.13**	**150**
			18,20		250 HB	0.5	10.0	0.11	0.20	100	150	**2.0**	**0.13**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	7.2	0.08	0.13	25	45	**1.5**	**0.10**	**32**
			33	Inconel 700	250 HB	0.5	7.2	0.08	0.13	25	45	**1.5**	**0.10**	**30**
			34	Stellite 21	350 HB	0.5	7.2	0.08	0.13	25	45	**1.5**	**0.10**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	7.2	0.08	0.14	40	65	**1.5**	**0.12**	**55**
			37	T40	-	0.5	7.2	0.08	0.13	30	55	**1.5**	**0.10**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.6	0.07	0.13	40	80	**1.0**	**0.09**	**60**
			38		50 HRc	0.5	2.1	0.07	0.11	40	70	**0.8**	**0.08**	**55**
			38		55 HRc	0.5	1.1	0.07	0.10	40	60	**0.5**	**0.08**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.9	0.07	0.13	40	80	**0.8**	**0.09**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.1	0.07	0.10	30	60	**0.5**	**0.08**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	10.0	0.13	0.22	200	400	**2.0**	**0.16**	**280**

APMT 1604 PDTR – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.16	0.30	190	330	**4.0**	**0.21**	**250**
			2		190 HB	0.5	15.0	0.16	0.30	190	300	**4.0**	**0.21**	**220**
			3		250 HB	0.5	15.0	0.16	0.30	190	250	**4.0**	**0.21**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.14	0.23	150	240	**4.0**	**0.18**	**200**
			4,6		230 HB	0.5	15.0	0.14	0.23	150	210	**4.0**	**0.18**	**180**
			5,7		280 HB	0.5	15.0	0.14	0.20	130	190	**4.0**	**0.16**	**150**
			8		350 HB	0.5	15.0	0.14	0.20	130	170	**4.0**	**0.16**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.11	0.20	90	150	**3.0**	**0.16**	**130**
			10		280 HB	0.5	10.7	0.11	0.20	90	130	**3.0**	**0.16**	**120**
			11		320 HB	0.5	10.7	0.11	0.17	60	110	**3.0**	**0.14**	**100**
			11		350 HB	0.5	10.7	0.11	0.17	60	90	**3.0**	**0.14**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.14	0.23	190	250	**4.0**	**0.18**	**220**
			14		240 HB	0.5	15.0	0.11	0.20	160	210	**4.0**	**0.18**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.11	0.17	70	130	**3.0**	**0.14**	**100**
			14		310 HB	0.5	10.7	0.11	0.17	70	120	**3.0**	**0.14**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.14	0.23	150	210	**4.0**	**0.18**	**190**
			13		42 HRc	0.5	10.7	0.14	0.19	90	150	**3.0**	**0.14**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.16	0.30	150	240	**4.0**	**0.21**	**200**
			15		200 HB	0.5	15.0	0.16	0.30	150	220	**4.0**	**0.21**	**180**
			16		250 HB	0.5	15.0	0.16	0.30	150	190	**4.0**	**0.21**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.14	0.26	100	200	**4.0**	**0.18**	**180**
			17,19		200 HB	0.5	15.0	0.14	0.26	100	180	**4.0**	**0.18**	**150**
			18,20		250 HB	0.5	15.0	0.14	0.26	100	150	**4.0**	**0.18**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.7	0.11	0.17	25	45	**3.0**	**0.14**	**32**
			33	Inconel 700	250 HB	0.5	10.7	0.11	0.17	25	45	**3.0**	**0.14**	**30**
			34	Stellite 21	350 HB	0.5	10.7	0.11	0.17	25	45	**3.0**	**0.14**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.7	0.11	0.19	40	65	**3.0**	**0.16**	**55**
			37	T40	-	0.5	10.7	0.11	0.17	30	55	**3.0**	**0.14**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.4	0.09	0.17	40	80	**2.0**	**0.13**	**60**
			38		50 HRc	0.5	3.2	0.09	0.15	40	70	**1.5**	**0.12**	**55**
			38		55 HRc	0.5	1.6	0.09	0.13	40	60	**1.0**	**0.11**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.3	0.09	0.17	40	80	**1.5**	**0.13**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.09	0.13	30	60	**1.0**	**0.11**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.16	0.30	200	400	**4.0**	**0.23**	**280**

APMT 160408 PDTR – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	15.0	0.16	0.30	190	330	**4.0**	**0.21**	**250**
			2		190 HB	0.5	15.0	0.16	0.30	190	300	**4.0**	**0.21**	**220**
			3		250 HB	0.5	15.0	0.16	0.30	190	250	**4.0**	**0.21**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	15.0	0.14	0.23	150	240	**4.0**	**0.18**	**200**
			4,6		230 HB	0.5	15.0	0.14	0.23	150	210	**4.0**	**0.18**	**180**
			5,7		280 HB	0.5	15.0	0.14	0.20	130	190	**4.0**	**0.16**	**150**
			8		350 HB	0.5	15.0	0.14	0.20	130	170	**4.0**	**0.16**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.7	0.11	0.20	90	150	**3.0**	**0.16**	**130**
			10		280 HB	0.5	10.7	0.11	0.20	90	130	**3.0**	**0.16**	**120**
			11		320 HB	0.5	10.7	0.11	0.17	60	110	**3.0**	**0.14**	**100**
			11		350 HB	0.5	10.7	0.11	0.17	60	90	**3.0**	**0.14**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	15.0	0.14	0.23	190	250	**4.0**	**0.18**	**220**
			14		240 HB	0.5	15.0	0.11	0.20	160	210	**4.0**	**0.18**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.7	0.11	0.17	70	130	**3.0**	**0.14**	**100**
			14		310 HB	0.5	10.7	0.11	0.17	70	120	**3.0**	**0.14**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	15.0	0.14	0.23	150	210	**4.0**	**0.18**	**190**
			13		42 HRc	0.5	10.7	0.14	0.19	90	150	**3.0**	**0.14**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	15.0	0.16	0.30	150	240	**4.0**	**0.21**	**200**
			15		200 HB	0.5	15.0	0.16	0.30	150	220	**4.0**	**0.21**	**180**
			16		250 HB	0.5	15.0	0.16	0.30	150	190	**4.0**	**0.21**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	15.0	0.14	0.26	100	200	**4.0**	**0.18**	**180**
			17,19		200 HB	0.5	15.0	0.14	0.26	100	180	**4.0**	**0.18**	**150**
			18,20		250 HB	0.5	15.0	0.14	0.26	100	150	**4.0**	**0.18**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.7	0.11	0.17	25	45	**3.0**	**0.14**	**32**
			33	Inconel 700	250 HB	0.5	10.7	0.11	0.17	25	45	**3.0**	**0.14**	**30**
			34	Stellite 21	350 HB	0.5	10.7	0.11	0.17	25	45	**3.0**	**0.14**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.7	0.11	0.19	40	65	**3.0**	**0.16**	**55**
			37	T40	-	0.5	10.7	0.11	0.17	30	55	**3.0**	**0.14**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.4	0.09	0.17	40	80	**2.0**	**0.13**	**60**
			38		50 HRc	0.5	3.2	0.09	0.15	40	70	**1.5**	**0.12**	**55**
			38		55 HRc	0.5	1.6	0.09	0.13	40	60	**1.0**	**0.11**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.3	0.09	0.17	40	80	**1.5**	**0.13**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.09	0.13	30	60	**1.0**	**0.11**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	15.0	0.16	0.30	200	400	**4.0**	**0.23**	**280**

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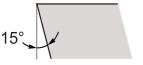
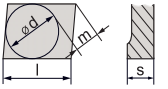
www.akytec.ru

L D M T

Shape

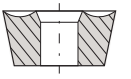


Clearance Angle



Tolerance

d ± 0.05
m ± 0.08
s ± 0.13

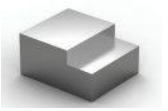


Fixing, Chipbreaker

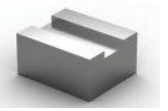
LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
LDMT 1504 PDSR LT30	15.71	4.79	0.74	Right	M0001772

Application Guide

Shoulder Milling



Slotting



Surfacing

Pocket Milling

Ramping Down

Plunging

Helical Inerpolation

Machining Recommendations

F ⇒
Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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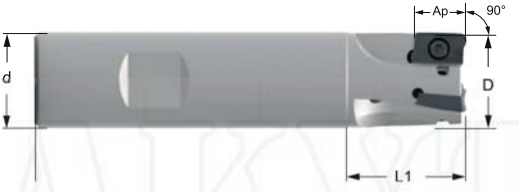
End Mill for LDMT 1504 PDSR								
Cutter Designation	D	d	L1	L	Ap	z	α	Catalog Nr.
LT 770 WL-W-D25/2*	25	25	44	150	15	2	5	M2001825
LT 770 W-W-D025/2*	25	25	44	100	15	2	5	M2001822
LT 770 WL-W-D32/3*	32	25	50	150	15	3	3	M2001826
LT 770 W-W-D032/3*	32	35	50	110	15	3	3	M2001823
LT 770 W-W-D040/4*	40	32	45	115	15	4	2.5	M2001824

* On request

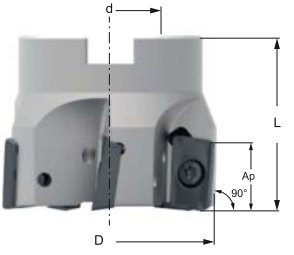
Screw: M2001418
Key: M2000602



Shell Mill for LDMT 1504 PDSR							
Cutter Designation	D	d	L	Ap	z	α	Catalog Nr.
LT 770 M-W-D040/4*	40	16	40	15	4	2.5	M2001827
LT 770 M-W-D050/5*	50	22	40	15	5	2.2	M2001828
LT 770 M-W-D063/6*	63	22	40	15	6	1.8	M2001829
LT 770 M-W-D080/7*	80	27	50	15	7	1.4	M2001846
LT 770 M-W-D100/8*	100	32	50	15	8	1.1	M2001830
LT 770 M-W-D125/9*	125	40	63	15	9	0.8	M2001831
LT 770 M-W-D160/9*	160	40	63	15	9	-	M2001832

* On request

Screw: M2001418
Key: M2000602



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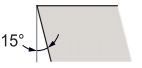
www.akytec.ru

LDMT 1504 PDSR – **LT 30 | LT 3000**

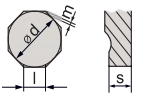
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	14.0	0.18	0.32	190	330	**4.0**	**0.23**	**250**
			2		190 HB	0.5	14.0	0.18	0.32	190	300	**4.0**	**0.23**	**220**
			3		250 HB	0.5	14.0	0.18	0.32	190	250	**4.0**	**0.23**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	14.0	0.15	0.25	150	240	**4.0**	**0.20**	**200**
			4,6		230 HB	0.5	14.0	0.15	0.25	150	210	**4.0**	**0.20**	**180**
			5,7		280 HB	0.5	14.0	0.15	0.22	130	190	**4.0**	**0.18**	**150**
			8		350 HB	0.5	14.0	0.15	0.22	130	170	**4.0**	**0.18**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	10.0	0.12	0.22	90	150	**3.0**	**0.18**	**130**
			10		280 HB	0.5	10.0	0.12	0.22	90	130	**3.0**	**0.18**	**120**
			11		320 HB	0.5	10.0	0.12	0.18	60	110	**3.0**	**0.16**	**100**
			11		350 HB	0.5	10.0	0.12	0.18	60	90	**3.0**	**0.16**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	14.0	0.15	0.25	190	250	**4.0**	**0.20**	**220**
			14		240 HB	0.5	14.0	0.12	0.22	160	210	**4.0**	**0.20**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	10.0	0.12	0.18	70	130	**3.0**	**0.16**	**100**
			14		310 HB	0.5	10.0	0.12	0.18	70	120	**3.0**	**0.16**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	14.0	0.15	0.25	150	210	**4.0**	**0.20**	**190**
			13		42 HRc	0.5	10.0	0.15	0.20	90	150	**3.0**	**0.16**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	14.0	0.18	0.32	150	240	**4.0**	**0.23**	**200**
			15		200 HB	0.5	14.0	0.18	0.32	150	220	**4.0**	**0.23**	**180**
			16		250 HB	0.5	14.0	0.18	0.32	150	190	**4.0**	**0.23**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	14.0	0.15	0.28	100	200	**4.0**	**0.20**	**180**
			17,19		200 HB	0.5	14.0	0.15	0.28	100	180	**4.0**	**0.20**	**150**
			18,20		250 HB	0.5	14.0	0.15	0.28	100	150	**4.0**	**0.20**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	10.0	0.12	0.18	25	45	**3.0**	**0.16**	**32**
			33	Inconel 700	250 HB	0.5	10.0	0.12	0.18	25	45	**3.0**	**0.16**	**30**
			34	Stellite 21	350 HB	0.5	10.0	0.12	0.18	25	45	**3.0**	**0.16**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	10.0	0.12	0.20	40	65	**3.0**	**0.18**	**55**
			37	T40	-	0.5	10.0	0.12	0.18	30	55	**3.0**	**0.16**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	5.0	0.10	0.18	40	80	**2.0**	**0.14**	**60**
			38		50 HRc	0.5	3.0	0.10	0.16	40	70	**1.5**	**0.13**	**55**
			38		55 HRc	0.5	1.5	0.10	0.14	40	60	**1.0**	**0.12**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	4.0	0.10	0.18	40	80	**1.5**	**0.14**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.14	30	60	**1.0**	**0.12**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	14.0	0.18	0.32	200	400	**4.0**	**0.25**	**280**

O D M T

Shape

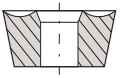


Clearance Angle



Tolerance

s ± 0.13
For l = 05, **d** ± 0.08 **m** ± 0.13
For l = 06, **d** ± 0.10 **m** ± 0.15



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard					
Insert Designation	l	s	r	Direction	Catalog Nr.
ODMT 0504 ZZTR LT 30	5.08	4.76	0.8	Right	M0000664
ODMT 060508 TN LT 30	6.58	5.56	0.8	Right	M0001104

LT 3000 Multi-Mat™ General Usage – Premium					
Insert Designation	l	s	r	Direction	Catalog Nr.
ODMT 0504 ZZTR LT 3000	5.08	4.76	0.8	Right	M0003399
ODMT 060508 TN LT 3000	6.58	5.56	0.8	Right	M0002219

Application Guide

Chamfering

Surfacing

Machining Recommendations

F ⇒
Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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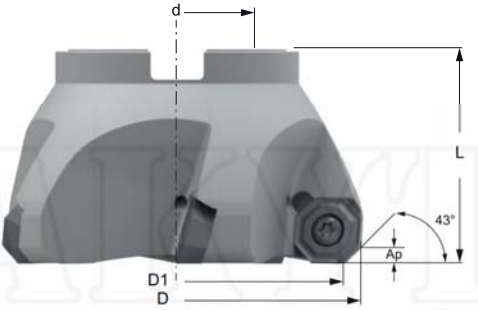
www.akytec.ru

Shell Mill for ODMT 060508 TN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 820 M-D-D063/5*	63	53	22	50	3.5	5	M2003837
LT 820 M-D-D080/5*	90	80	27	50	3.5	5	M2000711
LT 820 M-D-D100/6*	110	100	32	50	3.5	6	M2000712
LT 820 M-D-D125/7*	135	125	40	63	3.5	7	M2000713
LT 820 M-D-D160/9*	170	160	40	63	3.5	9	M2000714

* On request

Screw: M2002733
Key: M2000603



ODMT 0504 ZZTR – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.22	0.51	190	330	**2.5**	**0.37**	**250**
			2		190 HB	0.5	3.5	0.22	0.51	190	300	**2.5**	**0.37**	**220**
			3		250 HB	0.5	3.5	0.22	0.51	190	250	**2.5**	**0.37**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.18	0.40	150	240	**2.5**	**0.32**	**200**
			4,6		230 HB	0.5	3.5	0.18	0.40	150	210	**2.5**	**0.32**	**180**
			5,7		280 HB	0.5	3.5	0.18	0.35	130	190	**2.5**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.18	0.35	130	170	**2.5**	**0.29**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.5	0.14	0.35	90	150	**1.9**	**0.29**	**130**
			10		280 HB	0.5	2.5	0.14	0.35	90	130	**1.9**	**0.29**	**120**
			11		320 HB	0.5	2.5	0.14	0.29	60	110	**1.9**	**0.26**	**100**
			11		350 HB	0.5	2.5	0.14	0.29	60	90	**1.9**	**0.26**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.35	190	250	**2.5**	**0.29**	**220**
			14		240 HB	0.5	3.5	0.14	0.32	160	210	**2.5**	**0.29**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.5	0.14	0.29	70	130	**1.9**	**0.26**	**100**
			14		310 HB	0.5	2.5	0.14	0.29	70	120	**1.9**	**0.26**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.18	0.35	150	210	**2.5**	**0.29**	**190**
			13		42 HRc	0.5	2.5	0.18	0.32	90	150	**1.9**	**0.26**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.22	0.51	150	240	**2.5**	**0.37**	**200**
			15		200 HB	0.5	3.5	0.22	0.51	150	220	**2.5**	**0.37**	**180**
			16		250 HB	0.5	3.5	0.22	0.51	150	190	**2.5**	**0.37**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.18	0.45	100	200	**2.5**	**0.32**	**180**
			17,19		200 HB	0.5	3.5	0.18	0.45	100	180	**2.5**	**0.32**	**150**
			18,20		250 HB	0.5	3.5	0.18	0.45	100	150	**2.5**	**0.32**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**32**
			33	Inconel 700	250 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**30**
			34	Stellite 21	350 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.5	0.14	0.32	40	65	**1.9**	**0.29**	**55**
			37	T40	-	0.5	2.5	0.14	0.29	30	55	**1.9**	**0.26**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.3	0.12	0.29	40	80	**1.3**	**0.22**	**60**
			38		50 HRc	0.4	0.8	0.12	0.26	40	70	**0.9**	**0.21**	**55**
			38		55 HRc	0.4	0.4	0.12	0.22	40	60	**0.6**	**0.19**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.0	0.12	0.29	40	80	**0.9**	**0.22**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	0.4	0.12	0.22	30	60	**0.6**	**0.19**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.5	0.22	0.51	200	400	**2.5**	**0.40**	**280**

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www.akytec.ru

ODMT 060508 TN – **LT 30 | LT 3000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.22	0.54	190	330	**2.5**	**0.39**	**250**
			2		190 HB	0.5	4.0	0.22	0.54	190	300	**2.5**	**0.39**	**220**
			3		250 HB	0.5	4.0	0.22	0.54	190	250	**2.5**	**0.39**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.18	0.43	150	240	**2.5**	**0.34**	**200**
			4,6		230 HB	0.5	4.0	0.18	0.43	150	210	**2.5**	**0.34**	**180**
			5,7		280 HB	0.5	4.0	0.18	0.37	130	190	**2.5**	**0.31**	**150**
			8		350 HB	0.5	4.0	0.18	0.37	130	170	**2.5**	**0.31**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.9	0.14	0.37	90	150	**1.9**	**0.31**	**130**
			10		280 HB	0.5	2.9	0.14	0.37	90	130	**1.9**	**0.31**	**120**
			11		320 HB	0.5	2.9	0.14	0.31	60	110	**1.9**	**0.27**	**100**
			11		350 HB	0.5	2.9	0.14	0.31	60	90	**1.9**	**0.27**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.18	0.37	190	250	**2.5**	**0.31**	**220**
			14		240 HB	0.5	4.0	0.14	0.34	160	210	**2.5**	**0.31**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.9	0.14	0.31	70	130	**1.9**	**0.27**	**100**
			14		310 HB	0.5	2.9	0.14	0.31	70	120	**1.9**	**0.27**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.18	0.37	150	210	**2.5**	**0.31**	**190**
			13		42 HRc	0.5	2.9	0.18	0.34	90	150	**1.9**	**0.27**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.22	0.54	150	240	**2.5**	**0.39**	**200**
			15		200 HB	0.5	4.0	0.22	0.54	150	220	**2.5**	**0.39**	**180**
			16		250 HB	0.5	4.0	0.22	0.54	150	190	**2.5**	**0.39**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.18	0.48	100	200	**2.5**	**0.34**	**180**
			17,19		200 HB	0.5	4.0	0.18	0.48	100	180	**2.5**	**0.34**	**150**
			18,20		250 HB	0.5	4.0	0.18	0.48	100	150	**2.5**	**0.34**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.9	0.14	0.31	25	45	**1.9**	**0.27**	**32**
			33	Inconel 700	250 HB	0.5	2.9	0.14	0.31	25	45	**1.9**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	2.9	0.14	0.31	25	45	**1.9**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.9	0.14	0.34	40	65	**1.9**	**0.31**	**55**
			37	T40	-	0.5	2.9	0.14	0.31	30	55	**1.9**	**0.27**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.4	0.12	0.31	40	80	**1.3**	**0.24**	**60**
			38		50 HRc	0.4	1.1	0.12	0.27	40	70	**0.9**	**0.22**	**55**
			38		55 HRc	0.4	0.9	0.12	0.24	40	60	**0.6**	**0.20**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.1	0.12	0.31	40	80	**0.9**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	0.9	0.12	0.24	30	60	**0.6**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.0	0.22	0.54	200	400	**2.5**	**0.43**	**280**

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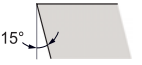
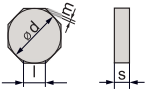
Shape

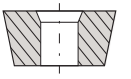


Clearance Angle



Tolerance

d ± 0.10
m ± 0.15
s ± 0.13



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard					
Insert Designation	l	s	r	Direction	Catalog Nr.
ODMW 060508 TN LT 30	6.58	5.56	0.8	Right	M0000451

LT 3000 Multi-Mat™ General Usage – Premium					
Insert Designation	l	s	r	Direction	Catalog Nr.
ODMW 060508 TN LT 3000	6.58	5.56	0.8	Right	M0003400

Shell Mill for ODMW 060508 TN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 820 M-D-D063/5*	63	53	22	50	3.5	5	M2003837
LT 820 M-D-D080/5*	90	80	27	50	3.5	5	M2000711
LT 820 M-D-D100/6*	110	100	32	50	3.5	6	M2000712
LT 820 M-D-D125/7*	135	125	40	63	3.5	7	M2000713
LT 820 M-D-D160/9*	170	160	40	63	3.5	9	M2000714

* On request

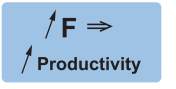
Screw: M2002733
Key: M2000603

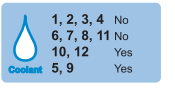
Application Guide

Chamfering

Surfacing

Machining Recommendations





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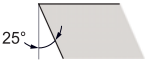
ODMW 060508 TN – LT 30 | LT 3000

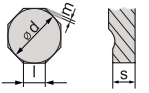
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.22	0.58	190	330	3.0	0.41	250
			2		190 HB	0.5	4.0	0.22	0.58	190	300	3.0	0.41	220
			3		250 HB	0.5	4.0	0.22	0.58	190	250	3.0	0.41	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.18	0.45	150	240	3.0	0.36	200
			4,6		230 HB	0.5	4.0	0.18	0.45	150	210	3.0	0.36	180
			5,7		280 HB	0.5	4.0	0.18	0.40	130	190	3.0	0.32	150
			8		350 HB	0.5	4.0	0.18	0.40	130	170	3.0	0.32	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.9	0.14	0.40	90	150	2.3	0.32	130
			10		280 HB	0.5	2.9	0.14	0.40	90	130	2.3	0.32	120
			11		320 HB	0.5	2.9	0.14	0.32	60	110	2.3	0.29	100
			11		350 HB	0.5	2.9	0.14	0.32	60	90	2.3	0.29	80
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.22	0.58	150	240	3.0	0.41	200
			15		200 HB	0.5	4.0	0.22	0.58	150	220	3.0	0.41	180
			16		250 HB	0.5	4.0	0.22	0.58	150	190	3.0	0.41	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.18	0.50	100	200	3.0	0.36	180
			17,19		200 HB	0.5	4.0	0.18	0.50	100	180	3.0	0.36	150
			18,20		250 HB	0.5	4.0	0.18	0.50	100	150	3.0	0.36	130
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.4	0.12	0.32	40	80	1.1	0.25	60
			38		50 HRc	0.4	1.1	0.12	0.29	40	70	0.9	0.23	55
			38		55 HRc	0.4	0.9	0.12	0.25	40	60	0.7	0.22	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.1	0.12	0.32	40	80	0.9	0.25	50
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	0.9	0.12	0.25	30	60	0.7	0.22	40

O F E R

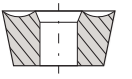
Shape



Clearance Angle



Tolerance
d ± 0.025
m ± 0.025
s ± 0.025



Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
OFER 070405 TN LT 30	7.43	4.76	0.8	Right	M0000033

LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	r	Direction	Catalog Nr.
OFER 070405 TN LT 3000	7.43	4.76	0.8	Right	M0003401

Application Guide

Chamfering

Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant		
	1, 2, 3, 4	No
	6, 7, 8, 11	No
	10, 12	Yes
	5, 9	Yes

Stainless Steel
V_c

ООО "АКИТЭК", РФ., г. Москва.
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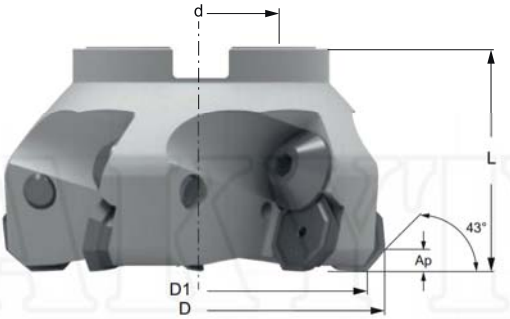
тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

Shell Mill for OFER 070405 TN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 880 M-W-D063/4*	73	63	22	40	5	4	M2000508
LT 880 M-W-D080/5*	90	80	27	50	5	5	M2000510
LT 880 M-W-D100/6*	110	100	32	50	5	6	M2000511
LT 880 M-W-D125/8*	135	125	40	63	5	8	M2000512
LT 880 M-W-D160/10*	170	160	40	63	5	10	M2000513

* On request

Screw: M2000606
Key: M2000609

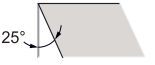


OFER 070405 TN – LT 30 | LT 3000

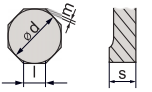
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.5	0.22	0.51	190	330	3.0	0.37	250
			2		190 HB	0.5	4.5	0.22	0.51	190	300	3.0	0.37	220
			3		250 HB	0.5	4.5	0.22	0.51	190	250	3.0	0.37	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.5	0.18	0.40	150	240	3.0	0.32	200
			4,6		230 HB	0.5	4.5	0.18	0.40	150	210	3.0	0.32	180
			5,7		280 HB	0.5	4.5	0.18	0.35	130	190	3.0	0.29	150
			8		350 HB	0.5	4.5	0.18	0.35	130	170	3.0	0.29	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.14	0.35	90	150	2.2	0.29	130
			10		280 HB	0.5	3.2	0.14	0.35	90	130	2.2	0.29	120
			11		320 HB	0.5	3.2	0.14	0.29	60	110	2.2	0.26	100
			11		350 HB	0.5	3.2	0.14	0.29	60	90	2.2	0.26	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.5	0.18	0.35	190	250	3.0	0.29	220
			14		240 HB	0.5	4.5	0.14	0.32	160	210	3.0	0.29	190
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.14	0.29	70	130	2.2	0.26	100
			14		310 HB	0.5	3.2	0.14	0.29	70	120	2.2	0.26	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.5	0.18	0.35	150	210	3.0	0.29	190
			13		42 HRc	0.5	3.2	0.18	0.32	90	150	2.2	0.26	130
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.5	0.22	0.51	150	240	3.0	0.37	200
			15		200 HB	0.5	4.5	0.22	0.51	150	220	3.0	0.37	180
			16		250 HB	0.5	4.5	0.22	0.51	150	190	3.0	0.37	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.5	0.18	0.45	100	200	3.0	0.32	180
			17,19		200 HB	0.5	4.5	0.18	0.45	100	180	3.0	0.32	150
			18,20		250 HB	0.5	4.5	0.18	0.45	100	150	3.0	0.32	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.2	0.14	0.29	25	45	2.2	0.26	32
			33	Inconel 700	250 HB	0.5	3.2	0.14	0.29	25	45	2.2	0.26	30
			34	Stellite 21	350 HB	0.5	3.2	0.14	0.29	25	45	2.2	0.26	30
	Ti Based	10	36	TiAl6V4	-	0.5	3.2	0.14	0.32	40	65	2.2	0.29	55
			37	T40	-	0.5	3.2	0.14	0.29	30	55	2.2	0.26	40
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.6	0.12	0.29	40	80	1.5	0.22	60
			38		50 HRc	0.4	1.3	0.12	0.26	40	70	1.1	0.21	55
			38		55 HRc	0.4	1.0	0.12	0.22	40	60	0.7	0.19	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.3	0.12	0.29	40	80	1.1	0.22	50
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.0	0.12	0.22	30	60	0.7	0.19	40
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.5	0.22	0.51	200	400	3.0	0.40	280

O F M T

Shape

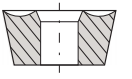


Clearance Angle



Tolerance

s ± 0.13
For l = 05, **d** ± 0.08 **m** ± 0.13
For l = 07, **d** ± 0.10 **m** ± 0.15



Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
OFMT 05T305 TN LT 30	5.26	4.00	0.8	Neutral	M0000591
OFMT 050405 TR LT 30	5.51	4.76	0.5	Right	M0000034
OFMT 070405 TN LT 30	7.44	4.76	0.5	Neutral	M0000592

LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	r	Direction	Catalog Nr.
OFMT 05T305 TN LT 3000	5.26	4.00	0.8	Neutral	M0002221
OFMT 050405 TR LT 3000	5.51	4.76	0.5	Right	M0002220
OFMT 070405 TN LT 3000	7.44	4.76	0.5	Neutral	M0002222

Application Guide

Chamfering

Surfacing

Machining Recommendations

F ⇒
Productivity

Coolant	1, 2, 3, 4	No
	6, 7, 8, 11	No
	10, 12	Yes
	5, 9	Yes

Stainless Steel
V_c

ООО "АКИТЭК", РФ., г. Москва.
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www.akytec.ru

Shell Mill for OFMT 05T305 TN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 800 M-W-D032/3	39	32	16	40	3	3	M2000501
LT 800 M-W-D040/3	47	40	16	40	3	3	M2000502
LT 800 M-W-D050/4	57	50	22	40	3	4	M2000503
LT 800 M-W-D063/5	70	63	22	40	3	5	M2000504
LT 800 M-W-D080/6	87	80	27	50	3	6	M2000505
LT 800 M-W-D100/7	107	100	32	50	3	7	M2000506
LT 800 M-W-D125/8	132	125	40	63	3	8	M2000507

Screw: M2000597
Key: M2000602

Shell Mill for OFMT 050405 TR							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 805 M-W-D032/3*	39	32	16	40	3	3	M2001602
LT 805 M-W-D040/3*	47	40	16	40	3	3	M2001603
LT 805 M-W-D050/4*	57	50	22	40	3	4	M2001604
LT 805 M-W-D063/5*	70	63	22	40	3	5	M2001605
LT 805 M-W-D080/6*	87	80	27	50	3	6	M2001607
LT 805 M-W-D100/7*	107	100	32	50	3	7	M2001608
LT 805 M-W-D125/8*	132	125	40	63	3	8	M2001609

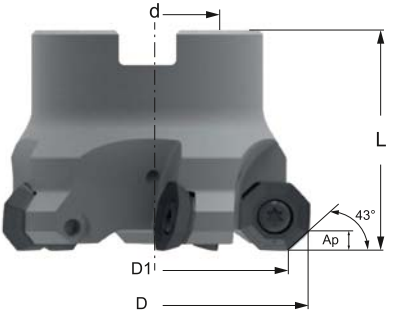
* On request

Screw: M2000597
Key: M2000602

Shell Mill for OFMT 070405 TN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 810 M-D-D080/6*	92	80	27	50	4.5	6	M2000707
LT 810 M-D-D100/7*	112	100	32	50	4.5	7	M2000708
LT 810 M-D-D125/8*	137	125	40	63	4.5	8	M2000709

* On request

Screw: M2002733
Key: M2000603



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OFMT 050405 TR – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.22	0.51	190	330	**2.5**	**0.37**	**250**
			2		190 HB	0.5	3.5	0.22	0.51	190	300	**2.5**	**0.37**	**220**
			3		250 HB	0.5	3.5	0.22	0.51	190	250	**2.5**	**0.37**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.18	0.40	150	240	**2.5**	**0.32**	**200**
			4,6		230 HB	0.5	3.5	0.18	0.40	150	210	**2.5**	**0.32**	**180**
			5,7		280 HB	0.5	3.5	0.18	0.35	130	190	**2.5**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.18	0.35	130	170	**2.5**	**0.29**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.5	0.14	0.35	90	150	**1.9**	**0.29**	**130**
			10		280 HB	0.5	2.5	0.14	0.35	90	130	**1.9**	**0.29**	**120**
			11		320 HB	0.5	2.5	0.14	0.29	60	110	**1.9**	**0.26**	**100**
			11		350 HB	0.5	2.5	0.14	0.29	60	90	**1.9**	**0.26**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.35	190	250	**2.5**	**0.29**	**220**
			14		240 HB	0.5	3.5	0.14	0.32	160	210	**2.5**	**0.29**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.5	0.14	0.29	70	130	**1.9**	**0.26**	**100**
			14		310 HB	0.5	2.5	0.14	0.29	70	120	**1.9**	**0.26**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.18	0.35	150	210	**2.5**	**0.29**	**190**
			13		42 HRc	0.5	2.5	0.18	0.32	90	150	**1.9**	**0.26**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.22	0.51	150	240	**2.5**	**0.37**	**200**
			15		200 HB	0.5	3.5	0.22	0.51	150	220	**2.5**	**0.37**	**180**
			16		250 HB	0.5	3.5	0.22	0.51	150	190	**2.5**	**0.37**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.18	0.45	100	200	**2.5**	**0.32**	**180**
			17,19		200 HB	0.5	3.5	0.18	0.45	100	180	**2.5**	**0.32**	**150**
			18,20		250 HB	0.5	3.5	0.18	0.45	100	150	**2.5**	**0.32**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**32**
			33	Inconel 700	250 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**30**
			34	Stellite 21	350 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.5	0.14	0.32	40	65	**1.9**	**0.29**	**55**
			37	T40	-	0.5	2.5	0.14	0.29	30	55	**1.9**	**0.26**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.3	0.12	0.29	40	80	**1.1**	**0.22**	**60**
			38		50 HRc	0.4	1.0	0.12	0.26	40	70	**0.9**	**0.21**	**55**
			38		55 HRc	0.4	0.8	0.12	0.22	40	60	**0.6**	**0.19**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.0	0.12	0.29	40	80	**0.9**	**0.22**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	0.8	0.12	0.22	30	60	**0.6**	**0.19**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.5	0.22	0.51	200	400	**2.5**	**0.40**	**280**

OFMT 05T305 TN – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.5	0.22	0.51	190	330	**2.5**	**0.37**	**250**
			2		190 HB	0.5	3.5	0.22	0.51	190	300	**2.5**	**0.37**	**220**
			3		250 HB	0.5	3.5	0.22	0.51	190	250	**2.5**	**0.37**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.18	0.40	150	240	**2.5**	**0.32**	**200**
			4,6		230 HB	0.5	3.5	0.18	0.40	150	210	**2.5**	**0.32**	**180**
			5,7		280 HB	0.5	3.5	0.18	0.35	130	190	**2.5**	**0.29**	**150**
			8		350 HB	0.5	3.5	0.18	0.35	130	170	**2.5**	**0.29**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.5	0.14	0.35	90	150	**1.9**	**0.29**	**130**
			10		280 HB	0.5	2.5	0.14	0.35	90	130	**1.9**	**0.29**	**120**
			11		320 HB	0.5	2.5	0.14	0.29	60	110	**1.9**	**0.26**	**100**
			11		350 HB	0.5	2.5	0.14	0.29	60	90	**1.9**	**0.26**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.35	190	250	**2.5**	**0.29**	**220**
			14		240 HB	0.5	3.5	0.14	0.32	160	210	**2.5**	**0.29**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.5	0.14	0.29	70	130	**1.9**	**0.26**	**100**
			14		310 HB	0.5	2.5	0.14	0.29	70	120	**1.9**	**0.26**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.18	0.35	150	210	**2.5**	**0.29**	**190**
			13		42 HRc	0.5	2.5	0.18	0.32	90	150	**1.9**	**0.26**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.22	0.51	150	240	**2.5**	**0.37**	**200**
			15		200 HB	0.5	3.5	0.22	0.51	150	220	**2.5**	**0.37**	**180**
			16		250 HB	0.5	3.5	0.22	0.51	150	190	**2.5**	**0.37**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.18	0.45	100	200	**2.5**	**0.32**	**180**
			17,19		200 HB	0.5	3.5	0.18	0.45	100	180	**2.5**	**0.32**	**150**
			18,20		250 HB	0.5	3.5	0.18	0.45	100	150	**2.5**	**0.32**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**32**
			33	Inconel 700	250 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**30**
			34	Stellite 21	350 HB	0.5	2.5	0.14	0.29	25	45	**1.9**	**0.26**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.5	0.14	0.32	40	65	**1.9**	**0.29**	**55**
			37	T40	-	0.5	2.5	0.14	0.29	30	55	**1.9**	**0.26**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.3	0.12	0.29	40	80	**1.1**	**0.22**	**60**
			38		50 HRc	0.4	1.0	0.12	0.26	40	70	**0.9**	**0.21**	**55**
			38		55 HRc	0.4	0.8	0.12	0.22	40	60	**0.6**	**0.19**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.0	0.12	0.29	40	80	**0.9**	**0.22**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	0.8	0.12	0.22	30	60	**0.6**	**0.19**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.5	0.22	0.51	200	400	**2.5**	**0.40**	**280**

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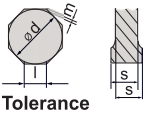
OFMT 070405 TN – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.5	0.22	0.51	190	330	**3.0**	**0.37**	**250**
			2		190 HB	0.5	4.5	0.22	0.51	190	300	**3.0**	**0.37**	**220**
			3		250 HB	0.5	4.5	0.22	0.51	190	250	**3.0**	**0.37**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.5	0.18	0.40	150	240	**3.0**	**0.32**	**200**
			4,6		230 HB	0.5	4.5	0.18	0.40	150	210	**3.0**	**0.32**	**180**
			5,7		280 HB	0.5	4.5	0.18	0.35	130	190	**3.0**	**0.29**	**150**
			8		350 HB	0.5	4.5	0.18	0.35	130	170	**3.0**	**0.29**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	3.2	0.14	0.35	90	150	**2.2**	**0.29**	**130**
			10		280 HB	0.5	3.2	0.14	0.35	90	130	**2.2**	**0.29**	**120**
			11		320 HB	0.5	3.2	0.14	0.29	60	110	**2.2**	**0.26**	**100**
			11		350 HB	0.5	3.2	0.14	0.29	60	90	**2.2**	**0.26**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.5	0.18	0.35	190	250	**3.0**	**0.29**	**220**
			14		240 HB	0.5	4.5	0.14	0.32	160	210	**3.0**	**0.29**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.2	0.14	0.29	70	130	**2.2**	**0.26**	**100**
			14		310 HB	0.5	3.2	0.14	0.29	70	120	**2.2**	**0.26**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.5	0.18	0.35	150	210	**3.0**	**0.29**	**190**
			13		42 HRc	0.5	3.2	0.18	0.32	90	150	**2.2**	**0.26**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.5	0.22	0.51	150	240	**3.0**	**0.37**	**200**
			15		200 HB	0.5	4.5	0.22	0.51	150	220	**3.0**	**0.37**	**180**
			16		250 HB	0.5	4.5	0.22	0.51	150	190	**3.0**	**0.37**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.5	0.18	0.45	100	200	**3.0**	**0.32**	**180**
			17,19		200 HB	0.5	4.5	0.18	0.45	100	180	**3.0**	**0.32**	**150**
			18,20		250 HB	0.5	4.5	0.18	0.45	100	150	**3.0**	**0.32**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.2	0.14	0.29	25	45	**2.2**	**0.26**	**32**
			33	Inconel 700	250 HB	0.5	3.2	0.14	0.29	25	45	**2.2**	**0.26**	**30**
			34	Stellite 21	350 HB	0.5	3.2	0.14	0.29	25	45	**2.2**	**0.26**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	3.2	0.14	0.32	40	65	**2.2**	**0.29**	**55**
			37	T40	-	0.5	3.2	0.14	0.29	30	55	**2.2**	**0.26**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.6	0.12	0.29	40	80	**1.3**	**0.22**	**60**
			38		50 HRc	0.4	1.3	0.12	0.26	40	70	**0.9**	**0.21**	**55**
			38		55 HRc	0.4	1.0	0.12	0.22	40	60	**0.7**	**0.19**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.3	0.12	0.29	40	80	**0.9**	**0.22**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.0	0.12	0.22	30	60	**0.7**	**0.19**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.5	0.22	0.51	200	400	**3.0**	**0.40**	**280**

O N K X

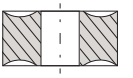
Shape

Clearance Angle



Tolerance

s ± 0.13
For l = 05, **d** ± 0.08 **m** ± 0.13
For l = 07, **d** ± 0.10 **m** ± 0.15



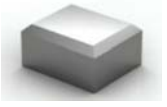
Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
ONKX 0806-45 LT 30	8.36	5.80	0.8	Neutral	M0003673

LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	r	Direction	Catalog Nr.
ONKX 0806-45 LT 30	8.36	5.80	0.8	Neutral	M0002211

Application Guide

Chamfering



Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant	1, 2, 3, 4	No
	6, 7, 8, 11	No
	10, 12	Yes
	5, 9	Yes

Stainless Steel
V_c

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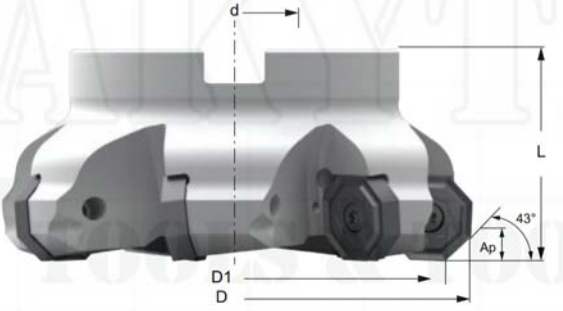
Shell Mill for ONKX 0806-45°

Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 987 M-W-D063/5	75.7	63	22	50	5	5	M2003631
LT 987 M-W-D080/6	92.7	80	27	50	5	6	M2003632
LT 987 M-W-D100/7	112.7	100	32	50	5	7	M2003633
LT 987 M-W-D125/8	137.7	125	40	63	5	8	M2003634
LT 987 M-D-D160/10 [1]	172.7	160	40	63	5	10	M2003635
LT 987 M-D-D200/12* [1]	212.7	200	60	63	5	12	M2003636
LT 987 M-D-D250/14* [1]	262.7	250	60	63	5	14	M2003637

* On request

[1] Accessories available for coolant:
M2003635: M2004024
M2003636-7: M2001847

Screw: M2000599
Key: M2000603



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ONKX 0806-45 – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.16	0.58	190	330	**3.0**	**0.46**	**250**
			2		190 HB	0.5	4.0	0.16	0.58	190	300	**3.0**	**0.46**	**220**
			3		250 HB	0.5	4.0	0.16	0.58	190	250	**3.0**	**0.46**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.14	0.50	150	240	**3.0**	**0.40**	**200**
			4,6		230 HB	0.5	4.0	0.14	0.50	150	210	**3.0**	**0.40**	**180**
			5,7		280 HB	0.5	4.0	0.14	0.44	130	190	**3.0**	**0.36**	**150**
			8		350 HB	0.5	4.0	0.14	0.44	130	170	**3.0**	**0.36**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.11	0.44	90	150	**3.0**	**0.36**	**130**
			10		280 HB	0.5	4.0	0.11	0.44	90	130	**3.0**	**0.36**	**120**
			11		320 HB	0.5	4.0	0.11	0.36	60	110	**3.0**	**0.32**	**100**
			11		350 HB	0.5	4.0	0.11	0.36	60	90	**3.0**	**0.32**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	1.5	0.14	0.44	190	250	**1.2**	**0.34**	**220**
			14		240 HB	0.5	1.5	0.11	0.40	160	210	**1.2**	**0.34**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	1.5	0.11	0.36	70	130	**1.2**	**0.30**	**100**
			14		310 HB	0.5	1.5	0.11	0.36	70	120	**1.2**	**0.30**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	1.5	0.14	0.44	150	210	**1.2**	**0.34**	**190**
			13		42 HRc	0.5	1.5	0.14	0.40	90	150	**1.2**	**0.30**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.17	0.58	150	240	**4.0**	**0.46**	**200**
			15		200 HB	0.5	4.0	0.17	0.58	150	220	**4.0**	**0.46**	**180**
			16		250 HB	0.5	4.0	0.17	0.58	150	190	**4.0**	**0.46**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.14	0.52	100	200	**4.0**	**0.40**	**180**
			17,19		200 HB	0.5	4.0	0.14	0.52	100	180	**4.0**	**0.40**	**150**
			18,20		250 HB	0.5	4.0	0.14	0.52	100	150	**4.0**	**0.40**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.5	0.11	0.36	25	45	**1.2**	**0.30**	**32**
			33	Inconel 700	250 HB	0.5	1.5	0.11	0.36	25	45	**1.2**	**0.30**	**30**
			34	Stellite 21	350 HB	0.5	1.5	0.11	0.36	25	45	**1.2**	**0.30**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	1.5	0.11	0.40	40	65	**1.2**	**0.34**	**55**
			37	T40	-	0.5	1.5	0.11	0.36	30	55	**1.2**	**0.30**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	3.0	0.10	0.36	40	80	**2.0**	**0.28**	**60**
			38		50 HRc	0.4	3.0	0.10	0.32	40	70	**1.0**	**0.26**	**55**
			38		55 HRc	0.4	1.5	0.10	0.28	40	60	**0.5**	**0.24**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	3.0	0.10	0.36	40	80	**1.5**	**0.28**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.5	0.10	0.28	30	60	**0.5**	**0.24**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	1.5	0.17	0.60	200	400	**1.5**	**0.50**	**280**

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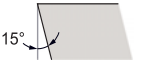
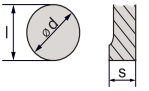
R D M T

Shape

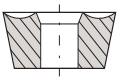


Clearance Angle



Tolerance

s ± 0.13
For l = 06/08/10, **d** ± 0.05
For l = 12, **d** ± 0.08



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
RDMT 0602 M0 LT 30	6	2.38	-	Neutral	M0000035
RDMT 0702 M0 LT 30	7	2.38	-	Neutral	M0001882
RDMT 0803 M0 LT 30	8	3.18	-	Neutral	M0000037
RDMT 1003 M0 LT 30	10	3.18	-	Neutral	M0001875
RDMT 10T3 M0 LT 30	10	3.97	-	Neutral	M0000038
RDMT 12T3 M0 LT 30	12	3.97	-	Neutral	M0001876
RDMT 1204 M0 LT 30	12	4.76	-	Neutral	M0000039
RDMT 1604 M0 LT 30	16	4.76	-	Neutral	M0001881

Application Guide

Copying

Helical Interpolation

Pocket Milling

Slotting

Surfacing

Machining Recommendations

F ⇒
Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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R D M T

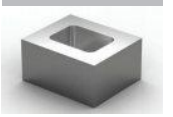
LT 3000 Multi-Mat™ General Usage – Premium					
Insert Designation	l	s	r	Direction	Catalog Nr.
RDMT 0602 M0 LT 3000	6	2.38	-	Neutral	M0003403
RDMT 0702 M0 LT 3000	7	2.38	-	Neutral	M0003404
RDMT 0803 M0 LT 3000	8	3.18	-	Neutral	M0003405
RDMT 1003 M0 LT 3000	10	3.18	-	Neutral	M0002224
RDMT 10T3 M0 LT 3000	10	3.97	-	Neutral	M0002225
RDMT 12T3 M0 LT 3000	12	3.97	-	Neutral	M0002226
RDMT 1204 M0 LT 3000	12	4.76	-	Neutral	M0002227
RDMT 1604 M0 LT 3000	16	4.76	-	Neutral	M0003407

Application Guide

Copying

Helical Interpolation

Pocket-Milling



Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel

V_c

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End Mill for RDMT 0602 M0

Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 060 WL-W-D012/2	12	6	16	150	25	3	2	7	M2003321
LT 060 WL-W-D016/2	16	10	16	150	25	3	2	6	M2000676
LT 060 WL-W-D020/3	20	14	20	180	60	3	3	4.5	M2000677
LT 060 WL-W-D025/3	25	19	25	180	80	3	3	4	M2000678

Screw: M2001416
Key: M2002912

End Mill for RDMT 0704 M0

Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 070 WL-W-D016/2	16	9	16	150	25	3.5	2	6	M2003336
LT 070 WL-W D020/3	20	13	20	180	60	3.5	3	4.5	M2003337
LT 070 WL-W D025/4	25	18	25	180	60	3.5	4	4	M2003339

Screw: M2001416
Key: M2002912

End Mill for RDMT 0803 M0

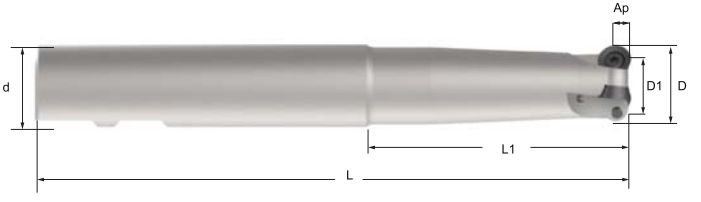
Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 080 WL-W-D016/2	16	8	16	150	25	4	2	12	M2003322
LT 080 WL-W-D020/2	20	12	16	180	42	4	2	6	M2000679
LT 080 WL-W-D025/3	25	17	20	180	60	4	3	4.5	M2000680
LT 080 WL-W-D032/3	32	24	25	180	80	4	3	4	M2000681

Screw: M2002181
Key: M2002912

End Mill for RDMT 10T3 M0

Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 100 WL-W-D020/2	20	10	20	180	80	5	2	12	M2000683
LT 100 WL-W D025/3	25	15	25	180	60	5	3	8	M2000684
LT 100 WL-W D032/3	32	22	32	180	80	5	3	5	M2000685

Screw: M2000597
Key: M2000602



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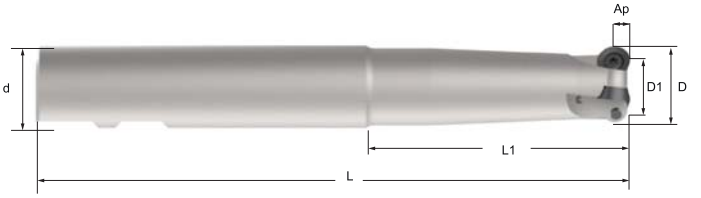
End Mill for RDMT 1204 M0

Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 120 WL-W-D032/3	32	20	32	170	60	6	3	5	M2003323
LT 120 WL-W-D040/4	40	28	32	170	110	6	4	7	M2000687

Screw: M2000597
Key: M2000602



Shell Mill for RDMT 1204 M0

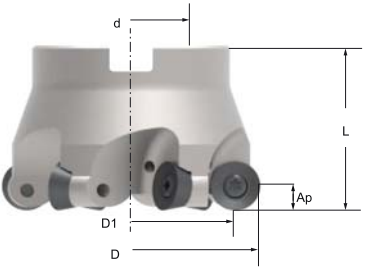
Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 120 M-W-D040/4	40	28	16	40	6	4	7	M2000691
LT 120 M-W-D050/4	50	38	22	40	6	4	5	M2001780
LT 120 M-W-D063/5	63	51	22	40	6	5	3.5	M2000689
LT 120 M-W-D080/6	80	68	27	50	6	6	2.5	M2000690
LT 120 M-W-D100/7	100	88	40	50	6	7	1.5	M2000688

Screw: M2000597
Key: M2000602

Shell Mill for RDMT 1604 M0

Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 160 M-W-D050/4	50	34	22	50	6	4	5	M2003331
LT 160 M-W-D063/5	63	47	22	50	6	5	3.5	M2003332
LT 160 M-W-D080/6	80	64	27	50	6	6	2.5	M2003333
LT 160 M-W-D100/7	100	84	32	50	6	7	2	M2003334
LT 160 M-W-D125/8	125	109	40	63	6	8	1	M2003335

Screw: M2000599
Key: M2000603



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RDMT 0602 M0 – **LT 30 | LT 3000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	1.5	0.18	0.48	190	330	**0.8**	**0.29**	**250**
			2		190 HB	0.5	1.5	0.18	0.48	190	300	**0.8**	**0.29**	**220**
			3		250 HB	0.5	1.5	0.18	0.48	190	250	**0.8**	**0.29**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	1.5	0.15	0.38	150	240	**0.8**	**0.25**	**200**
			4,6		230 HB	0.5	1.5	0.15	0.38	150	210	**0.8**	**0.25**	**180**
			5,7		280 HB	0.5	1.5	0.15	0.33	130	190	**0.8**	**0.23**	**150**
			8		350 HB	0.5	1.5	0.15	0.33	130	170	**0.8**	**0.23**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.1	0.12	0.33	90	150	**0.6**	**0.23**	**130**
			10		280 HB	0.5	1.1	0.12	0.33	90	130	**0.6**	**0.23**	**120**
			11		320 HB	0.5	1.1	0.12	0.27	60	110	**0.6**	**0.20**	**100**
			11		350 HB	0.5	1.1	0.12	0.27	60	90	**0.6**	**0.20**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	1.5	0.15	0.38	190	250	**0.8**	**0.25**	**220**
			14		240 HB	0.5	1.5	0.12	0.33	160	210	**0.8**	**0.25**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	1.2	0.12	0.27	70	130	**0.6**	**0.20**	**100**
			14		310 HB	0.5	1.2	0.12	0.27	70	120	**0.6**	**0.20**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	1.5	0.15	0.38	150	210	**0.8**	**0.25**	**190**
			13		42 HRc	0.5	1.2	0.15	0.30	90	150	**0.6**	**0.20**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	1.5	0.18	0.48	150	240	**0.8**	**0.29**	**200**
			15		200 HB	0.5	1.5	0.18	0.48	150	220	**0.8**	**0.29**	**180**
			16		250 HB	0.5	1.5	0.18	0.48	150	190	**0.8**	**0.29**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	1.5	0.15	0.42	100	200	**0.8**	**0.25**	**180**
			17,19		200 HB	0.5	1.5	0.15	0.42	100	180	**0.8**	**0.25**	**150**
			18,20		250 HB	0.5	1.5	0.15	0.42	100	150	**0.8**	**0.25**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.2	0.12	0.27	25	45	**0.6**	**0.20**	**32**
			33	Inconel 700	250 HB	0.5	1.2	0.12	0.27	25	45	**0.6**	**0.20**	**30**
			34	Stellite 21	350 HB	0.5	1.2	0.12	0.27	25	45	**0.6**	**0.20**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	1.2	0.12	0.30	40	65	**0.6**	**0.23**	**55**
			37	T40	-	0.5	1.2	0.12	0.27	30	55	**0.6**	**0.20**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.6	0.10	0.27	40	80	**0.4**	**0.18**	**60**
			38		50 HRc	0.3	0.4	0.10	0.24	40	70	**0.3**	**0.16**	**55**
			38		55 HRc	0.3	0.4	0.10	0.21	40	60	**0.3**	**0.15**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.4	0.10	0.27	40	80	**0.3**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.4	0.10	0.21	30	60	**0.3**	**0.15**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	1.5	0.18	0.48	200	400	**0.8**	**0.31**	**280**

RDMT 0702 M0 – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	1.8	0.18	0.54	190	330	**0.8**	**0.32**	**250**
			2		190 HB	0.5	1.8	0.18	0.54	190	300	**0.8**	**0.32**	**220**
			3		250 HB	0.5	1.8	0.18	0.54	190	250	**0.8**	**0.32**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	1.8	0.15	0.43	150	240	**0.8**	**0.28**	**200**
			4,6		230 HB	0.5	1.8	0.15	0.43	150	210	**0.8**	**0.28**	**180**
			5,7		280 HB	0.5	1.8	0.15	0.37	130	190	**0.8**	**0.25**	**150**
			8		350 HB	0.5	1.8	0.15	0.37	130	170	**0.8**	**0.25**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.3	0.12	0.37	90	150	**0.6**	**0.25**	**130**
			10		280 HB	0.5	1.3	0.12	0.37	90	130	**0.6**	**0.25**	**120**
			11		320 HB	0.5	1.3	0.12	0.31	60	110	**0.6**	**0.22**	**100**
			11		350 HB	0.5	1.3	0.12	0.31	60	90	**0.6**	**0.22**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	1.8	0.15	0.43	190	250	**0.8**	**0.28**	**220**
			14		240 HB	0.5	1.8	0.12	0.37	160	210	**0.8**	**0.28**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	1.4	0.12	0.31	70	130	**0.6**	**0.22**	**100**
			14		310 HB	0.5	1.4	0.12	0.31	70	120	**0.6**	**0.22**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	1.8	0.15	0.43	150	210	**0.8**	**0.28**	**190**
			13		42 HRc	0.5	1.4	0.15	0.34	90	150	**0.6**	**0.22**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	1.8	0.18	0.54	150	240	**0.8**	**0.32**	**200**
			15		200 HB	0.5	1.8	0.18	0.54	150	220	**0.8**	**0.32**	**180**
			16		250 HB	0.5	1.8	0.18	0.54	150	190	**0.8**	**0.32**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	1.8	0.15	0.48	100	200	**0.8**	**0.28**	**180**
			17,19		200 HB	0.5	1.8	0.15	0.48	100	180	**0.8**	**0.28**	**150**
			18,20		250 HB	0.5	1.8	0.15	0.48	100	150	**0.8**	**0.28**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.4	0.12	0.31	25	45	**0.6**	**0.22**	**32**
			33	Inconel 700	250 HB	0.5	1.4	0.12	0.31	25	45	**0.6**	**0.22**	**30**
			34	Stellite 21	350 HB	0.5	1.4	0.12	0.31	25	45	**0.6**	**0.22**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	1.4	0.12	0.34	40	65	**0.6**	**0.25**	**55**
			37	T40	-	0.5	1.4	0.12	0.31	30	55	**0.6**	**0.22**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.7	0.10	0.31	40	80	**0.4**	**0.20**	**60**
			38		50 HRc	0.3	0.5	0.10	0.27	40	70	**0.3**	**0.18**	**55**
			38		55 HRc	0.3	0.5	0.10	0.24	40	60	**0.3**	**0.17**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.5	0.10	0.31	40	80	**0.3**	**0.20**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.5	0.10	0.24	30	60	**0.3**	**0.17**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	1.8	0.18	0.54	200	400	**0.8**	**0.35**	**280**

RDMT 0803 M0 – **LT 30 | LT 3000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.0	0.18	0.58	190	330	**0.8**	**0.35**	**250**
			2		190 HB	0.5	2.0	0.18	0.58	190	300	**0.8**	**0.35**	**220**
			3		250 HB	0.5	2.0	0.18	0.58	190	250	**0.8**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.0	0.15	0.45	150	240	**0.8**	**0.30**	**200**
			4,6		230 HB	0.5	2.0	0.15	0.45	150	210	**0.8**	**0.30**	**180**
			5,7		280 HB	0.5	2.0	0.15	0.40	130	190	**0.8**	**0.27**	**150**
			8		350 HB	0.5	2.0	0.15	0.40	130	170	**0.8**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.4	0.12	0.40	90	150	**0.6**	**0.27**	**130**
			10		280 HB	0.5	1.4	0.12	0.40	90	130	**0.6**	**0.27**	**120**
			11		320 HB	0.5	1.4	0.12	0.32	60	110	**0.6**	**0.24**	**100**
			11		350 HB	0.5	1.4	0.12	0.32	60	90	**0.6**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.0	0.15	0.45	190	250	**0.8**	**0.30**	**220**
			14		240 HB	0.5	2.0	0.12	0.40	160	210	**0.8**	**0.30**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	1.5	0.12	0.32	70	130	**0.6**	**0.24**	**100**
			14		310 HB	0.5	1.5	0.12	0.32	70	120	**0.6**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.0	0.15	0.45	150	210	**0.8**	**0.30**	**190**
			13		42 HRc	0.5	1.5	0.15	0.36	90	150	**0.6**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.0	0.18	0.58	150	240	**0.8**	**0.35**	**200**
			15		200 HB	0.5	2.0	0.18	0.58	150	220	**0.8**	**0.35**	**180**
			16		250 HB	0.5	2.0	0.18	0.58	150	190	**0.8**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.0	0.15	0.50	100	200	**0.8**	**0.30**	**180**
			17,19		200 HB	0.5	2.0	0.15	0.50	100	180	**0.8**	**0.30**	**150**
			18,20		250 HB	0.5	2.0	0.15	0.50	100	150	**0.8**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	1.5	0.12	0.32	25	45	**0.6**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	1.5	0.12	0.32	25	45	**0.6**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	1.5	0.12	0.32	25	45	**0.6**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	1.5	0.12	0.36	40	65	**0.6**	**0.27**	**55**
			37	T40	-	0.5	1.5	0.12	0.32	30	55	**0.6**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.7	0.10	0.32	40	80	**0.4**	**0.21**	**60**
			38		50 HRc	0.3	0.6	0.10	0.29	40	70	**0.3**	**0.20**	**55**
			38		55 HRc	0.3	0.5	0.10	0.25	40	60	**0.3**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.6	0.10	0.32	40	80	**0.3**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.5	0.10	0.25	30	60	**0.3**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	2.0	0.18	0.58	200	400	**0.8**	**0.38**	**280**

RDMT 10T3 M0 – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.64	190	330	**1.0**	**0.35**	**250**
			2		190 HB	0.5	2.5	0.18	0.64	190	300	**1.0**	**0.35**	**220**
			3		250 HB	0.5	2.5	0.18	0.64	190	250	**1.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.15	0.50	150	240	**1.0**	**0.30**	**200**
			4,6		230 HB	0.5	2.5	0.15	0.50	150	210	**1.0**	**0.30**	**180**
			5,7		280 HB	0.5	2.5	0.15	0.44	130	190	**1.0**	**0.27**	**150**
			8		350 HB	0.5	2.5	0.15	0.44	130	170	**1.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.8	0.12	0.44	90	150	**0.8**	**0.27**	**130**
			10		280 HB	0.5	1.8	0.12	0.44	90	130	**0.8**	**0.27**	**120**
			11		320 HB	0.5	1.8	0.12	0.36	60	110	**0.8**	**0.24**	**100**
			11		350 HB	0.5	1.8	0.12	0.36	60	90	**0.8**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.15	0.50	190	250	**1.0**	**0.30**	**220**
			14		240 HB	0.5	2.5	0.12	0.44	160	210	**1.0**	**0.30**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.12	0.36	70	130	**0.8**	**0.24**	**100**
			14		310 HB	0.5	2.0	0.12	0.36	70	120	**0.8**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.15	0.50	150	210	**1.0**	**0.30**	**190**
			13		42 HRc	0.5	2.0	0.15	0.40	90	150	**0.8**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.18	0.64	150	240	**1.0**	**0.35**	**200**
			15		200 HB	0.5	2.5	0.18	0.64	150	220	**1.0**	**0.35**	**180**
			16		250 HB	0.5	2.5	0.18	0.64	150	190	**1.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.56	100	200	**1.0**	**0.30**	**180**
			17,19		200 HB	0.5	2.5	0.15	0.56	100	180	**1.0**	**0.30**	**150**
			18,20		250 HB	0.5	2.5	0.15	0.56	100	150	**1.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.0	0.12	0.36	25	45	**0.8**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	2.0	0.12	0.36	25	45	**0.8**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	2.0	0.12	0.36	25	45	**0.8**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.0	0.12	0.40	40	65	**0.8**	**0.27**	**55**
			37	T40	-	0.5	2.0	0.12	0.36	30	55	**0.8**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.9	0.10	0.36	40	80	**0.5**	**0.21**	**60**
			38		50 HRc	0.3	0.7	0.10	0.32	40	70	**0.4**	**0.20**	**55**
			38		55 HRc	0.3	0.6	0.10	0.28	40	60	**0.3**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.7	0.10	0.36	40	80	**0.4**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.6	0.10	0.28	30	60	**0.3**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	2.5	0.18	0.64	200	400	**1.0**	**0.38**	**280**

RDMT 1003 M0 – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.64	190	330	**1.0**	**0.35**	**250**
			2		190 HB	0.5	2.5	0.18	0.64	190	300	**1.0**	**0.35**	**220**
			3		250 HB	0.5	2.5	0.18	0.64	190	250	**1.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.15	0.50	150	240	**1.0**	**0.30**	**200**
			4,6		230 HB	0.5	2.5	0.15	0.50	150	210	**1.0**	**0.30**	**180**
			5,7		280 HB	0.5	2.5	0.15	0.44	130	190	**1.0**	**0.27**	**150**
			8		350 HB	0.5	2.5	0.15	0.44	130	170	**1.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.8	0.12	0.44	90	150	**0.8**	**0.27**	**130**
			10		280 HB	0.5	1.8	0.12	0.44	90	130	**0.8**	**0.27**	**120**
			11		320 HB	0.5	1.8	0.12	0.36	60	110	**0.8**	**0.24**	**100**
			11		350 HB	0.5	1.8	0.12	0.36	60	90	**0.8**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.15	0.50	190	250	**1.0**	**0.30**	**220**
			14		240 HB	0.5	2.5	0.12	0.44	160	210	**1.0**	**0.30**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.12	0.36	70	130	**0.8**	**0.24**	**100**
			14		310 HB	0.5	2.0	0.12	0.36	70	120	**0.8**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.15	0.50	150	210	**1.0**	**0.30**	**190**
			13		42 HRc	0.5	2.0	0.15	0.40	90	150	**0.8**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.18	0.64	150	240	**1.0**	**0.35**	**200**
			15		200 HB	0.5	2.5	0.18	0.64	150	220	**1.0**	**0.35**	**180**
			16		250 HB	0.5	2.5	0.18	0.64	150	190	**1.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.56	100	200	**1.0**	**0.30**	**180**
			17,19		200 HB	0.5	2.5	0.15	0.56	100	180	**1.0**	**0.30**	**150**
			18,20		250 HB	0.5	2.5	0.15	0.56	100	150	**1.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.0	0.12	0.36	25	45	**0.8**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	2.0	0.12	0.36	25	45	**0.8**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	2.0	0.12	0.36	25	45	**0.8**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.0	0.12	0.40	40	65	**0.8**	**0.27**	**55**
			37	T40	-	0.5	2.0	0.12	0.36	30	55	**0.8**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.9	0.10	0.36	40	80	**0.5**	**0.21**	**60**
			38		50 HRc	0.3	0.7	0.10	0.32	40	70	**0.4**	**0.20**	**55**
			38		55 HRc	0.3	0.6	0.10	0.28	40	60	**0.3**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.7	0.10	0.36	40	80	**0.4**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.6	0.10	0.28	30	60	**0.3**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	2.5	0.18	0.64	200	400	**1.0**	**0.38**	**280**

RDMT 12T3 M0 – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.0	0.25	0.74	190	330	**1.3**	**0.35**	**250**
			2		190 HB	0.5	3.0	0.25	0.74	190	300	**1.3**	**0.35**	**220**
			3		250 HB	0.5	3.0	0.25	0.74	190	250	**1.3**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.0	0.21	0.58	150	240	**1.3**	**0.30**	**200**
			4,6		230 HB	0.5	3.0	0.21	0.58	150	210	**1.3**	**0.30**	**180**
			5,7		280 HB	0.5	3.0	0.21	0.51	130	190	**1.3**	**0.27**	**150**
			8		350 HB	0.5	3.0	0.21	0.51	130	170	**1.3**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.2	0.17	0.51	90	150	**1.0**	**0.27**	**130**
			10		280 HB	0.5	2.2	0.17	0.51	90	130	**1.0**	**0.27**	**120**
			11		320 HB	0.5	2.2	0.17	0.41	60	110	**1.0**	**0.24**	**100**
			11		350 HB	0.5	2.2	0.17	0.41	60	90	**1.0**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.0	0.21	0.58	190	250	**1.3**	**0.30**	**220**
			14		240 HB	0.5	3.0	0.17	0.51	160	210	**1.3**	**0.30**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.4	0.17	0.41	70	130	**1.0**	**0.24**	**100**
			14		310 HB	0.5	2.4	0.17	0.41	70	120	**1.0**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.0	0.21	0.58	150	210	**1.3**	**0.30**	**190**
			13		42 HRc	0.5	2.4	0.21	0.46	90	150	**1.0**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.0	0.25	0.74	150	240	**1.3**	**0.35**	**200**
			15		200 HB	0.5	3.0	0.25	0.74	150	220	**1.3**	**0.35**	**180**
			16		250 HB	0.5	3.0	0.25	0.74	150	190	**1.3**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.0	0.21	0.64	100	200	**1.3**	**0.30**	**180**
			17,19		200 HB	0.5	3.0	0.21	0.64	100	180	**1.3**	**0.30**	**150**
			18,20		250 HB	0.5	3.0	0.21	0.64	100	150	**1.3**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.4	0.17	0.46	40	65	**1.0**	**0.27**	**55**
			37	T40	-	0.5	2.4	0.17	0.41	30	55	**1.0**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.1	0.14	0.41	40	80	**0.7**	**0.21**	**60**
			38		50 HRc	0.3	0.9	0.14	0.37	40	70	**0.5**	**0.20**	**55**
			38		55 HRc	0.3	0.8	0.14	0.32	40	60	**0.3**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.9	0.14	0.41	40	80	**0.5**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.8	0.14	0.32	30	60	**0.3**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.0	0.25	0.74	200	400	**1.3**	**0.38**	**280**

RDMT 1204 M0 – **LT 30 | LT 3000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.0	0.25	0.74	190	330	**1.3**	**0.35**	**250**
			2		190 HB	0.5	3.0	0.25	0.74	190	300	**1.3**	**0.35**	**220**
			3		250 HB	0.5	3.0	0.25	0.74	190	250	**1.3**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.0	0.21	0.58	150	240	**1.3**	**0.30**	**200**
			4,6		230 HB	0.5	3.0	0.21	0.58	150	210	**1.3**	**0.30**	**180**
			5,7		280 HB	0.5	3.0	0.21	0.51	130	190	**1.3**	**0.27**	**150**
			8		350 HB	0.5	3.0	0.21	0.51	130	170	**1.3**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.2	0.17	0.51	90	150	**1.0**	**0.27**	**130**
			10		280 HB	0.5	2.2	0.17	0.51	90	130	**1.0**	**0.27**	**120**
			11		320 HB	0.5	2.2	0.17	0.41	60	110	**1.0**	**0.24**	**100**
			11		350 HB	0.5	2.2	0.17	0.41	60	90	**1.0**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.0	0.21	0.58	190	250	**1.3**	**0.30**	**220**
			14		240 HB	0.5	3.0	0.17	0.51	160	210	**1.3**	**0.30**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.4	0.17	0.41	70	130	**1.0**	**0.24**	**100**
			14		310 HB	0.5	2.4	0.17	0.41	70	120	**1.0**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.0	0.21	0.58	150	210	**1.3**	**0.30**	**190**
			13		42 HRc	0.5	2.4	0.21	0.46	90	150	**1.0**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.0	0.25	0.74	150	240	**1.3**	**0.35**	**200**
			15		200 HB	0.5	3.0	0.25	0.74	150	220	**1.3**	**0.35**	**180**
			16		250 HB	0.5	3.0	0.25	0.74	150	190	**1.3**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.0	0.21	0.64	100	200	**1.3**	**0.30**	**180**
			17,19		200 HB	0.5	3.0	0.21	0.64	100	180	**1.3**	**0.30**	**150**
			18,20		250 HB	0.5	3.0	0.21	0.64	100	150	**1.3**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.4	0.17	0.46	40	65	**1.0**	**0.27**	**55**
			37	T40	-	0.5	2.4	0.17	0.41	30	55	**1.0**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.1	0.14	0.41	40	80	**0.7**	**0.21**	**60**
			38		50 HRc	0.3	0.9	0.14	0.37	40	70	**0.5**	**0.20**	**55**
			38		55 HRc	0.3	0.8	0.14	0.32	40	60	**0.3**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.9	0.14	0.41	40	80	**0.5**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.8	0.14	0.32	30	60	**0.3**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.0	0.25	0.74	200	400	**1.3**	**0.38**	**280**

RDMT 1604 M0 – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	4.0	0.25	1.00	190	330	**2.0**	**0.35**	**250**
			2		190 HB	0.5	4.0	0.25	1.00	190	300	**2.0**	**0.35**	**220**
			3		250 HB	0.5	4.0	0.25	1.00	190	250	**2.0**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	4.0	0.21	0.78	150	240	**2.0**	**0.30**	**200**
			4,6		230 HB	0.5	4.0	0.21	0.78	150	210	**2.0**	**0.30**	**180**
			5,7		280 HB	0.5	4.0	0.21	0.69	130	190	**2.0**	**0.27**	**150**
			8		350 HB	0.5	4.0	0.21	0.69	130	170	**2.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.9	0.17	0.69	90	150	**1.5**	**0.27**	**130**
			10		280 HB	0.5	2.9	0.17	0.69	90	130	**1.5**	**0.27**	**120**
			11		320 HB	0.5	2.9	0.17	0.56	60	110	**1.5**	**0.24**	**100**
			11		350 HB	0.5	2.9	0.17	0.56	60	90	**1.5**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	4.0	0.21	0.78	190	250	**2.0**	**0.30**	**220**
			14		240 HB	0.5	4.0	0.17	0.69	160	210	**2.0**	**0.30**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	3.1	0.17	0.56	70	130	**1.5**	**0.24**	**100**
			14		310 HB	0.5	3.1	0.17	0.56	70	120	**1.5**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	4.0	0.21	0.78	150	210	**2.0**	**0.30**	**190**
			13		42 HRc	0.5	3.1	0.21	0.63	90	150	**1.5**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	4.0	0.25	1.00	150	240	**2.0**	**0.35**	**200**
			15		200 HB	0.5	4.0	0.25	1.00	150	220	**2.0**	**0.35**	**180**
			16		250 HB	0.5	4.0	0.25	1.00	150	190	**2.0**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	4.0	0.21	0.88	100	200	**2.0**	**0.30**	**180**
			17,19		200 HB	0.5	4.0	0.21	0.88	100	180	**2.0**	**0.30**	**150**
			18,20		250 HB	0.5	4.0	0.21	0.88	100	150	**2.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	3.1	0.17	0.56	25	45	**1.5**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	3.1	0.17	0.56	25	45	**1.5**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	3.1	0.17	0.56	25	45	**1.5**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	3.1	0.17	0.63	40	65	**1.5**	**0.27**	**55**
			37	T40	-	0.5	3.1	0.17	0.56	30	55	**1.5**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	1.4	0.14	0.56	40	80	**1.0**	**0.21**	**60**
			38		50 HRc	0.4	1.1	0.14	0.50	40	70	**0.8**	**0.20**	**55**
			38		55 HRc	0.4	1.0	0.14	0.44	40	60	**0.5**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	1.1	0.14	0.56	40	80	**0.8**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.0	0.14	0.44	30	60	**0.5**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	4.0	0.25	1.00	200	400	**2.0**	**0.38**	**280**

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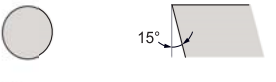
R D M W



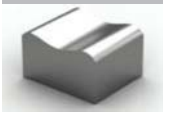
Shape | **Clearance Angle** | **Tolerance** d ± 0.05, s ± 0.13 | **Fixing, Chipbreaker**

LT 30 Multi-Mat™ General Usage – Standard					
Insert Designation	l	s	r	Direction	Catalog Nr.
RDMW 10T3 M0 LT 30	10	3.97	-	Neutral	M0001550
RDMW 1204 M0 LT 30	12	4.76	-	Neutral	M0001551

LT 3000 Multi-Mat™ General Usage – Premium					
Insert Designation	l	s	r	Direction	Catalog Nr.
RDMW 10T3 M0 LT 3000	10	3.97	-	Neutral	M0002228
RDMW 1204 M0 LT 3000	12	4.76	-	Neutral	M0003408

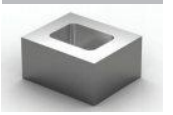
Application Guide

Copying



Helical Interpolation

Pocket Milling



Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel

V_c

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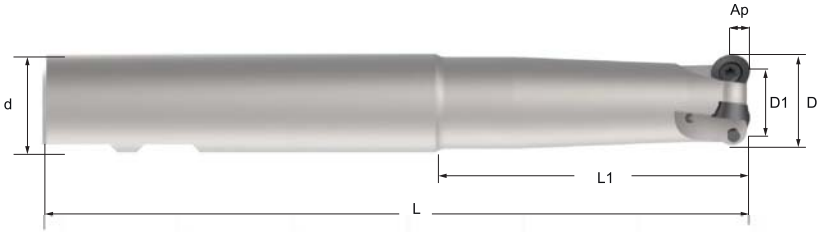
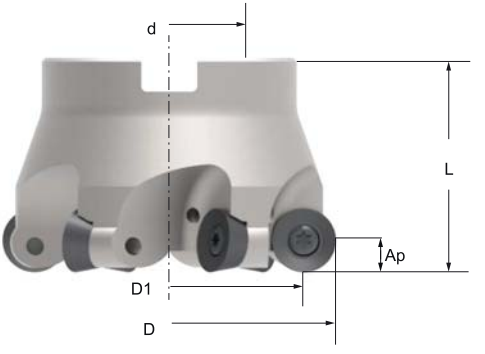
End Mill for RDMW 10T3 M0									
Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 100 WL-W-D020/2	20	10	20	180	80	5	2	12	M2000683
LT 100 WL-W D025/3	25	15	25	180	60	5	3	8	M2000684
LT 100 WL-W D032/3	32	22	32	180	80	5	3	5	M2000685

Screw: M2000597
Key: M2000602



Shell Mill for RDMW 1204 M0								
Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 120 M-W-D040/4	40	28	16	40	6	4	7	M2000691
LT 120 M-W-D050/4	50	38	22	40	6	4	5	M2001780
LT 120 M-W-D063/5	63	51	22	40	6	5	3.5	M2000689
LT 120 M-W-D080/6	80	68	27	50	6	6	2.5	M2000690
LT 120 M-W-D100/7	100	88	40	50	6	7	1.5	M2000688

Screw: M2000597
Key: M2000602



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RDMW 10T3 M0 – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.70	190	330	**1.0**	**0.39**	**250**
			2		190 HB	0.5	2.5	0.18	0.70	190	300	**1.0**	**0.39**	**220**
			3		250 HB	0.5	2.5	0.18	0.70	190	250	**1.0**	**0.39**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.15	0.55	150	240	**1.0**	**0.34**	**200**
			4,6		230 HB	0.5	2.5	0.15	0.55	150	210	**1.0**	**0.34**	**180**
			5,7		280 HB	0.5	2.5	0.15	0.48	130	190	**1.0**	**0.31**	**150**
			8		350 HB	0.5	2.5	0.15	0.48	130	170	**1.0**	**0.31**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.8	0.12	0.48	90	150	**0.8**	**0.31**	**130**
			10		280 HB	0.5	1.8	0.12	0.48	90	130	**0.8**	**0.31**	**120**
			11		320 HB	0.5	1.8	0.12	0.40	60	110	**0.8**	**0.27**	**100**
			11		350 HB	0.5	1.8	0.12	0.40	60	90	**0.8**	**0.27**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.18	0.70	150	240	**1.0**	**0.39**	**200**
			15		200 HB	0.5	2.5	0.18	0.70	150	220	**1.0**	**0.39**	**180**
			16		250 HB	0.5	2.5	0.18	0.70	150	190	**1.0**	**0.39**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.62	100	200	**1.0**	**0.34**	**180**
			17,19		200 HB	0.5	2.5	0.15	0.62	100	180	**1.0**	**0.34**	**150**
			18,20		250 HB	0.5	2.5	0.15	0.62	100	150	**1.0**	**0.34**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.9	0.10	0.40	40	80	**0.5**	**0.24**	**60**
			38		50 HRc	0.3	0.7	0.10	0.35	40	70	**0.4**	**0.22**	**55**
			38		55 HRc	0.3	0.6	0.10	0.31	40	60	**0.3**	**0.20**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.7	0.10	0.40	40	80	**0.4**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.6	0.10	0.31	30	60	**0.3**	**0.20**	**40**

RDMW 1204 M0 – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.70	190	330	1.0	0.39	250
			2		190 HB	0.5	2.5	0.18	0.70	190	300	1.0	0.39	220
			3		250 HB	0.5	2.5	0.18	0.70	190	250	1.0	0.39	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.15	0.55	150	240	1.0	0.34	200
			4,6		230 HB	0.5	2.5	0.15	0.55	150	210	1.0	0.34	180
			5,7		280 HB	0.5	2.5	0.15	0.48	130	190	1.0	0.31	150
			8		350 HB	0.5	2.5	0.15	0.48	130	170	1.0	0.31	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.8	0.12	0.48	90	150	0.8	0.31	130
			10		280 HB	0.5	1.8	0.12	0.48	90	130	0.8	0.31	120
			11		320 HB	0.5	1.8	0.12	0.40	60	110	0.8	0.27	100
			11		350 HB	0.5	1.8	0.12	0.40	60	90	0.8	0.27	80
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.18	0.70	150	240	1.0	0.39	200
			15		200 HB	0.5	2.5	0.18	0.70	150	220	1.0	0.39	180
			16		250 HB	0.5	2.5	0.18	0.70	150	190	1.0	0.39	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.62	100	200	1.0	0.34	180
			17,19		200 HB	0.5	2.5	0.15	0.62	100	180	1.0	0.34	150
			18,20		250 HB	0.5	2.5	0.15	0.62	100	150	1.0	0.34	130
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.9	0.10	0.40	40	80	0.5	0.24	60
			38		50 HRc	0.3	0.7	0.10	0.35	40	70	0.4	0.22	55
			38		55 HRc	0.3	0.6	0.10	0.31	40	60	0.3	0.20	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.7	0.10	0.40	40	80	0.4	0.24	50
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.6	0.10	0.31	30	60	0.3	0.20	40

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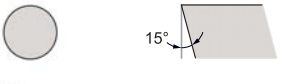

Shape | **Clearance Angle** | **Tolerance** d ± 0.05, s ± 0.13 | **Fixing, Chipbreaker**

LT 30 Multi-Mat™ General Usage – Standard					
Insert Designation	l	s	r	Direction	Catalog Nr.
RDMX 10T3 M0 LT 30	10	3.97	-	Neutral	M0001552
RDMX 1204 M0 LT 30	12	4.76	-	Neutral	M0001553

LT 3000 Multi-Mat™ General Usage – Premium					
Insert Designation	l	s	r	Direction	Catalog Nr.
RDMX 10T3 M0 LT 3000	10	3.97	-	Neutral	M0003409
RDMX 1204 M0 LT 3000	12	4.76	-	Neutral	M0003410

Application Guide

Copying

Helical Interpolation

Pocket Milling

Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel

V_c

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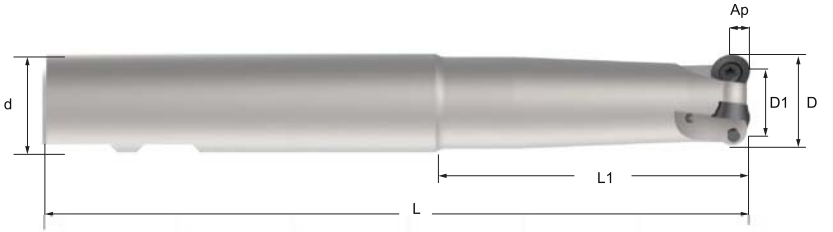
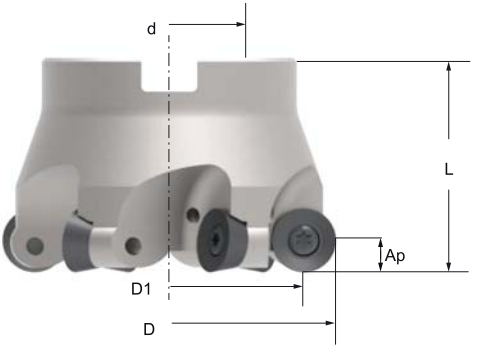
End Mill for RDMX 10T3 M0									
Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 100 WL-W-D020/2	20	10	20	180	80	5	2	12	M2000683
LT 100 WL-W D025/3	25	15	25	180	60	5	3	8	M2000684
LT 100 WL-W D032/3	32	22	32	180	80	5	3	5	M2000685

Screw: M2000597
Key: M2000602



Shell Mill for RDMX 1204 M0								
Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 120 M-W-D040/4	40	28	16	40	6	4	7	M2000691
LT 120 M-W-D050/4	50	38	22	40	6	4	5	M2001780
LT 120 M-W-D063/5	63	51	22	40	6	5	3.5	M2000689
LT 120 M-W-D080/6	80	68	27	50	6	6	2.5	M2000690
LT 120 M-W-D100/7	100	88	40	50	6	7	1.5	M2000688

Screw: M2000597
Key: M2000602



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RDMX 10T3 M0 – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	2.5	0.18	0.64	190	330	**1.000**	**0.345**	**250**
			2		190 HB	0.5	2.5	0.18	0.64	190	300	**1.000**	**0.345**	**220**
			3		250 HB	0.5	2.5	0.18	0.64	190	250	**1.000**	**0.345**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	2.5	0.15	0.50	150	240	**1.000**	**0.300**	**200**
			4,6		230 HB	0.5	2.5	0.15	0.50	150	210	**1.000**	**0.300**	**180**
			5,7		280 HB	0.5	2.5	0.15	0.44	130	190	**1.000**	**0.270**	**150**
			8		350 HB	0.5	2.5	0.15	0.44	130	170	**1.000**	**0.270**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	1.8	0.12	0.44	90	150	**0.750**	**0.270**	**130**
			10		280 HB	0.5	1.8	0.12	0.44	90	130	**0.750**	**0.270**	**120**
			11		320 HB	0.5	1.8	0.12	0.36	60	110	**0.750**	**0.240**	**100**
			11		350 HB	0.5	1.8	0.12	0.36	60	90	**0.750**	**0.240**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	2.5	0.15	0.50	190	250	**1.000**	**0.300**	**220**
			14		240 HB	0.5	2.5	0.12	0.44	160	210	**1.000**	**0.300**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.0	0.12	0.36	70	130	**0.750**	**0.240**	**100**
			14		310 HB	0.5	2.0	0.12	0.36	70	120	**0.750**	**0.240**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	2.5	0.15	0.50	150	210	**1.000**	**0.300**	**190**
			13		42 HRc	0.5	2.0	0.15	0.40	90	150	**0.750**	**0.240**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	2.5	0.18	0.64	150	240	**1.000**	**0.345**	**200**
			15		200 HB	0.5	2.5	0.18	0.64	150	220	**1.000**	**0.345**	**180**
			16		250 HB	0.5	2.5	0.18	0.64	150	190	**1.000**	**0.345**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	2.5	0.15	0.56	100	200	**1.000**	**0.300**	**180**
			17,19		200 HB	0.5	2.5	0.15	0.56	100	180	**1.000**	**0.300**	**150**
			18,20		250 HB	0.5	2.5	0.15	0.56	100	150	**1.000**	**0.300**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.0	0.12	0.36	25	45	**0.750**	**0.240**	**32**
			33	Inconel 700	250 HB	0.5	2.0	0.12	0.36	25	45	**0.750**	**0.240**	**30**
			34	Stellite 21	350 HB	0.5	2.0	0.12	0.36	25	45	**0.750**	**0.240**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.0	0.12	0.40	40	65	**0.750**	**0.270**	**55**
			37	T40	-	0.5	2.0	0.12	0.36	30	55	**0.750**	**0.240**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.9	0.10	0.36	40	80	**0.500**	**0.210**	**60**
			38		50 HRc	0.3	0.7	0.10	0.32	40	70	**0.375**	**0.195**	**55**
			38		55 HRc	0.3	0.6	0.10	0.28	40	60	**0.250**	**0.180**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.7	0.10	0.36	40	80	**0.375**	**0.210**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.6	0.10	0.28	30	60	**0.250**	**0.180**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	2.5	0.18	0.64	200	400	**1.000**	**0.375**	**280**

RDMX 1204 M0 – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	3.0	0.25	0.74	190	330	**1.3**	**0.35**	**250**
			2		190 HB	0.5	3.0	0.25	0.74	190	300	**1.3**	**0.35**	**220**
			3		250 HB	0.5	3.0	0.25	0.74	190	250	**1.3**	**0.35**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.0	0.21	0.58	150	240	**1.3**	**0.30**	**200**
			4,6		230 HB	0.5	3.0	0.21	0.58	150	210	**1.3**	**0.30**	**180**
			5,7		280 HB	0.5	3.0	0.21	0.51	130	190	**1.3**	**0.27**	**150**
			8		350 HB	0.5	3.0	0.21	0.51	130	170	**1.3**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.2	0.17	0.51	90	150	**1.0**	**0.27**	**130**
			10		280 HB	0.5	2.2	0.17	0.51	90	130	**1.0**	**0.27**	**120**
			11		320 HB	0.5	2.2	0.17	0.41	60	110	**1.0**	**0.24**	**100**
			11		350 HB	0.5	2.2	0.17	0.41	60	90	**1.0**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	3.0	0.21	0.58	190	250	**1.3**	**0.30**	**220**
			14		240 HB	0.5	3.0	0.17	0.51	160	210	**1.3**	**0.30**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	2.4	0.17	0.41	70	130	**1.0**	**0.24**	**100**
			14		310 HB	0.5	2.4	0.17	0.41	70	120	**1.0**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.0	0.21	0.58	150	210	**1.3**	**0.30**	**190**
			13		42 HRc	0.5	2.4	0.21	0.46	90	150	**1.0**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.0	0.25	0.74	150	240	**1.3**	**0.35**	**200**
			15		200 HB	0.5	3.0	0.25	0.74	150	220	**1.3**	**0.35**	**180**
			16		250 HB	0.5	3.0	0.25	0.74	150	190	**1.3**	**0.35**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	3.0	0.21	0.64	100	200	**1.3**	**0.30**	**180**
			17,19		200 HB	0.5	3.0	0.21	0.64	100	180	**1.3**	**0.30**	**150**
			18,20		250 HB	0.5	3.0	0.21	0.64	100	150	**1.3**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	2.4	0.17	0.41	25	45	**1.0**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	2.4	0.17	0.46	40	65	**1.0**	**0.27**	**55**
			37	T40	-	0.5	2.4	0.17	0.41	30	55	**1.0**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	1.1	0.14	0.41	40	80	**0.7**	**0.21**	**60**
			38		50 HRc	0.3	0.9	0.14	0.37	40	70	**0.5**	**0.20**	**55**
			38		55 HRc	0.3	0.8	0.14	0.32	40	60	**0.3**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.9	0.14	0.41	40	80	**0.5**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.8	0.14	0.32	30	60	**0.3**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	3.0	0.25	0.74	200	400	**1.3**	**0.38**	**280**

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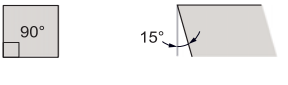

Shape

Clearance Angle

Tolerance
d ± 0.08
m ± 0.013
s ± 0.025

Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
SDKT 1204 AETN LT 30	12.7	4.76	-	Neutral	M0000171

LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	r	Direction	Catalog Nr.
SDKT 1204 AETN LT 3000	12.7	4.76	-	Neutral	M0003411

Application Guide

Chamfering

Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel

V_c

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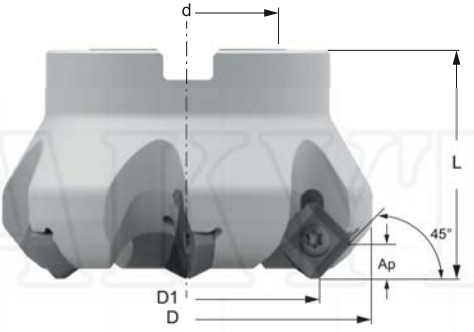
Shell Mill for SDKT 1204 AETN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 670 M-W-D050/4*	63	50	22	48	6	4	M2000553
LT 670 M-W-D063/5*	76	63	22	48	6	5	M2000555
LT 670 M-W-D080/6*	93	80	27	50	6	6	M2000556
LT 670 M-W-D100/6*	113	100	32	50	6	6	M2000557
LT 670 M-W-D125/7*	138	125	40	63	6	7	M2000558
LT 670 M-W-D160/8*	173	160	40	63	6	8	M2000559

* On request

Screw: M2000598
Key: M2000603



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SDKT 1204 AETN – **LT 30 | LT 3000**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.53	190	330	**3.0**	**0.39**	**250**
			2		190 HB	0.5	7.0	0.18	0.53	190	300	**3.0**	**0.39**	**220**
			3		250 HB	0.5	7.0	0.18	0.53	190	250	**3.0**	**0.39**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.41	150	240	**3.0**	**0.34**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.41	150	210	**3.0**	**0.34**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.36	130	190	**3.0**	**0.31**	**150**
			8		350 HB	0.5	7.0	0.15	0.36	130	170	**3.0**	**0.31**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.36	90	150	**2.3**	**0.31**	**130**
			10		280 HB	0.5	5.0	0.12	0.36	90	130	**2.3**	**0.31**	**120**
			11		320 HB	0.5	5.0	0.12	0.30	60	110	**2.3**	**0.27**	**100**
			11		350 HB	0.5	5.0	0.12	0.30	60	90	**2.3**	**0.27**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.36	190	250	**3.0**	**0.31**	**220**
			14		240 HB	0.5	7.0	0.12	0.33	160	210	**3.0**	**0.31**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.30	70	130	**2.3**	**0.27**	**100**
			14		310 HB	0.5	5.0	0.12	0.30	70	120	**2.3**	**0.27**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.36	150	210	**3.0**	**0.31**	**190**
			13		42 HRc	0.5	5.0	0.15	0.30	90	150	**2.3**	**0.27**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.53	150	240	**3.0**	**0.39**	**200**
			15		200 HB	0.5	7.0	0.18	0.53	150	220	**3.0**	**0.39**	**180**
			16		250 HB	0.5	7.0	0.18	0.53	150	190	**3.0**	**0.39**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.46	100	200	**3.0**	**0.34**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.46	100	180	**3.0**	**0.34**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.46	100	150	**3.0**	**0.34**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.30	25	45	**2.3**	**0.27**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.30	25	45	**2.3**	**0.27**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.30	25	45	**2.3**	**0.27**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.33	40	65	**2.3**	**0.31**	**55**
			37	T40	-	0.5	5.0	0.12	0.30	30	55	**2.3**	**0.27**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.30	40	80	**1.5**	**0.24**	**60**
			38		50 HRc	0.5	1.8	0.10	0.26	40	70	**1.1**	**0.22**	**55**
			38		55 HRc	0.5	1.5	0.10	0.23	40	60	**0.8**	**0.20**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.30	40	80	**1.1**	**0.24**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.23	30	60	**0.8**	**0.20**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.53	200	400	**3.0**	**0.43**	**280**

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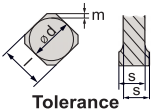
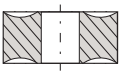
S D K X

Shape | **Clearance Angle**



Tolerance
d ± 0.08
m ± 0.013
s ± 0.025



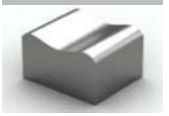
Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	R prog.	Direction	Catalog Nr.
SDKX 0904-HF LT 30	9.52	4.76	2.0	Right	M0003095
SDKX 1205-HF LT 30	12.7	5.56	2.5	Right	M0003096

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	R prog.	Direction	Catalog Nr.
SDKX 0904-HF LT 3000	9.52	4.76	2.0	Right	M0003413
SDKX 1205-HF LT 3000	12.7	5.56	2.5	Right	M0003412

Application Guide

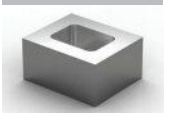
Copying



Helical Interpolation

Plunging

Pocket Milling



Ramping Down

Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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End Mill for SDKX 0904 HF

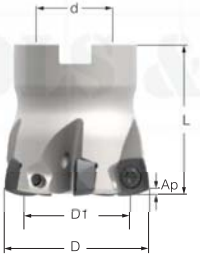
Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 902 WL-W-D025/2	25	9.6	25	120	60	1.5	2	3.5	M2003351
LT 902 W-W-D025/2	25	9.6	25	120	60	1.5	2	3.5	M2003350
LT 902 WL-W-D032/3	32	16.6	32	120	60	1.5	3	2.0	M2003353
LT 902 W-W-D032/3	32	16.6	32	200	60	1.5	3	2.0	M2003352

Screw: M2001420
Key: M2000602

Shell Mill for SDKX 0904 HF

Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 902 M-W-D040/5	40	24.6	16	40	1.5	5	0.8	M2003341
LT 902 M-W-D042/5	42	26.6	16	40	1.5	5	0.8	M2003342
LT 902 M-W-D050/6	50	34.6	22	40	1.5	6	0.7	M2003343
LT 902 M-W-D052/6	52	36.6	22	40	1.5	6	0.7	M2003344
LT 902 M-W-D063/6	63	47.6	22	40	1.5	6	0.6	M2003345
LT 902 M-W-D066/6	66	50.6	22	40	1.5	6	0.6	M2003346

Screw: M2001420
Key: M2000602



Screw Coupling for SDKX 0904 HF

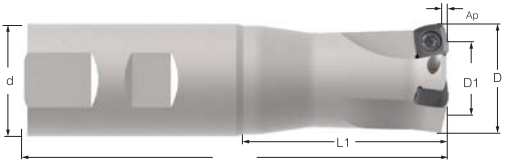
Cutter Designation	D	D1	d	L1	Ap	z	α	Catalog Nr.
LT 902 S-W-D025/2	25	9.6	M12	35	1.5	2	3.5	M2003347
LT 902 S-W-D032/3	32	16.6	M16	35	1.5	3	2.0	M2003348
LT 902 S-W-D035/4	35	19.6	M16	35	1.5	4	1.5	M2003349

Screw: M2001420
Key: M2000602

End Mill for SDKX 1205 HF

Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 903 W-W-D032/2	32	11	32	200	60	2	2	2.0	M2003366
LT 903 WL-W-D032/2	32	11	32	200	60	2	2	2.0	M2003365

Screw: M2000597
Key: M2000602



Shell Mill for SDKX 1205 HF

Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 903 M-W-D050/4	50	29	22	40	2	4	0.8	M2003361
LT 903 M-W-D050/5	50	29	22	40	2	5	0.8	M2003357
LT 903 M-W-D052/5	50	31	22	40	2	5	0.8	M2003358
LT 903 M-W-D063/5	52	42	22	40	2	5	0.6	M2003662
LT 903 M-W-D063/6	63	42	22	40	2	6	0.6	M2003360
LT 903 M-W-D066/6	66	45	22	40	2	6	0.6	M2003361

Screw: M2000597
Key: M2000602

Screw Coupling for SDKX 1205 HF

Cutter Designation	D	D1	d	L1	Ap	z	α	Catalog Nr.
LT 903 S-W-D032/2	32	11	M16	35	2	2	2.0	M2003362
LT 903 S-W-D035/2	35	14	M16	35	2	2	1.5	M2003364
LT 903 S-W-D040/4	40	19	M16	40	2	4	0.8	M2003354
LT 903 S-W-D042/4*	42	21	M16	35	2	4	0.8	M2003356

*On request

Screw: M2000597
Key: M2000602

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SDKX 0904 HF – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	0.8	0.30	2.00	190	330	1.4	1.80	250
			2		190 HB	0.5	0.8	0.30	2.00	190	300	1.4	1.80	220
			3		250 HB	0.5	0.8	0.30	2.00	190	250	1.4	1.80	200
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	0.7	0.30	1.80	150	240	1.1	1.70	200
			4,6		230 HB	0.5	0.7	0.30	1.80	150	210	1.1	1.70	180
			5,7		280 HB	0.5	0.7	0.30	1.80	130	190	1.1	1.70	150
			8		350 HB	0.5	0.7	0.30	1.80	130	170	1.1	1.70	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	0.7	0.30	1.60	90	150	0.8	1.50	130
			10		280 HB	0.5	0.7	0.30	1.60	90	130	0.8	1.50	120
			11		320 HB	0.5	0.7	0.30	1.60	60	110	0.8	1.20	100
			11		350 HB	0.5	0.7	0.30	1.60	60	90	0.8	1.20	80
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	1.2	0.30	1.00	190	250	1.2	1.00	220
			14		240 HB	0.5	1.2	0.30	1.00	160	210	1.2	1.00	190
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	0.9	0.30	0.60	70	130	0.9	0.60	100
			14		310 HB	0.5	0.9	0.30	0.60	70	120	0.9	0.60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	1.2	0.30	0.70	150	210	1.2	0.70	190
			13		42 HRc	0.5	1.0	0.30	0.60	90	150	1.0	0.60	130
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	1.5	0.30	2.00	150	240	1.5	1.80	200
			15		200 HB	0.5	1.5	0.30	2.00	150	220	1.5	1.80	180
			16		250 HB	0.5	1.5	0.30	2.00	150	190	1.5	1.80	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	1.5	0.30	1.80	100	200	1.5	1.60	180
			17,19		200 HB	0.5	1.5	0.30	1.80	100	180	1.5	1.60	150
			18,20		250 HB	0.5	1.5	0.30	1.80	100	150	1.5	1.60	130
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	1.3	0.30	0.80	25	45	1.3	0.60	32
			33	Inconel 700	250 HB	0.5	1.3	0.30	0.80	25	45	1.3	0.60	30
			34	Stellite 21	350 HB	0.5	1.3	0.30	0.80	25	45	1.3	0.60	30
	Ti based	10	36	TiAl6V4	-	0.5	1.3	0.30	0.70	40	65	1.3	0.60	55
			37	T40	-	0.5	1.3	0.30	0.70	30	55	1.3	0.60	40
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.6	0.30	1.20	40	80	1.2	1.00	60
			38		50 HRc	0.3	0.5	0.30	1.00	40	70	1.0	0.90	55
			38		55 HRc	0.3	0.5	0.30	0.80	40	60	0.9	0.70	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.5	0.30	0.80	40	80	1.0	0.80	50
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.5	0.30	0.80	30	60	0.9	0.80	40
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	1.5	0.30	1.00	200	400	1.5	1.00	280

SDKX 1205-HF – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	2.0	0.30	3.00	190	330	1.2	2.00	250
			2		190 HB	0.3	2.0	0.30	3.00	190	300	1.2	2.00	220
			3		250 HB	0.3	2.0	0.30	3.00	190	250	1.2	2.00	200
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	1.6	0.30	2.80	150	240	0.9	1.80	200
			4,6		230 HB	0.3	1.6	0.30	2.80	150	210	0.9	1.80	180
			5,7		280 HB	0.3	1.6	0.30	2.80	130	190	0.9	1.60	150
			8		350 HB	0.3	1.6	0.30	2.50	130	170	0.9	1.60	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	1.6	0.30	2.50	90	150	0.7	1.40	130
			10		280 HB	0.3	1.3	0.30	2.20	90	130	0.7	1.40	120
			11		320 HB	0.3	1.1	0.30	2.00	60	110	0.7	1.20	100
			11		350 HB	0.3	1.1	0.30	1.80	60	90	0.7	1.20	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.3	1.5	0.30	1.10	190	250	0.9	0.90	220
			14		240 HB	0.3	1.5	0.30	1.10	160	210	0.9	0.90	190
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	1.2	0.30	0.70	70	130	0.8	0.60	100
			14		310 HB	0.3	1.2	0.30	0.70	70	120	0.8	0.60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	1.5	0.30	0.80	150	210	0.9	0.70	190
			13		42 HRc	0.3	1.1	0.30	0.70	90	150	0.8	0.60	130
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	2.0	0.30	3.00	150	240	1.5	2.00	200
			15		200 HB	0.3	2.0	0.30	3.00	150	220	1.5	2.00	180
			16		250 HB	0.3	2.0	0.30	3.00	150	190	1.5	2.00	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	2.0	0.30	2.50	100	200	1.5	1.90	180
			17,19		200 HB	0.3	2.0	0.30	2.50	100	180	1.5	1.90	150
			18,20		250 HB	0.3	2.0	0.30	2.50	100	150	1.5	1.90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.3	1.8	0.30	0.70	25	45	1.0	0.60	32
			33	Inconel 700	250 HB	0.3	1.8	0.30	0.60	25	45	1.0	0.60	30
			34	Stellite 21	350 HB	0.3	1.8	0.30	0.60	25	45	1.0	0.60	30
	Ti Based	10	36	TiAl6V4	-	0.3	1.8	0.30	0.70	40	65	1.0	0.60	55
			37	T40	-	0.3	2.0	0.30	0.60	30	55	1.0	0.60	40
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	0.8	0.30	1.40	40	80	0.6	1.00	60
			38		50 HRc	0.3	0.7	0.30	1.20	40	70	0.5	0.90	55
			38		55 HRc	0.3	0.6	0.30	1.00	40	60	0.4	0.80	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	0.7	0.30	0.90	40	80	0.4	0.80	50
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.6	0.30	0.90	30	60	0.4	0.80	40
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	2.0	0.30	1.20	200	400	2.0	1.00	280

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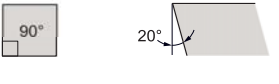
S E K N



Shape | **Clearance Angle** | **Tolerance** | **Fixing, Chipbreaker**

Tolerance
m ± 0.013
s ± 0.025
For l = 12, **d** ± 0.08
For l = 15, **d** ± 0.10

LT 30 Multi-Mat™ General Usage – Standard

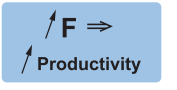
Insert Designation	l	s	r	Direction	Catalog Nr.
SEKN 1203 AFTN LT 30	12.7	3.18	0.39	Neutral	M0000041
SEKN 1204 AFTN LT 30	12.7	4.76	0.39	Neutral	M0000042
SEKN 1504 AFTN LT 30	15.88	4.76	1.1	Neutral	M0000450

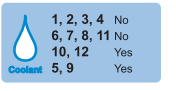
Application Guide

Chamfering

Surfacing

Machining Recommendations





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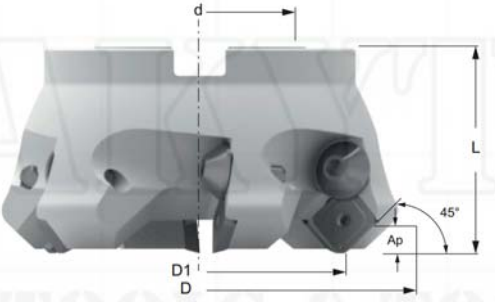
Shell Mill for SEKN 1203 AFTN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 550 M-D-D050/4*	63	50	22	48	6	4	M2000563
LT 550 M-D-D063/5*	76	63	22	48	6	5	M2000564
LT 550 M-D-D080/6*	93	80	27	50	6	6	M2000565
LT 550 M-D-D100/6*	113	100	32	50	6	6	M2000566
LT 550 M-D-D125/7*	138	125	40	63	6	7	M2000567
LT 550 M-D-D160/7*	173	160	40	63	6	7	M2000568
LT 550 M-D-D200/10*	213	200	60	63	6	10	M2000569
LT 550 M-D-D250/13*	263	250	60	63	6	13	M2000570

* On request

Screw: M2000608
Key: M2000609



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SEKN 1203 AFTN – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.46	190	330	**3.0**	**0.34**	**250**
			2		190 HB	0.5	7.0	0.18	0.46	190	300	**3.0**	**0.34**	**220**
			3		250 HB	0.5	7.0	0.18	0.46	190	250	**3.0**	**0.34**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.36	150	240	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.36	150	210	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.32	130	190	**3.0**	**0.27**	**150**
			8		350 HB	0.5	7.0	0.15	0.32	130	170	**3.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.32	90	150	**2.3**	**0.27**	**130**
			10		280 HB	0.5	5.0	0.12	0.32	90	130	**2.3**	**0.27**	**120**
			11		320 HB	0.5	5.0	0.12	0.26	60	110	**2.3**	**0.24**	**100**
			11		350 HB	0.5	5.0	0.12	0.26	60	90	**2.3**	**0.24**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.32	190	250	**3.0**	**0.27**	**220**
			14		240 HB	0.5	7.0	0.12	0.29	160	210	**3.0**	**0.27**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.26	70	130	**2.3**	**0.24**	**100**
			14		310 HB	0.5	5.0	0.12	0.26	70	120	**2.3**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.32	150	210	**3.0**	**0.27**	**190**
			13		42 HRc	0.5	5.0	0.15	0.26	90	150	**2.3**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.46	150	240	**3.0**	**0.34**	**200**
			15		200 HB	0.5	7.0	0.18	0.46	150	220	**3.0**	**0.34**	**180**
			16		250 HB	0.5	7.0	0.18	0.46	150	190	**3.0**	**0.34**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.41	100	200	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.41	100	180	**3.0**	**0.30**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.41	100	150	**3.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.29	40	65	**2.3**	**0.27**	**55**
			37	T40	-	0.5	5.0	0.12	0.26	30	55	**2.3**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.26	40	80	**1.5**	**0.21**	**60**
			38		50 HRc	0.5	1.8	0.10	0.23	40	70	**1.1**	**0.19**	**55**
			38		55 HRc	0.5	1.5	0.10	0.20	40	60	**0.8**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.26	40	80	**1.1**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	30	60	**0.8**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.46	200	400	**3.0**	**0.37**	**280**

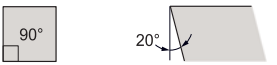
SEKN 1204 AFTN – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.46	190	330	**3.0**	**0.34**	**250**
			2		190 HB	0.5	7.0	0.18	0.46	190	300	**3.0**	**0.34**	**220**
			3		250 HB	0.5	7.0	0.18	0.46	190	250	**3.0**	**0.34**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.36	150	240	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.36	150	210	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.32	130	190	**3.0**	**0.27**	**150**
			8		350 HB	0.5	7.0	0.15	0.32	130	170	**3.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.32	90	150	**2.3**	**0.27**	**130**
			10		280 HB	0.5	5.0	0.12	0.32	90	130	**2.3**	**0.27**	**120**
			11		320 HB	0.5	5.0	0.12	0.26	60	110	**2.3**	**0.24**	**100**
			11		350 HB	0.5	5.0	0.12	0.26	60	90	**2.3**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.32	190	250	**3.0**	**0.27**	**220**
			14		240 HB	0.5	7.0	0.12	0.29	160	210	**3.0**	**0.27**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.26	70	130	**2.3**	**0.24**	**100**
			14		310 HB	0.5	5.0	0.12	0.26	70	120	**2.3**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.32	150	210	**3.0**	**0.27**	**190**
			13		42 HRc	0.5	5.0	0.15	0.26	90	150	**2.3**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.46	150	240	**3.0**	**0.34**	**200**
			15		200 HB	0.5	7.0	0.18	0.46	150	220	**3.0**	**0.34**	**180**
			16		250 HB	0.5	7.0	0.18	0.46	150	190	**3.0**	**0.34**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.41	100	200	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.41	100	180	**3.0**	**0.30**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.41	100	150	**3.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.29	40	65	**2.3**	**0.27**	**55**
			37	T40	-	0.5	5.0	0.12	0.26	30	55	**2.3**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.26	40	80	**1.5**	**0.21**	**60**
			38		50 HRc	0.5	1.8	0.10	0.23	40	70	**1.1**	**0.19**	**55**
			38		55 HRc	0.5	1.5	0.10	0.20	40	60	**0.8**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.26	40	80	**1.1**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	30	60	**0.8**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.46	200	400	**3.0**	**0.37**	**280**

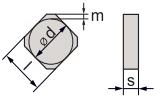
SEKN 1504 AFTN – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.18	0.50	190	330	**4.0**	**0.37**	**250**
			2		190 HB	0.5	9.0	0.18	0.50	190	300	**4.0**	**0.37**	**220**
			3		250 HB	0.5	9.0	0.18	0.50	190	250	**4.0**	**0.37**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.15	0.39	150	240	**4.0**	**0.32**	**200**
			4,6		230 HB	0.5	9.0	0.15	0.39	150	210	**4.0**	**0.32**	**180**
			5,7		280 HB	0.5	9.0	0.15	0.34	130	190	**4.0**	**0.29**	**150**
			8		350 HB	0.5	9.0	0.15	0.34	130	170	**4.0**	**0.29**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.4	0.12	0.34	90	150	**3.0**	**0.29**	**130**
			10		280 HB	0.5	6.4	0.12	0.34	90	130	**3.0**	**0.29**	**120**
			11		320 HB	0.5	6.4	0.12	0.28	60	110	**3.0**	**0.26**	**100**
			11		350 HB	0.5	6.4	0.12	0.28	60	90	**3.0**	**0.26**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.15	0.34	190	250	**4.0**	**0.29**	**220**
			14		240 HB	0.5	9.0	0.12	0.31	160	210	**4.0**	**0.29**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.4	0.12	0.28	70	130	**3.0**	**0.26**	**100**
			14		310 HB	0.5	6.4	0.12	0.28	70	120	**3.0**	**0.26**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.15	0.34	150	210	**4.0**	**0.29**	**190**
			13		42 HRc	0.5	6.4	0.15	0.28	90	150	**3.0**	**0.26**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.18	0.50	150	240	**4.0**	**0.37**	**200**
			15		200 HB	0.5	9.0	0.18	0.50	150	220	**4.0**	**0.37**	**180**
			16		250 HB	0.5	9.0	0.18	0.50	150	190	**4.0**	**0.37**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.15	0.43	100	200	**4.0**	**0.32**	**180**
			17,19		200 HB	0.5	9.0	0.15	0.43	100	180	**4.0**	**0.32**	**150**
			18,20		250 HB	0.5	9.0	0.15	0.43	100	150	**4.0**	**0.32**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	6.4	0.12	0.28	25	45	**3.0**	**0.26**	**32**
			33	Inconel 700	250 HB	0.5	6.4	0.12	0.28	25	45	**3.0**	**0.26**	**30**
			34	Stellite 21	350 HB	0.5	6.4	0.12	0.28	25	45	**3.0**	**0.26**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	6.4	0.12	0.31	40	65	**3.0**	**0.29**	**55**
			37	T40	-	0.5	6.4	0.12	0.28	30	55	**3.0**	**0.26**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.10	0.28	40	80	**2.0**	**0.22**	**60**
			38		50 HRc	0.5	1.9	0.10	0.25	40	70	**1.5**	**0.21**	**55**
			38		55 HRc	0.5	1.6	0.10	0.22	40	60	**1.0**	**0.19**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.10	0.28	40	80	**1.5**	**0.22**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.6	0.10	0.22	30	60	**1.0**	**0.19**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.18	0.50	200	400	**4.0**	**0.40**	**280**

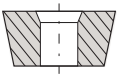
S E K R



Shape | **Clearance Angle**



Tolerance
d ± 0.08
m ± 0.013
s ± 0.025



Insert Type
Clamping,
Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
SEKR 1203 AFTN LT 30	12.7	3.18	0.39	Neutral	M0000043
SEKR 1204 AFTN LT 30	12.7	4.76	0.40	Neutral	M0000044

Application Guide

Chamfering

Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

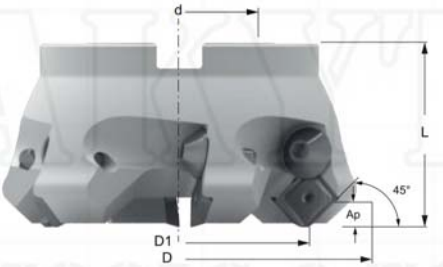
Stainless Steel
V_c

ООО "АКИТЭК", РФ., г. Москва.
ул. Подольских курсантов, дом. 22, корпус 5,
тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

Shell Mill for SEKR 1203 AFTN							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 550 M-D-D050/4*	63	50	22	48	6	4	M2000563
LT 550 M-D-D063/5*	76	63	22	48	6	5	M2000564
LT 550 M-D-D080/6*	93	80	27	50	6	6	M2000565
LT 550 M-D-D100/6*	113	100	32	50	6	6	M2000566
LT 550 M-D-D125/7*	138	125	40	63	6	7	M2000567
LT 550 M-D-D160/7*	173	160	40	63	6	7	M2000568
LT 550 M-D-D200/10*	213	200	60	63	6	10	M2000569
LT 550 M-D-D250/13*	263	250	60	63	6	13	M2000570

* On request

Screw: M2000608
Key: M2000609



SEKR 1203 AFTN – **LT 30**

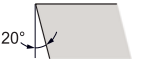
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.46	190	330	**3.0**	**0.34**	**250**
			2		190 HB	0.5	7.0	0.18	0.46	190	300	**3.0**	**0.34**	**220**
			3		250 HB	0.5	7.0	0.18	0.46	190	250	**3.0**	**0.34**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.36	150	240	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.36	150	210	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.32	130	190	**3.0**	**0.27**	**150**
			8		350 HB	0.5	7.0	0.15	0.32	130	170	**3.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.32	90	150	**2.3**	**0.27**	**130**
			10		280 HB	0.5	5.0	0.12	0.32	90	130	**2.3**	**0.27**	**120**
			11		320 HB	0.5	5.0	0.12	0.26	60	110	**2.3**	**0.24**	**100**
			11		350 HB	0.5	5.0	0.12	0.26	60	90	**2.3**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.32	190	250	**3.0**	**0.27**	**220**
			14		240 HB	0.5	7.0	0.12	0.29	160	210	**3.0**	**0.27**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.26	70	130	**2.3**	**0.24**	**100**
			14		310 HB	0.5	5.0	0.12	0.26	70	120	**2.3**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.32	150	210	**3.0**	**0.27**	**190**
			13		42 HRc	0.5	5.0	0.15	0.26	90	150	**2.3**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.46	150	240	**3.0**	**0.34**	**200**
			15		200 HB	0.5	7.0	0.18	0.46	150	220	**3.0**	**0.34**	**180**
			16		250 HB	0.5	7.0	0.18	0.46	150	190	**3.0**	**0.34**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.41	100	200	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.41	100	180	**3.0**	**0.30**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.41	100	150	**3.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.29	40	65	**2.3**	**0.27**	**55**
			37	T40	-	0.5	5.0	0.12	0.26	30	55	**2.3**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.26	40	80	**1.5**	**0.21**	**60**
			38		50 HRc	0.5	1.8	0.10	0.23	40	70	**1.1**	**0.19**	**55**
			38		55 HRc	0.5	1.5	0.10	0.20	40	60	**0.8**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.26	40	80	**1.1**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	30	60	**0.8**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.46	200	400	**3.0**	**0.37**	**280**

SEKR 1204 AFTN – **LT 30**

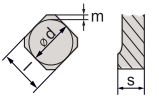
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.46	190	330	**3.0**	**0.34**	**250**
			2		190 HB	0.5	7.0	0.18	0.46	190	300	**3.0**	**0.34**	**220**
			3		250 HB	0.5	7.0	0.18	0.46	190	250	**3.0**	**0.34**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.36	150	240	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.36	150	210	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.32	130	190	**3.0**	**0.27**	**150**
			8		350 HB	0.5	7.0	0.15	0.32	130	170	**3.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.32	90	150	**2.3**	**0.27**	**130**
			10		280 HB	0.5	5.0	0.12	0.32	90	130	**2.3**	**0.27**	**120**
			11		320 HB	0.5	5.0	0.12	0.26	60	110	**2.3**	**0.24**	**100**
			11		350 HB	0.5	5.0	0.12	0.26	60	90	**2.3**	**0.24**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.32	190	250	**3.0**	**0.27**	**220**
			14		240 HB	0.5	7.0	0.12	0.29	160	210	**3.0**	**0.27**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.26	70	130	**2.3**	**0.24**	**100**
			14		310 HB	0.5	5.0	0.12	0.26	70	120	**2.3**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.32	150	210	**3.0**	**0.27**	**190**
			13		42 HRc	0.5	5.0	0.15	0.26	90	150	**2.3**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.46	150	240	**3.0**	**0.34**	**200**
			15		200 HB	0.5	7.0	0.18	0.46	150	220	**3.0**	**0.34**	**180**
			16		250 HB	0.5	7.0	0.18	0.46	150	190	**3.0**	**0.34**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.41	100	200	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.41	100	180	**3.0**	**0.30**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.41	100	150	**3.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.29	40	65	**2.3**	**0.27**	**55**
			37	T40	-	0.5	5.0	0.12	0.26	30	55	**2.3**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.26	40	80	**1.5**	**0.21**	**60**
			38		50 HRc	0.5	1.8	0.10	0.23	40	70	**1.1**	**0.19**	**55**
			38		55 HRc	0.5	1.5	0.10	0.20	40	60	**0.8**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.26	40	80	**1.1**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	30	60	**0.8**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.46	200	400	**3.0**	**0.37**	**280**

S E K T

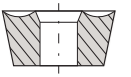
Shape



Clearance Angle



Tolerance
d ± 0.08
m ± 0.013
s ± 0.025



Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
SEKT 12T3 AGSN LT 30	13.4	3.97	1.2	Neutral	M0000455
SEKT 1204 AFTN LT 30	12.7	4.76	0.85	Neutral	M0000045

LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	r	Direction	Catalog Nr.
SEKT 12T3 AGSN LT 3000	13.4	3.97	1.2	Neutral	M0002231
SEKT 1204 AFTN LT 3000	12.7	4.76	0.85	Neutral	M0002230

Application Guide

Chamfering

Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant	1, 2, 3, 4	No
	6, 7, 8, 11	No
	10, 12	Yes
	5, 9	Yes

Stainless Steel
V_c

ООО "АКИТЭК", РФ., г. Москва.
ул. Подольских курсантов, дом. 22, корпус 5,
тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

Shell Mill for SEKT 1204 AFTN

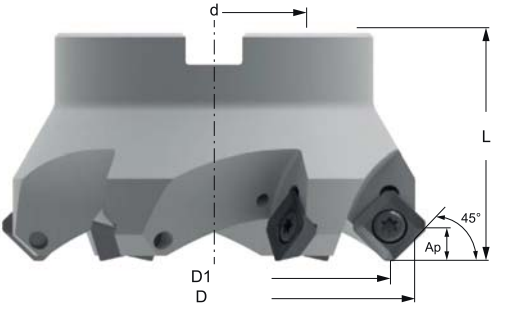
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 600 M-W-D040/3	53	40	16	40	6	3	M2000546
LT 600 M-W-D050/4	63	50	22	48	6	4	M2000547
LT 600 M-W-D063/5	76	63	22	48	6	5	M2000548
LT 600 M-W-D080/6	93	80	27	50	6	6	M2000549
LT 600 M-W-D100/6	113	100	32	50	6	6	M2000500
LT 600 M-W-D125/7	138	125	40	63	6	7	M2000551
LT 600 M-W-D160/8	173	160	40	63	6	8	M2000552

Screw: M2000599
Key: M2000603

Shell Mill for SEKT 12T3 AFTN

Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 610 M-W-D040/3	53	40	16	40	6	3	M2001431
LT 610 M-W-D050/4	63	50	22	48	6	4	M2001382
LT 610 M-W-D063/5	76	63	22	48	6	5	M2001383
LT 610 M-W-D080/6	93	80	27	50	6	6	M2001384
LT 610 M-W-D100/6	113	100	32	50	6	6	M2001432
LT 610 M-W-D125/7	138	125	40	63	6	7	M2001433
LT 610 M-W-D160/8	173	160	40	63	6	8	M2001434

Screw: M2000602
Key: M2001418



SEKT 1204 AFTN – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.46	190	330	**3.0**	**0.34**	**250**
			2		190 HB	0.5	7.0	0.18	0.46	190	300	**3.0**	**0.34**	**220**
			3		250 HB	0.5	7.0	0.18	0.46	190	250	**3.0**	**0.34**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.36	150	240	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.36	150	210	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.32	130	190	**3.0**	**0.27**	**150**
			8		350 HB	0.5	7.0	0.15	0.32	130	170	**3.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.32	90	150	**2.3**	**0.27**	**130**
			10		280 HB	0.5	5.0	0.12	0.32	90	130	**2.3**	**0.27**	**120**
			11		320 HB	0.5	5.0	0.12	0.26	60	110	**2.3**	**0.24**	**100**
			11		350 HB	0.5	5.0	0.12	0.26	60	90	**2.3**	**0.24**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.32	190	250	**3.0**	**0.27**	**220**
			14		240 HB	0.5	7.0	0.12	0.29	160	210	**3.0**	**0.27**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.26	70	130	**2.3**	**0.24**	**100**
			14		310 HB	0.5	5.0	0.12	0.26	70	120	**2.3**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.32	150	210	**3.0**	**0.27**	**190**
			13		42 HRc	0.5	5.0	0.15	0.26	90	150	**2.3**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.46	150	240	**3.0**	**0.34**	**200**
			15		200 HB	0.5	7.0	0.18	0.46	150	220	**3.0**	**0.34**	**180**
			16		250 HB	0.5	7.0	0.18	0.46	150	190	**3.0**	**0.34**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.41	100	200	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.41	100	180	**3.0**	**0.30**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.41	100	150	**3.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.29	40	65	**2.3**	**0.27**	**55**
			37	T40	-	0.5	5.0	0.12	0.26	30	55	**2.3**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.26	40	80	**1.5**	**0.21**	**60**
			38		50 HRc	0.5	1.8	0.10	0.23	40	70	**1.1**	**0.19**	**55**
			38		55 HRc	0.5	1.5	0.10	0.20	40	60	**0.8**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.26	40	80	**1.1**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	30	60	**0.8**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.46	200	400	**3.0**	**0.37**	**280**

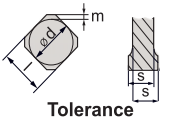
SEKT 12T3 AGSN – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.46	190	330	**3.0**	**0.34**	**250**
			2		190 HB	0.5	7.0	0.18	0.46	190	300	**3.0**	**0.34**	**220**
			3		250 HB	0.5	7.0	0.18	0.46	190	250	**3.0**	**0.34**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.36	150	240	**3.0**	**0.30**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.36	150	210	**3.0**	**0.30**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.32	130	190	**3.0**	**0.27**	**150**
			8		350 HB	0.5	7.0	0.15	0.32	130	170	**3.0**	**0.27**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.32	90	150	**2.3**	**0.27**	**130**
			10		280 HB	0.5	5.0	0.12	0.32	90	130	**2.3**	**0.27**	**120**
			11		320 HB	0.5	5.0	0.12	0.26	60	110	**2.3**	**0.24**	**100**
			11		350 HB	0.5	5.0	0.12	0.26	60	90	**2.3**	**0.24**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.32	190	250	**3.0**	**0.27**	**220**
			14		240 HB	0.5	7.0	0.12	0.29	160	210	**3.0**	**0.27**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.26	70	130	**2.3**	**0.24**	**100**
			14		310 HB	0.5	5.0	0.12	0.26	70	120	**2.3**	**0.24**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.32	150	210	**3.0**	**0.27**	**190**
			13		42 HRc	0.5	5.0	0.15	0.26	90	150	**2.3**	**0.24**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.46	150	240	**3.0**	**0.34**	**200**
			15		200 HB	0.5	7.0	0.18	0.46	150	220	**3.0**	**0.34**	**180**
			16		250 HB	0.5	7.0	0.18	0.46	150	190	**3.0**	**0.34**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.41	100	200	**3.0**	**0.30**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.41	100	180	**3.0**	**0.30**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.41	100	150	**3.0**	**0.30**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.26	25	45	**2.3**	**0.24**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.29	40	65	**2.3**	**0.27**	**55**
			37	T40	-	0.5	5.0	0.12	0.26	30	55	**2.3**	**0.24**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.26	40	80	**1.5**	**0.21**	**60**
			38		50 HRc	0.5	1.8	0.10	0.23	40	70	**1.1**	**0.19**	**55**
			38		55 HRc	0.5	1.5	0.10	0.20	40	60	**0.8**	**0.18**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.26	40	80	**1.1**	**0.21**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.20	30	60	**0.8**	**0.18**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.46	200	400	**3.0**	**0.37**	**280**

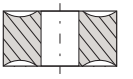
S N K X

Shape

Clearance Angle



Tolerance
d ± 0.05
m ± 0.013
s ± 0.025



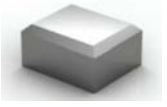
Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
SNKX 1205-45 LT 30	12.70	6.20	0.85	Neutral	M0003221
SNKX 1607-45 LT 30	16.70	7.70	0.80	Neutral	M0002205

LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	r	Direction	Catalog Nr.
SNKX 1205-45 LT 3000	12.70	6.20	0.85	Neutral	M0003415
SNKX 1607-45 LT 3000	16.70	7.70	0.80	Neutral	M0002237

Application Guide

Chamfering



Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

Shell Mill for SNKX 1205-45°

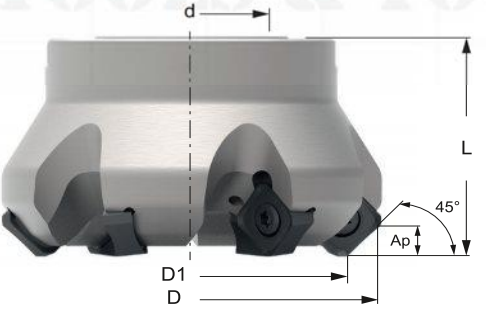
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 946 M-W-D050/4	-	50	22	48	6	4	M2003223
LT 946 M-W-D063/6	-	63	22	48	6	6	M2003224
LT 946 M-W-D080/7	-	80	27	50	6	7	M2003225
LT 946 M-W-D100/8	-	100	32	50	6	8	M2003226
LT 946 M-W-D125/10	-	125	40	63	6	10	M2003227
LT 946 M-W-D160/12	-	160	40	63	6	12	M2003228

Screw: M2002101
Key: M2002911

Shell Mill for SNKX 1604-45°

Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 947 M-W-D050/4	69	50	22	50	7	4	M2002200
LT 947 M-W-D063/5	82	63	22	50	7	5	M2002201
LT 947 M-W-D080/6	99	80	27	50	7	6	M2002202
LT 947 M-W-D100/7	119	100	32	63	7	7	M2002203
LT 947 M-W-D125/8	144	125	40	63	7	8	M2002204

Screw: M2002101
Key: M2002911



SNKX 1205-45° – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.16	0.34	190	330	**3.0**	**0.30**	**250**
			2		190 HB	0.5	5.0	0.16	0.34	190	300	**3.0**	**0.30**	**220**
			3		250 HB	0.5	5.0	0.16	0.34	190	250	**3.0**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.14	0.28	150	240	**3.0**	**0.26**	**200**
			4,6		230 HB	0.5	5.0	0.14	0.28	150	210	**3.0**	**0.26**	**180**
			5,7		280 HB	0.5	5.0	0.14	0.26	130	190	**3.0**	**0.24**	**150**
			8		350 HB	0.5	5.0	0.14	0.26	130	170	**3.0**	**0.24**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.11	0.28	90	150	**3.0**	**0.26**	**130**
			10		280 HB	0.5	5.0	0.11	0.28	90	130	**3.0**	**0.26**	**120**
			11		320 HB	0.5	5.0	0.11	0.24	60	110	**3.0**	**0.22**	**100**
			11		350 HB	0.5	5.0	0.11	0.24	60	90	**3.0**	**0.22**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.14	0.30	190	250	**3.0**	**0.26**	**220**
			14		240 HB	0.5	5.0	0.11	0.30	160	210	**3.0**	**0.26**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.11	0.25	70	130	**2.5**	**0.22**	**100**
			14		310 HB	0.5	4.0	0.11	0.25	70	120	**2.5**	**0.22**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.14	0.30	150	210	**3.0**	**0.26**	**190**
			13		42 HRc	0.5	4.0	0.14	0.25	90	150	**3.0**	**0.22**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.17	0.34	150	240	**3.0**	**0.30**	**200**
			15		200 HB	0.5	5.0	0.17	0.34	150	220	**3.0**	**0.30**	**180**
			16		250 HB	0.5	5.0	0.17	0.34	150	190	**3.0**	**0.30**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.14	0.30	100	200	**3.0**	**0.27**	**180**
			17,19		200 HB	0.5	5.0	0.14	0.30	100	180	**3.0**	**0.27**	**150**
			18,20		250 HB	0.5	5.0	0.14	0.30	100	150	**3.0**	**0.27**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	4.0	0.11	0.20	25	45	**2.5**	**0.18**	**32**
			33	Inconel 700	250 HB	0.5	4.0	0.11	0.20	25	45	**2.5**	**0.18**	**30**
			34	Stellite 21	350 HB	0.5	4.0	0.11	0.20	25	45	**2.5**	**0.18**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	4.0	0.11	0.25	40	65	**2.5**	**0.23**	**55**
			37	T40	-	0.5	4.0	0.11	0.23	30	55	**2.5**	**0.20**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	2.0	0.10	0.22	40	80	**1.3**	**0.18**	**60**
			38		50 HRc	0.4	2.0	0.10	0.20	40	70	**1.3**	**0.16**	**55**
			38		55 HRc	0.4	1.0	0.10	0.18	40	60	**1.0**	**0.15**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	2.0	0.10	0.22	40	80	**1.3**	**0.19**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.0	0.10	0.20	30	60	**1.0**	**0.17**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	5.0	0.17	0.36	200	400	**3.0**	**0.30**	**280**

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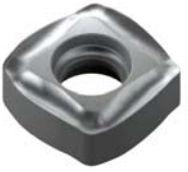
www.akytec.ru

SNKX 1607-45° – LT 30 | LT 3000

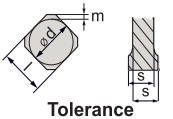
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	6.5	0.16	0.58	190	330	**4.0**	**0.46**	**250**
			2		190 HB	0.5	6.5	0.16	0.58	190	300	**4.0**	**0.46**	**220**
			3		250 HB	0.5	6.5	0.16	0.58	190	250	**4.0**	**0.46**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	6.5	0.14	0.50	150	240	**4.0**	**0.40**	**200**
			4,6		230 HB	0.5	6.5	0.14	0.50	150	210	**4.0**	**0.40**	**180**
			5,7		280 HB	0.5	6.5	0.14	0.44	130	190	**4.0**	**0.36**	**150**
			8		350 HB	0.5	6.5	0.14	0.44	130	170	**4.0**	**0.36**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.5	0.11	0.44	90	150	**3.0**	**0.36**	**130**
			10		280 HB	0.5	6.5	0.11	0.44	90	130	**3.0**	**0.36**	**120**
			11		320 HB	0.5	6.5	0.11	0.36	60	110	**3.0**	**0.32**	**100**
			11		350 HB	0.5	6.5	0.11	0.36	60	90	**3.0**	**0.32**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	6.5	0.14	0.44	190	250	**4.0**	**0.34**	**220**
			14		240 HB	0.5	6.5	0.11	0.40	160	210	**4.0**	**0.34**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.11	0.36	70	130	**3.0**	**0.30**	**100**
			14		310 HB	0.5	5.0	0.11	0.36	70	120	**3.0**	**0.30**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	6.5	0.14	0.44	150	210	**4.0**	**0.34**	**190**
			13		42 HRc	0.5	5.0	0.14	0.40	90	150	**3.0**	**0.30**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	6.5	0.17	0.58	150	240	**4.0**	**0.46**	**200**
			15		200 HB	0.5	6.5	0.17	0.58	150	220	**4.0**	**0.46**	**180**
			16		250 HB	0.5	6.5	0.17	0.58	150	190	**4.0**	**0.46**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	6.5	0.14	0.52	100	200	**4.0**	**0.40**	**180**
			17,19		200 HB	0.5	6.5	0.14	0.52	100	180	**4.0**	**0.40**	**150**
			18,20		250 HB	0.5	6.5	0.14	0.52	100	150	**4.0**	**0.40**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.11	0.36	25	45	**3.0**	**0.30**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.11	0.36	25	45	**3.0**	**0.30**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.11	0.36	25	45	**3.0**	**0.30**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	5.0	0.11	0.40	40	65	**3.0**	**0.34**	**55**
			37	T40	-	0.5	5.0	0.11	0.36	30	55	**3.0**	**0.30**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.4	3.0	0.10	0.36	40	80	**2.0**	**0.28**	**60**
			38		50 HRc	0.4	3.0	0.10	0.32	40	70	**1.5**	**0.26**	**55**
			38		55 HRc	0.4	1.5	0.10	0.28	40	60	**1.0**	**0.24**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.4	3.0	0.10	0.36	40	80	**1.5**	**0.28**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.4	1.5	0.10	0.28	30	60	**1.0**	**0.24**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.5	0.17	0.60	200	400	**4.0**	**0.50**	**280**



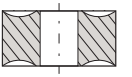
S N K X

Shape

Clearance Angle



Tolerance
d ± 0.05
m ± 0.013
s ± 0.025



Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	R prog.	Direction	Catalog Nr.
SNKX 09T3-HF LT 30	9.67	3.71	4.2	Right	M0002115

LT 3000	Multi-Mat™ General Usage – Premium				
Insert Designation	l	s	R prog.	Direction	Catalog Nr.
SNKX 09T3-HF LT 3000	9.67	3.71	4.2	Right	M0002236

Application Guide

Copying

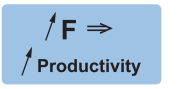
Helical Interpolation

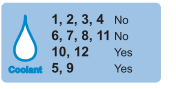
Pocket Milling

Ramping Down

Surfacing

Machining Recommendations





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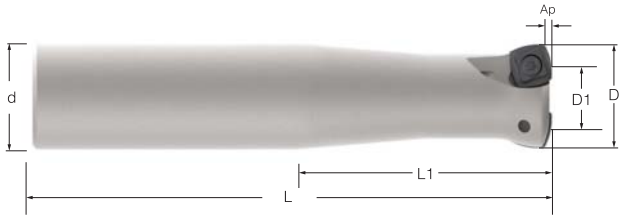
www.akytec.ru

End Mill for SNKX 09T3-HF

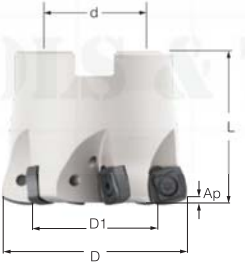
Cutter Designation	D	D1	d	L	L1	Ap	z	α	Catalog Nr.
LT 900 WL-W-D025/2	25	13.5	25	200	60	1	2	3.5	M2002117
LT 900 W-W-D025/3	25	13.5	25	120	60	1	3	3.5	M2002118
LT 900 WL-W-D032/3	32	20.5	32	200	60	1	3	2.0	M2002120
LT 900 W-W-D032/4	32	20.5	32	120	60	1	4	2.0	M2002119



Screw: M2002101
Key: M2002911

Shell Mill for SNKX 09T3-HF

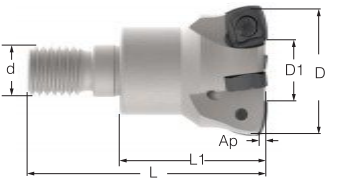
Cutter Designation	D	D1	d	L	Ap	z	α	Catalog Nr.
LT 900 M-W-D040/5	40	28.5	16	40	1	5	3.5	M2002121
LT 900 M-W-D042/5	42	30.5	16	40	1	5	3.2	M2002122
LT 900 M-W-D050/6	50	38.5	22	40	1	6	2.5	M2002123
LT 900 M-W-D052/6	52	40.5	22	40	1	5	2.2	M2002124
LT 900 M-W-D063/6	63	51.5	22	40	1	6	1.8	M2002125
LT 900 M-W-D066/6	66	54.5	22	40	1	6	1.7	M2002127



Screw: M2002101
Key: M2002911

Screw Coupling for SNKX 09T3-HF

Cutter Designation	D	D1	d	L1	Ap	z	α	Catalog Nr.
LT 900 S-W-D025/3	25	13.5	M12	35	1	3	3.5	M2002128
LT 900 S-W-D032/4	32	20.5	M16	35	1	4	2.0	M2002129
LT 900 S-W-D035/4	35	23.5	M16	35	1	4	1.5	M2002130



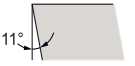
Screw: M2002101
Key: M2002911

SNKX 09T3-HF – LT 30 | LT 3000

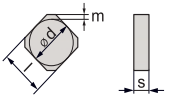
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.1	1.0	0.27	2.10	190	330	**0.6**	**1.10**	**250**
			2		190 HB	0.1	1.0	0.27	1.95	190	300	**0.6**	**1.10**	**220**
			3		250 HB	0.1	1.0	0.27	1.50	190	250	**0.6**	**1.10**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.1	1.0	0.25	1.95	150	240	**0.5**	**1.00**	**200**
			4,6		230 HB	0.1	1.0	0.25	1.70	150	210	**0.5**	**1.00**	**180**
			5,7		280 HB	0.1	1.0	0.23	1.60	130	190	**0.5**	**0.90**	**150**
			8		350 HB	0.1	1.0	0.23	1.50	130	170	**0.5**	**0.90**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.1	1.0	0.20	1.70	90	150	**0.5**	**0.90**	**130**
			10		280 HB	0.1	1.0	0.20	1.60	90	130	**0.5**	**0.90**	**120**
			11		320 HB	0.1	0.8	0.20	1.50	60	110	**0.4**	**0.80**	**100**
			11		350 HB	0.1	0.8	0.20	1.40	60	90	**0.4**	**0.80**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.1	1.0	0.20	2.40	150	240	**0.6**	**1.10**	**200**
			15		200 HB	0.1	1.0	0.20	2.40	150	220	**0.6**	**1.10**	**180**
			16		250 HB	0.1	1.0	0.20	2.40	150	190	**0.6**	**1.10**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.1	1.0	0.20	1.80	100	200	**0.5**	**1.00**	**180**
			17,19		200 HB	0.1	1.0	0.20	1.80	100	180	**0.5**	**1.00**	**150**
			18,20		250 HB	0.1	1.0	0.20	1.80	100	150	**0.5**	**1.00**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.1	0.6	0.16	1.10	40	80	**0.4**	**0.70**	**60**
			38		50 HRc	0.1	0.5	0.16	1.00	40	70	**0.3**	**0.65**	**55**
			38		55 HRc	0.1	0.4	0.16	0.90	40	60	**0.3**	**0.60**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.1	0.6	0.16	1.10	40	80	**0.4**	**0.70**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.1	0.4	0.16	0.90	30	60	**0.3**	**0.60**	**40**

S P K N

Shape

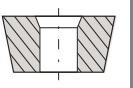


Clearance Angle



Tolerance

m ± 0.013 **s** ± 0.025
For l = 12, **d** ± 0.08
For l = 15, **d** ± 0.10



Fixing, Chipbreaker

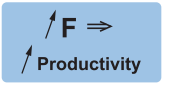
LT 30 Multi-Mat™ General Usage – Standard

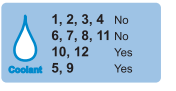
Insert Designation	l	s	r	Direction	Catalog Nr.
SPKN 1203 EDTR LT 30	12.7	3.21	1.2	Right	M0000046
SPKN 1204 EDTR LT 30	12.7	4.76	1.2	Right	M0000047
SPKN 1504 EDTR LT 30	15.88	4.76	1.6	Right	M0001673

Application Guide

Surfacing

Machining Recommendations





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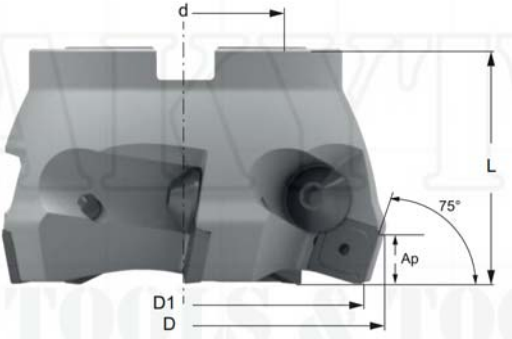
Shell Mill for SPKN 1203 EDTR							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 750 M-D-D063/4*	69	63	22	40	9	4	M2000571
LT 750 M-D-D080/5*	86	80	27	50	9	5	M2000572
LT 750 M-D-D100/7*	106	100	32	50	9	7	M2000574
LT 750 M-D-D125/8*	131	125	40	63	9	8	M2000575
LT 750 M-D-D160/10*	166	160	40	63	9	10	M2000576
LT 750 M-D-D200/12*	206	200	63	63	9	12	M2000577
LT 750 M-D-D250/14*	256	250	63	63	9	14	M2000578

* On request

Screw: M2000606
Key: M2000609



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SPKN 1203 EDTR – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.43	190	330	**3.0**	**0.30**	**250**
			2		190 HB	0.5	7.0	0.18	0.43	190	300	**3.0**	**0.30**	**220**
			3		250 HB	0.5	7.0	0.18	0.43	190	250	**3.0**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.34	150	240	**3.0**	**0.26**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.34	150	210	**3.0**	**0.26**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.30	130	190	**3.0**	**0.23**	**150**
			8		350 HB	0.5	7.0	0.15	0.30	130	170	**3.0**	**0.23**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.30	90	150	**2.3**	**0.23**	**130**
			10		280 HB	0.5	5.0	0.12	0.30	90	130	**2.3**	**0.23**	**120**
			11		320 HB	0.5	5.0	0.12	0.24	60	110	**2.3**	**0.21**	**100**
			11		350 HB	0.5	5.0	0.12	0.24	60	90	**2.3**	**0.21**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.43	150	240	**3.0**	**0.30**	**200**
			15		200 HB	0.5	7.0	0.18	0.43	150	220	**3.0**	**0.30**	**180**
			16		250 HB	0.5	7.0	0.18	0.43	150	190	**3.0**	**0.30**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.38	100	200	**3.0**	**0.26**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.38	100	180	**3.0**	**0.26**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.38	100	150	**3.0**	**0.26**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.24	40	80	**1.5**	**0.18**	**60**
			38		50 HRc	0.5	1.8	0.10	0.22	40	70	**1.1**	**0.17**	**55**
			38		55 HRc	0.5	1.5	0.10	0.19	40	60	**0.8**	**0.16**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.24	40	80	**1.1**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.19	30	60	**0.8**	**0.16**	**40**

SPKN 1204 EDTR – **LT 30 | LT 3000**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.43	190	330	**3.0**	**0.30**	**250**
			2		190 HB	0.5	7.0	0.18	0.43	190	300	**3.0**	**0.30**	**220**
			3		250 HB	0.5	7.0	0.18	0.43	190	250	**3.0**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.34	150	240	**3.0**	**0.26**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.34	150	210	**3.0**	**0.26**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.30	130	190	**3.0**	**0.23**	**150**
			8		350 HB	0.5	7.0	0.15	0.30	130	170	**3.0**	**0.23**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.30	90	150	**2.3**	**0.23**	**130**
			10		280 HB	0.5	5.0	0.12	0.30	90	130	**2.3**	**0.23**	**120**
			11		320 HB	0.5	5.0	0.12	0.24	60	110	**2.3**	**0.21**	**100**
			11		350 HB	0.5	5.0	0.12	0.24	60	90	**2.3**	**0.21**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.43	150	240	**3.0**	**0.30**	**200**
			15		200 HB	0.5	7.0	0.18	0.43	150	220	**3.0**	**0.30**	**180**
			16		250 HB	0.5	7.0	0.18	0.43	150	190	**3.0**	**0.30**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.38	100	200	**3.0**	**0.26**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.38	100	180	**3.0**	**0.26**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.38	100	150	**3.0**	**0.26**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.24	40	80	**1.5**	**0.18**	**60**
			38		50 HRc	0.5	1.8	0.10	0.22	40	70	**1.1**	**0.17**	**55**
			38		55 HRc	0.5	1.5	0.10	0.19	40	60	**0.8**	**0.16**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.24	40	80	**1.1**	**0.18**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.19	30	60	**0.8**	**0.16**	**40**

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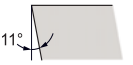
SPKN 1504 EDTR – **LT 30**

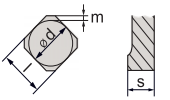
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.18	0.43	190	330	**4.0**	**0.30**	**250**
			2		190 HB	0.5	9.0	0.18	0.43	190	300	**4.0**	**0.30**	**220**
			3		250 HB	0.5	9.0	0.18	0.43	190	250	**4.0**	**0.30**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.15	0.34	150	240	**4.0**	**0.26**	**200**
			4,6		230 HB	0.5	9.0	0.15	0.34	150	210	**4.0**	**0.26**	**180**
			5,7		280 HB	0.5	9.0	0.15	0.30	130	190	**4.0**	**0.23**	**150**
			8		350 HB	0.5	9.0	0.15	0.30	130	170	4.0	0.23	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.5	0.12	0.30	90	150	3.0	0.23	130
			10		280 HB	0.5	6.5	0.12	0.30	90	130	3.0	0.23	120
			11		320 HB	0.5	6.5	0.12	0.24	60	110	3.0	0.21	100
			11		350 HB	0.5	6.5	0.12	0.24	60	90	3.0	0.21	80
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.18	0.43	150	240	4.0	0.30	200
			15		200 HB	0.5	9.0	0.18	0.43	150	220	4.0	0.30	180
			16		250 HB	0.5	9.0	0.18	0.43	150	190	4.0	0.30	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.15	0.38	100	200	4.0	0.26	180
			17,19		200 HB	0.5	9.0	0.15	0.38	100	180	4.0	0.26	150
			18,20		250 HB	0.5	9.0	0.15	0.38	100	150	4.0	0.26	130
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.10	0.24	40	80	2.0	0.18	60
			38		50 HRc	0.5	2.3	0.10	0.22	40	70	1.5	0.17	55
			38		55 HRc	0.5	1.9	0.10	0.19	40	60	1.0	0.16	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.10	0.24	40	80	1.5	0.18	50
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.9	0.10	0.19	30	60	1.0	0.16	40

S P K R

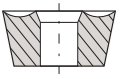
Shape



Clearance Angle



Tolerance
d ± 0.08
m ± 0.013
s ± 0.025



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
SPKR 1203 EDTR LT 30	12.70	3.21	1.2	Right	M0000048
SPKR 1204 EDTR LT 30	12.70	4.76	1.2	Right	M0000049

Application Guide

Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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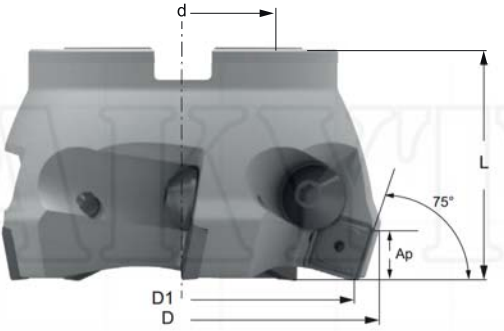
Shell Mill for SPKR 1203 EDTR							
Cutter Designation	D	D1	d	L	Ap	z	Catalog Nr.
LT 750 M-D-D063/4*	69	63	22	40	9	4	M2000571
LT 750 M-D-D080/5*	86	80	27	50	9	5	M2000572
LT 750 M-D-D100/7*	106	100	32	50	9	7	M2000574
LT 750 M-D-D125/8*	131	125	40	63	9	8	M2000575
LT 750 M-D-D160/10*	166	160	40	63	9	10	M2000576
LT 750 M-D-D200/12*	206	200	63	63	9	12	M2000577
LT 750 M-D-D250/14*	256	250	63	63	9	14	M2000578

* On request

Screw: M2000606
Key: M2000609



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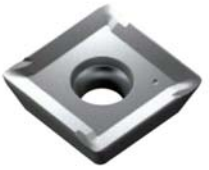
SPKR 1203 EDTR – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.38	190	330	**3.0**	**0.26**	**250**
			2		190 HB	0.5	7.0	0.18	0.38	190	300	**3.0**	**0.26**	**220**
			3		250 HB	0.5	7.0	0.18	0.38	190	250	**3.0**	**0.26**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.30	150	240	**3.0**	**0.23**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.30	150	210	**3.0**	**0.23**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.26	130	190	**3.0**	**0.21**	**150**
			8		350 HB	0.5	7.0	0.15	0.26	130	170	**3.0**	**0.21**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.26	90	150	**2.3**	**0.21**	**130**
			10		280 HB	0.5	5.0	0.12	0.26	90	130	**2.3**	**0.21**	**120**
			11		320 HB	0.5	5.0	0.12	0.22	60	110	**2.3**	**0.18**	**100**
			11		350 HB	0.5	5.0	0.12	0.22	60	90	**2.3**	**0.18**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.26	190	250	**3.0**	**0.21**	**220**
			14		240 HB	0.5	7.0	0.12	0.24	160	210	**3.0**	**0.21**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.22	70	130	**2.3**	**0.18**	**100**
			14		310 HB	0.5	5.0	0.12	0.22	70	120	**2.3**	**0.18**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.26	150	210	**3.0**	**0.21**	**190**
			13		42 HRc	0.5	5.0	0.15	0.22	90	150	**2.3**	**0.18**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.38	150	240	**3.0**	**0.26**	**200**
			15		200 HB	0.5	7.0	0.18	0.38	150	220	**3.0**	**0.26**	**180**
			16		250 HB	0.5	7.0	0.18	0.38	150	190	**3.0**	**0.26**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.34	100	200	**3.0**	**0.23**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.34	100	180	**3.0**	**0.23**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.34	100	150	**3.0**	**0.23**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.22	25	45	**2.3**	**0.18**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.22	25	45	**2.3**	**0.18**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.22	25	45	**2.3**	**0.18**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.24	40	65	**2.3**	**0.21**	**55**
			37	T40	-	0.5	5.0	0.12	0.22	30	55	**2.3**	**0.18**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.22	40	80	**1.5**	**0.16**	**60**
			38		50 HRc	0.5	1.8	0.10	0.19	40	70	**1.1**	**0.15**	**55**
			38		55 HRc	0.5	1.5	0.10	0.17	40	60	**0.8**	**0.14**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.22	40	80	**1.1**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.17	30	60	**0.8**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.38	200	400	**3.0**	**0.29**	**280**

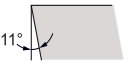
SPKR 1204 EDTR – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.38	190	330	**3.0**	**0.26**	**250**
			2		190 HB	0.5	7.0	0.18	0.38	190	300	**3.0**	**0.26**	**220**
			3		250 HB	0.5	7.0	0.18	0.38	190	250	**3.0**	**0.26**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.30	150	240	**3.0**	**0.23**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.30	150	210	**3.0**	**0.23**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.26	130	190	**3.0**	**0.21**	**150**
			8		350 HB	0.5	7.0	0.15	0.26	130	170	**3.0**	**0.21**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.26	90	150	**2.3**	**0.21**	**130**
			10		280 HB	0.5	5.0	0.12	0.26	90	130	**2.3**	**0.21**	**120**
			11		320 HB	0.5	5.0	0.12	0.22	60	110	**2.3**	**0.18**	**100**
			11		350 HB	0.5	5.0	0.12	0.22	60	90	**2.3**	**0.18**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	7.0	0.15	0.26	190	250	**3.0**	**0.21**	**220**
			14		240 HB	0.5	7.0	0.12	0.24	160	210	**3.0**	**0.21**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	5.0	0.12	0.22	70	130	**2.3**	**0.18**	**100**
			14		310 HB	0.5	5.0	0.12	0.22	70	120	**2.3**	**0.18**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	7.0	0.15	0.26	150	210	**3.0**	**0.21**	**190**
			13		42 HRc	0.5	5.0	0.15	0.22	90	150	**2.3**	**0.18**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.38	150	240	**3.0**	**0.26**	**200**
			15		200 HB	0.5	7.0	0.18	0.38	150	220	**3.0**	**0.26**	**180**
			16		250 HB	0.5	7.0	0.18	0.38	150	190	**3.0**	**0.26**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.34	100	200	**3.0**	**0.23**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.34	100	180	**3.0**	**0.23**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.34	100	150	**3.0**	**0.23**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	5.0	0.12	0.22	25	45	**2.3**	**0.18**	**32**
			33	Inconel 700	250 HB	0.5	5.0	0.12	0.22	25	45	**2.3**	**0.18**	**30**
			34	Stellite 21	350 HB	0.5	5.0	0.12	0.22	25	45	**2.3**	**0.18**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	5.0	0.12	0.24	40	65	**2.3**	**0.21**	**55**
			37	T40	-	0.5	5.0	0.12	0.22	30	55	**2.3**	**0.18**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.22	40	80	**1.5**	**0.16**	**60**
			38		50 HRc	0.5	1.8	0.10	0.19	40	70	**1.1**	**0.15**	**55**
			38		55 HRc	0.5	1.5	0.10	0.17	40	60	**0.8**	**0.14**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.22	40	80	**1.1**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.17	30	60	**0.8**	**0.14**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	7.0	0.18	0.38	200	400	**3.0**	**0.29**	**280**

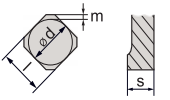


S P M T

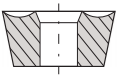
Shape



Clearance Angle



Tolerance
d ± 0.08
m ± 0.13
s ± 0.13



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

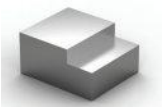
Insert Designation	l	s	r	Direction	Catalog Nr.
SPMT 060304 TN LT 30	6.35	3.2	0.4	Neutral	M0003100
SPMT 09T308 TN LT 30	9.53	3.71	0.8	Neutral	M0003063
SPMT 12T308 LT 30	13.29	3.97	0.8	Neutral	M0001226
SPMT 120408 TN LT 30	12.70	4.80	0.8	Neutral	M0003105

LT 3000 Multi-Mat™ General Usage – Premium

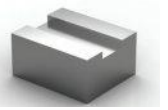
Insert Designation	l	s	r	Direction	Catalog Nr.
SPMT 060304 TN LT 30	6.35	3.2	0.4	Neutral	M0003416
SPMT 09T308 TN LT 30	9.53	3.71	0.8	Neutral	M0003417
SPMT 12T308 LT 30	13.29	3.97	0.8	Neutral	M0003420
SPMT 120408 TN LT 30	12.70	4.80	0.8	Neutral	M0003419

Application Guide

Shoulder Milling



Slotting



Surfacing

Machining Recommendations

F ⇒
Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel
V_c

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SPMT 060304 TN – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.3	6.0	0.06	0.12	190	330	**2.4**	**0.10**	**250**
			2		190 HB	0.3	6.0	0.06	0.10	190	300	**2.4**	**0.08**	**220**
			3		250 HB	0.3	6.0	0.06	0.10	190	250	**2.4**	**0.08**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.3	6.0	0.06	0.12	150	240	**2.4**	**0.10**	**200**
			4,6		230 HB	0.3	6.0	0.06	0.10	150	210	**2.4**	**0.08**	**180**
			5,7		280 HB	0.3	6.0	0.05	0.10	130	190	**2.4**	**0.08**	**150**
			8		350 HB	0.3	6.0	0.05	0.10	130	170	**2.4**	**0.08**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.3	4.3	0.06	0.08	90	150	**1.8**	**0.07**	**130**
			10		280 HB	0.3	4.3	0.05	0.10	90	130	**1.8**	**0.08**	**120**
			11		320 HB	0.3	4.3	0.05	0.08	60	110	**1.8**	**0.06**	**100**
			11		350 HB	0.3	4.3	0.05	0.08	60	90	**1.8**	**0.06**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.3	6.0	0.06	0.08	190	250	**2.4**	**0.07**	**220**
			14		240 HB	0.3	6.0	0.05	0.08	160	210	**2.4**	**0.07**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.3	4.3	0.05	0.08	70	130	**1.8**	**0.07**	**100**
			14		310 HB	0.3	4.3	0.05	0.07	70	120	**1.8**	**0.06**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.3	6.0	0.05	0.08	150	210	**2.4**	**0.07**	**190**
			13		42 HRc	0.3	4.3	0.05	0.07	90	150	**1.8**	**0.06**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.3	6.0	0.05	0.14	150	240	**2.4**	**0.12**	**200**
			15		200 HB	0.3	6.0	0.05	0.12	150	220	**2.4**	**0.10**	**180**
			16		250 HB	0.3	6.0	0.05	0.12	150	190	**2.4**	**0.10**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.3	6.0	0.05	0.14	100	200	**2.4**	**0.12**	**180**
			17,19		200 HB	0.3	6.0	0.05	0.12	100	180	**2.4**	**0.10**	**150**
			18,20		250 HB	0.3	6.0	0.05	0.12	100	150	**2.4**	**0.10**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.3	4.3	0.04	0.08	25	45	**1.8**	**0.06**	**32**
			33	Inconel 700	250 HB	0.3	4.3	0.04	0.08	25	45	**1.8**	**0.06**	**30**
			34	Stellite 21	350 HB	0.3	4.3	0.04	0.08	25	45	**1.8**	**0.06**	**30**
	Ti based	10	36	TiAl6V4	-	0.3	4.3	0.04	0.08	40	65	**1.8**	**0.06**	**55**
			37	T40	-	0.3	4.3	0.04	0.08	30	55	**1.8**	**0.06**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.3	2.1	0.04	0.10	40	80	**1.2**	**0.08**	**60**
			38		50 HRc	0.3	1.3	0.04	0.08	40	70	**0.9**	**0.06**	**55**
			38		55 HRc	0.3	0.9	0.04	0.06	40	60	**0.6**	**0.05**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.3	1.7	0.04	0.06	40	80	**0.9**	**0.05**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.3	0.9	0.04	0.06	30	60	**0.6**	**0.05**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.3	6.0	0.08	0.14	200	400	**2.4**	**0.12**	**280**

SPMT 09T308 TN – LT 30 | LT 3000

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.07	0.17	190	330	**2.4**	**0.15**	**250**
			2		190 HB	0.5	9.0	0.06	0.15	190	300	**2.4**	**0.13**	**220**
			3		250 HB	0.5	9.0	0.06	0.15	190	250	**2.4**	**0.13**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.07	0.17	150	240	**2.4**	**0.15**	**200**
			4,6		230 HB	0.5	9.0	0.06	0.15	150	210	**2.4**	**0.13**	**180**
			5,7		280 HB	0.5	9.0	0.05	0.13	130	190	**2.4**	**0.11**	**150**
			8		350 HB	0.5	9.0	0.05	0.13	130	170	**2.4**	**0.11**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.5	0.07	0.15	90	150	**1.8**	**0.13**	**130**
			10		280 HB	0.5	6.5	0.05	0.13	90	130	**1.8**	**0.11**	**120**
			11		320 HB	0.5	6.5	0.05	0.10	60	110	**1.8**	**0.08**	**100**
			11		350 HB	0.5	6.5	0.05	0.10	60	90	**1.8**	**0.08**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.07	0.12	190	250	**2.4**	**0.10**	**220**
			14		240 HB	0.5	9.0	0.05	0.10	160	210	**2.4**	**0.08**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.5	0.05	0.10	70	130	**1.8**	**0.08**	**100**
			14		310 HB	0.5	6.5	0.05	0.08	70	120	**1.8**	**0.07**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.05	0.08	150	210	**2.4**	**0.07**	**190**
			13		42 HRc	0.5	6.5	0.05	0.08	90	150	**1.8**	**0.07**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.06	0.22	150	240	**2.4**	**0.18**	**200**
			15		200 HB	0.5	9.0	0.06	0.22	150	220	**2.4**	**0.18**	**180**
			16		250 HB	0.5	9.0	0.06	0.20	150	190	**2.4**	**0.16**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.06	0.22	100	200	**2.4**	**0.18**	**180**
			17,19		200 HB	0.5	9.0	0.05	0.22	100	180	**2.4**	**0.18**	**150**
			18,20		250 HB	0.5	9.0	0.05	0.20	100	150	**2.4**	**0.16**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.5	0.04	0.12	25	45	**1.8**	**0.10**	**32**
			33	Inconel 700	250 HB	0.5	6.5	0.04	0.12	25	45	**1.8**	**0.10**	**30**
			34	Stellite 21	350 HB	0.5	6.5	0.04	0.12	25	45	**1.8**	**0.10**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	6.5	0.04	0.12	40	65	**1.8**	**0.10**	**55**
			37	T40	-	0.5	6.5	0.04	0.12	30	55	**1.8**	**0.10**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.04	0.12	40	80	**1.2**	**0.10**	**60**
			38		50 HRc	0.5	1.9	0.04	0.10	40	70	**0.9**	**0.08**	**55**
			38		55 HRc	0.5	1.3	0.04	0.08	40	60	**0.6**	**0.06**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.04	0.08	40	80	**0.9**	**0.06**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.3	0.04	0.08	30	60	**0.6**	**0.06**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.08	0.16	200	400	**2.4**	**0.13**	**280**

SPMT 120408 TN – LT 30 | LT 3000

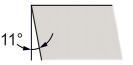
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.13	0.29	190	330	**3.0**	**0.18**	**250**
			2		190 HB	0.5	9.0	0.13	0.29	190	300	**3.0**	**0.18**	**220**
			3		250 HB	0.5	9.0	0.13	0.29	190	250	**3.0**	**0.18**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.11	0.23	150	240	**3.0**	**0.16**	**200**
			4,6		230 HB	0.5	9.0	0.11	0.23	150	210	**3.0**	**0.16**	**180**
			5,7		280 HB	0.5	9.0	0.11	0.20	130	190	**3.0**	**0.14**	**150**
			8		350 HB	0.5	9.0	0.11	0.20	130	170	**3.0**	**0.14**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.5	0.08	0.20	90	150	**2.3**	**0.14**	**130**
			10		280 HB	0.5	6.5	0.08	0.20	90	130	**2.3**	**0.14**	**120**
			11		320 HB	0.5	6.5	0.08	0.16	60	110	**2.3**	**0.13**	**100**
			11		350 HB	0.5	6.5	0.08	0.16	60	90	**2.3**	**0.13**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.11	0.23	190	250	**3.0**	**0.16**	**220**
			14		240 HB	0.5	9.0	0.08	0.20	160	210	**3.0**	**0.16**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.5	0.08	0.16	70	130	**2.3**	**0.13**	**100**
			14		310 HB	0.5	6.5	0.08	0.16	70	120	**2.3**	**0.13**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.11	0.23	150	210	**3.0**	**0.16**	**190**
			13		42 HRc	0.5	6.5	0.11	0.18	90	150	**2.3**	**0.13**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.13	0.29	150	240	**3.0**	**0.18**	**200**
			15		200 HB	0.5	9.0	0.13	0.29	150	220	**3.0**	**0.18**	**180**
			16		250 HB	0.5	9.0	0.13	0.29	150	190	**3.0**	**0.18**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.11	0.25	100	200	**3.0**	**0.16**	**180**
			17,19		200 HB	0.5	9.0	0.11	0.25	100	180	**3.0**	**0.16**	**150**
			18,20		250 HB	0.5	9.0	0.11	0.25	100	150	**3.0**	**0.16**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	6.5	0.08	0.16	25	45	**2.3**	**0.13**	**32**
			33	Inconel 700	250 HB	0.5	6.5	0.08	0.16	25	45	**2.3**	**0.13**	**30**
			34	Stellite 21	350 HB	0.5	6.5	0.08	0.16	25	45	**2.3**	**0.13**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	6.5	0.08	0.18	40	65	**2.3**	**0.14**	**55**
			37	T40	-	0.5	6.5	0.08	0.16	30	55	**2.3**	**0.13**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.07	0.16	40	80	**1.5**	**0.11**	**60**
			38		50 HRc	0.5	1.9	0.07	0.14	40	70	**1.1**	**0.10**	**55**
			38		55 HRc	0.5	1.0	0.07	0.13	40	60	**0.8**	**0.10**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.07	0.16	40	80	**1.1**	**0.11**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.0	0.07	0.13	30	60	**0.8**	**0.10**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.13	0.29	200	400	**3.0**	**0.20**	**280**

SPMT 12T308 – **LT 30 | LT 3000**

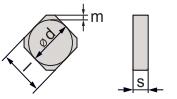
Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	9.0	0.13	0.29	190	330	**3.0**	**0.18**	**250**
			2		190 HB	0.5	9.0	0.13	0.29	190	300	**3.0**	**0.18**	**220**
			3		250 HB	0.5	9.0	0.13	0.29	190	250	**3.0**	**0.18**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	9.0	0.11	0.23	150	240	**3.0**	**0.16**	**200**
			4,6		230 HB	0.5	9.0	0.11	0.23	150	210	**3.0**	**0.16**	**180**
			5,7		280 HB	0.5	9.0	0.11	0.20	130	190	**3.0**	**0.14**	**150**
			8		350 HB	0.5	9.0	0.11	0.20	130	170	**3.0**	**0.14**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	6.5	0.08	0.20	90	150	**2.3**	**0.14**	**130**
			10		280 HB	0.5	6.5	0.08	0.20	90	130	**2.3**	**0.14**	**120**
			11		320 HB	0.5	6.5	0.08	0.16	60	110	**2.3**	**0.13**	**100**
			11		350 HB	0.5	6.5	0.08	0.16	60	90	**2.3**	**0.13**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	9.0	0.11	0.23	190	250	**3.0**	**0.16**	**220**
			14		240 HB	0.5	9.0	0.08	0.20	160	210	**3.0**	**0.16**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	6.5	0.08	0.16	70	130	**2.3**	**0.13**	**100**
			14		310 HB	0.5	6.5	0.08	0.16	70	120	**2.3**	**0.13**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	9.0	0.11	0.23	150	210	**3.0**	**0.16**	**190**
			13		42 HRc	0.5	6.5	0.11	0.18	90	150	**2.3**	**0.13**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	9.0	0.13	0.29	150	240	**3.0**	**0.18**	**200**
			15		200 HB	0.5	9.0	0.13	0.29	150	220	**3.0**	**0.18**	**180**
			16		250 HB	0.5	9.0	0.13	0.29	150	190	**3.0**	**0.18**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	9.0	0.11	0.25	100	200	**3.0**	**0.16**	**180**
			17,19		200 HB	0.5	9.0	0.11	0.25	100	180	**3.0**	**0.16**	**150**
			18,20		250 HB	0.5	9.0	0.11	0.25	100	150	**3.0**	**0.16**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	6.5	0.08	0.16	25	45	**2.3**	**0.13**	**32**
			33	Inconel 700	250 HB	0.5	6.5	0.08	0.16	25	45	**2.3**	**0.13**	**30**
			34	Stellite 21	350 HB	0.5	6.5	0.08	0.16	25	45	**2.3**	**0.13**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	6.5	0.08	0.18	40	65	**2.3**	**0.14**	**55**
			37	T40	-	0.5	6.5	0.08	0.16	30	55	**2.3**	**0.13**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	3.2	0.07	0.16	40	80	**1.5**	**0.11**	**60**
			38		50 HRc	0.5	1.9	0.07	0.14	40	70	**1.1**	**0.10**	**55**
			38		55 HRc	0.5	1.0	0.07	0.13	40	60	**0.8**	**0.10**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.6	0.07	0.16	40	80	**1.1**	**0.11**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.0	0.07	0.13	30	60	**0.8**	**0.10**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	9.0	0.13	0.29	200	400	**3.0**	**0.20**	**280**

S P U N

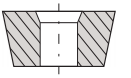
Shape



Clearance Angle



Tolerance
d ± 0.13
m ± 0.20
s ± 0.13



Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
SPUN 120308 LT 30	12.7	3.18	0.8	Neutral	M0000050

Application Guide

Chamfering

Surfacing

Machining Recommendations

F ⇒
Productivity

Coolant	1, 2, 3, 4	No
	6, 7, 8, 11	No
	10, 12	Yes
	5, 9	Yes

Stainless Steel
V_c

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SPUN 120308 – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	7.0	0.18	0.37	190	330	**3.0**	**0.26**	**250**
			2		190 HB	0.5	7.0	0.18	0.37	190	300	**3.0**	**0.26**	**220**
			3		250 HB	0.5	7.0	0.18	0.37	190	250	**3.0**	**0.26**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	7.0	0.15	0.29	150	240	**3.0**	**0.23**	**200**
			4,6		230 HB	0.5	7.0	0.15	0.29	150	210	**3.0**	**0.23**	**180**
			5,7		280 HB	0.5	7.0	0.15	0.25	130	190	**3.0**	**0.21**	**150**
			8		350 HB	0.5	7.0	0.15	0.25	130	170	**3.0**	**0.21**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	5.0	0.12	0.25	90	150	**2.3**	**0.21**	**130**
			10		280 HB	0.5	5.0	0.12	0.25	90	130	**2.3**	**0.21**	**120**
			11		320 HB	0.5	5.0	0.12	0.21	60	110	**2.3**	**0.18**	**100**
			11		350 HB	0.5	5.0	0.12	0.21	60	90	**2.3**	**0.18**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	7.0	0.18	0.37	150	240	**3.0**	**0.26**	**200**
			15		200 HB	0.5	7.0	0.18	0.37	150	220	**3.0**	**0.26**	**180**
			16		250 HB	0.5	7.0	0.18	0.37	150	190	**3.0**	**0.26**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	7.0	0.15	0.32	100	200	**3.0**	**0.23**	**180**
			17,19		200 HB	0.5	7.0	0.15	0.32	100	180	**3.0**	**0.23**	**150**
			18,20		250 HB	0.5	7.0	0.15	0.32	100	150	**3.0**	**0.23**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	2.5	0.10	0.21	40	80	**1.5**	**0.16**	**60**
			38		50 HRc	0.5	1.8	0.10	0.18	40	70	**1.1**	**0.15**	**55**
			38		55 HRc	0.5	1.5	0.10	0.16	40	60	**0.8**	**0.14**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	2.0	0.10	0.21	40	80	**1.1**	**0.16**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	1.5	0.10	0.16	30	60	**0.8**	**0.14**	**40**

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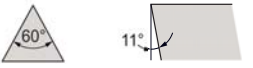
T P K N



Shape | **Clearance Angle** | **Tolerance** | **Fixing, Chipbreaker**

Tolerance

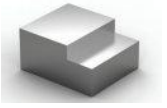
m ± 0.013 **s** ± 0.025
For l = 16, **d** ± 0.05
For l = 22, **d** ± 0.08

LT 30 Multi-Mat™ General Usage – Standard

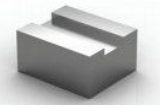
Insert Designation	l	s	r	Direction	Catalog Nr.
TPKN 1603 PDTR LT 30	14.52	3.18	1.2	Right	M0000051
TPKN 2204 PDTR LT 30	19.92	4.76	1.2	Right	M0000052

Application Guide

Shoulder Milling



Slotting



Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

Stainless Steel

V_c

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Shell Mill for TPKN 1603 PDTR						
Cutter Designation	D	d	L	Ap	z	Catalog Nr.
LT 310 M-D063/4*	63	22	50	13	4	M2000699
LT 310 M-D080/5*	80	27	50	13	5	M2000700
LT 310 M-D100/6*	100	32	50	13	6	M2000701
LT 310 M-D125/6*	125	40	63	13	6	M2000702

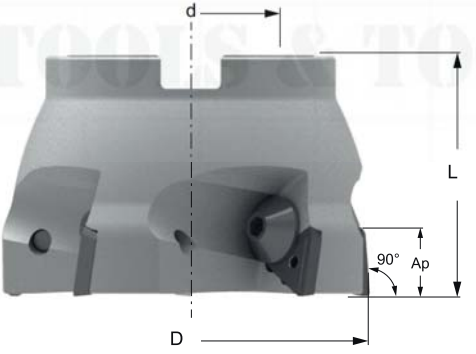
* On request

Screw: On request
Key: M2000609

Shell Mill for TPKN 2204 PDTR						
Cutter Designation	D	d	L	Ap	z	Catalog Nr.
LT 320 M-D080/4*	80	27	50	18	4	M2000703
LT 320 M-D100/5*	100	32	50	18	5	M2000704
LT 320 M-D125/6*	125	40	63	18	6	M2000705
LT 320 M-D160/7*	160	40	63	18	7	M2000706

* On request

Screw: On request
Key: M2000609



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TPKN 1603 PDTR – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	12.0	0.14	0.27	190	330	**3.0**	**0.20**	**250**
			2		190 HB	0.5	12.0	0.14	0.27	190	300	**3.0**	**0.20**	**220**
			3		250 HB	0.5	12.0	0.14	0.27	190	250	**3.0**	**0.20**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	12.0	0.12	0.21	150	240	**3.0**	**0.17**	**200**
			4,6		230 HB	0.5	12.0	0.12	0.21	150	210	**3.0**	**0.17**	**180**
			5,7		280 HB	0.5	12.0	0.12	0.19	130	190	**3.0**	**0.15**	**150**
			8		350 HB	0.5	12.0	0.12	0.19	130	170	**3.0**	**0.15**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	8.6	0.10	0.19	90	150	**2.3**	**0.15**	**130**
			10		280 HB	0.5	8.6	0.10	0.19	90	130	**2.3**	**0.15**	**120**
			11		320 HB	0.5	8.6	0.10	0.15	60	110	**2.3**	**0.14**	**100**
			11		350 HB	0.5	8.6	0.10	0.15	60	90	**2.3**	**0.14**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	12.0	0.14	0.27	150	240	**3.0**	**0.20**	**200**
			15		200 HB	0.5	12.0	0.14	0.27	150	220	**3.0**	**0.20**	**180**
			16		250 HB	0.5	12.0	0.14	0.27	150	190	**3.0**	**0.20**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	12.0	0.12	0.24	100	200	**3.0**	**0.17**	**180**
			17,19		200 HB	0.5	12.0	0.12	0.24	100	180	**3.0**	**0.17**	**150**
			18,20		250 HB	0.5	12.0	0.12	0.24	100	150	**3.0**	**0.17**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	4.3	0.08	0.15	40	80	**1.5**	**0.12**	**60**
			38		50 HRc	0.5	3.0	0.08	0.14	40	70	**1.1**	**0.11**	**55**
			38		55 HRc	0.5	2.6	0.08	0.12	40	60	**0.8**	**0.10**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	3.4	0.08	0.15	40	80	**1.1**	**0.12**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	2.6	0.08	0.12	30	60	**0.8**	**0.10**	**40**

TPKN 2204 PDTR – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	18.0	0.16	0.27	190	330	**4.0**	**0.19**	**250**
			2		190 HB	0.5	18.0	0.16	0.27	190	300	**4.0**	**0.19**	**220**
			3		250 HB	0.5	18.0	0.16	0.27	190	250	**4.0**	**0.19**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	18.0	0.14	0.21	150	240	**4.0**	**0.17**	**200**
			4,6		230 HB	0.5	18.0	0.14	0.21	150	210	**4.0**	**0.17**	**180**
			5,7		280 HB	0.5	18.0	0.14	0.19	130	190	**4.0**	**0.15**	**150**
			8		350 HB	0.5	18.0	0.14	0.19	130	170	**4.0**	**0.15**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	12.9	0.11	0.19	90	150	**3.0**	**0.15**	**130**
			10		280 HB	0.5	12.9	0.11	0.19	90	130	**3.0**	**0.15**	**120**
			11		320 HB	0.5	12.9	0.11	0.15	60	110	**3.0**	**0.13**	**100**
			11		350 HB	0.5	12.9	0.11	0.15	60	90	**3.0**	**0.13**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	18.0	0.16	0.27	150	240	**4.0**	**0.19**	**200**
			15		200 HB	0.5	18.0	0.16	0.27	150	220	**4.0**	**0.19**	**180**
			16		250 HB	0.5	18.0	0.16	0.27	150	190	**4.0**	**0.19**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	18.0	0.14	0.24	100	200	**4.0**	**0.17**	**180**
			17,19		200 HB	0.5	18.0	0.14	0.24	100	180	**4.0**	**0.17**	**150**
			18,20		250 HB	0.5	18.0	0.14	0.24	100	150	**4.0**	**0.17**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	6.4	0.09	0.15	40	80	**2.0**	**0.12**	**60**
			38		50 HRc	0.5	4.5	0.09	0.14	40	70	**1.5**	**0.11**	**55**
			38		55 HRc	0.5	3.9	0.09	0.12	40	60	**1.0**	**0.10**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	5.1	0.09	0.15	40	80	**1.5**	**0.12**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	3.9	0.09	0.12	30	60	**1.0**	**0.10**	**40**

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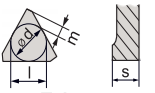
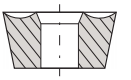
T P K R

Shape | **Clearance Angle**



Tolerance

m ± 0.013 **s** ± 0.025
For l = 16, **d** ± 0.05
For l = 22, **d** ± 0.08



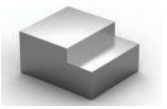
Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

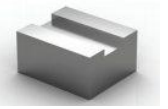
Insert Designation	l	s	r	Direction	Catalog Nr.
TPKR 1603 PDTR LT 30	14.52	3.18	1.2	Right	M0000053
TPKR 2204 PDTR LT 30	19.92	4.76	1.2	Right	M0000983

Application Guide

Shoulder Milling

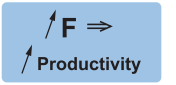


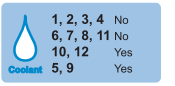
Slotting



Surfacing

Machining Recommendations





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Shell Mill for TPKR 1603 PDTR						
Cutter Designation	D	d	L	Ap	z	Catalog Nr.
LT 310 M-D063/4*	63	22	50	13	4	M2000699
LT 310 M-D080/5*	80	27	50	13	5	M2000700
LT 310 M-D100/6*	100	32	50	13	6	M2000701
LT 310 M-D125/6*	125	40	63	13	6	M2000702

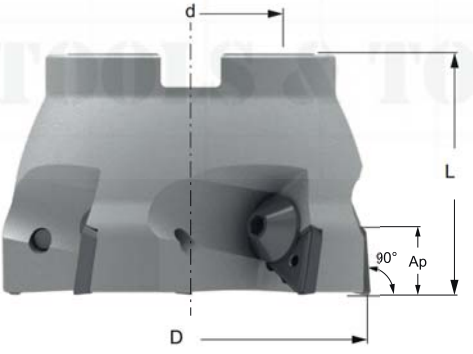
* On request

Screw: On request
Key: M2000609

Shell Mill for TPKR 2204 PDTR						
Cutter Designation	D	d	L	Ap	z	Catalog Nr.
LT 320 M-D080/4*	80	27	50	18	4	M2000703
LT 320 M-D100/5*	100	32	50	18	5	M2000704
LT 320 M-D125/6*	125	40	63	18	6	M2000705
LT 320 M-D160/7*	160	40	63	18	7	M2000706

* On request

Screw: On request
Key: M2000609



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TPKR 1603 PDTR – LT 30

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non-alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	12.0	0.13	0.22	190	330	**3.0**	**0.17**	**250**
			2		190 HB	0.5	12.0	0.13	0.22	190	300	**3.0**	**0.17**	**220**
			3		250 HB	0.5	12.0	0.13	0.22	190	250	**3.0**	**0.17**	**200**
	Low alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	12.0	0.11	0.18	150	240	**3.0**	**0.15**	**200**
			4,6		230 HB	0.5	12.0	0.11	0.18	150	210	**3.0**	**0.15**	**180**
			5,7		280 HB	0.5	12.0	0.11	0.15	130	190	**3.0**	**0.13**	**150**
			8		350 HB	0.5	12.0	0.11	0.15	130	170	**3.0**	**0.13**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	8.6	0.08	0.15	90	150	**2.3**	**0.13**	**130**
			10		280 HB	0.5	8.6	0.08	0.15	90	130	**2.3**	**0.13**	**120**
			11		320 HB	0.5	8.6	0.08	0.13	60	110	**2.3**	**0.12**	**100**
			11		350 HB	0.5	8.6	0.08	0.13	60	90	**2.3**	**0.12**	**80**
Stainless Steel	High Alloyed	4	14	304, 316, X5CrNi18-9	180 HB	0.5	12.0	0.11	0.15	190	250	**3.0**	**0.13**	**220**
			14		240 HB	0.5	12.0	0.08	0.14	160	210	**3.0**	**0.13**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	8.6	0.08	0.13	70	130	**2.3**	**0.12**	**100**
			14		310 HB	0.5	8.6	0.08	0.13	70	120	**2.3**	**0.12**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	12.0	0.11	0.15	150	210	**3.0**	**0.13**	**190**
			13		42 HRc	0.5	8.6	0.11	0.13	90	150	**2.3**	**0.12**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	12.0	0.13	0.22	150	240	**3.0**	**0.17**	**200**
			15		200 HB	0.5	12.0	0.13	0.22	150	220	**3.0**	**0.17**	**180**
			16		250 HB	0.5	12.0	0.13	0.22	150	190	**3.0**	**0.17**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	12.0	0.11	0.20	100	200	**3.0**	**0.15**	**180**
			17,19		200 HB	0.5	12.0	0.11	0.20	100	180	**3.0**	**0.15**	**150**
			18,20		250 HB	0.5	12.0	0.11	0.20	100	150	**3.0**	**0.15**	**130**
High Temp. Alloys	Fe, Ni & Co based	9	31,32	Incoloy 800	240 HB	0.5	8.6	0.08	0.13	25	45	**2.3**	**0.12**	**32**
			33	Inconel 700	250 HB	0.5	8.6	0.08	0.13	25	45	**2.3**	**0.12**	**30**
			34	Stellite 21	350 HB	0.5	8.6	0.08	0.13	25	45	**2.3**	**0.12**	**30**
	Ti based	10	36	TiAl6V4	-	0.5	8.6	0.08	0.14	40	65	**2.3**	**0.13**	**55**
			37	T40	-	0.5	8.6	0.08	0.13	30	55	**2.3**	**0.12**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	4.3	0.07	0.13	40	80	**1.5**	**0.10**	**60**
			38		50 HRc	0.5	3.0	0.07	0.11	40	70	**1.1**	**0.09**	**55**
			38		55 HRc	0.5	2.6	0.07	0.10	40	60	**0.8**	**0.09**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	3.4	0.07	0.13	40	80	**1.1**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	2.6	0.07	0.10	30	60	**0.8**	**0.09**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	12.0	0.13	0.22	200	400	**3.0**	**0.18**	**280**

TPKR 2204 PDTR – LT 30

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	18.0	0.13	0.22	190	330	**4.0**	**0.17**	**250**
			2		190 HB	0.5	18.0	0.13	0.22	190	300	**4.0**	**0.17**	**220**
			3		250 HB	0.5	18.0	0.13	0.22	190	250	**4.0**	**0.17**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	18.0	0.11	0.18	150	240	**4.0**	**0.15**	**200**
			4,6		230 HB	0.5	18.0	0.11	0.18	150	210	**4.0**	**0.15**	**180**
			5,7		280 HB	0.5	18.0	0.11	0.15	130	190	**4.0**	**0.13**	**150**
			8		350 HB	0.5	18.0	0.11	0.15	130	170	4.0	0.13	140
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	12.9	0.08	0.15	90	150	**3.0**	**0.13**	**130**
			10		280 HB	0.5	12.9	0.08	0.15	90	130	**3.0**	**0.13**	**120**
			11		320 HB	0.5	12.9	0.08	0.13	60	110	**3.0**	**0.12**	**100**
			11		350 HB	0.5	12.9	0.08	0.13	60	90	**3.0**	**0.12**	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.5	18.0	0.11	0.15	190	250	**4.0**	**0.13**	**220**
			14		240 HB	0.5	18.0	0.08	0.14	160	210	**4.0**	**0.13**	**190**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.5	12.9	0.08	0.13	70	130	**3.0**	**0.12**	**100**
			14		310 HB	0.5	12.9	0.08	0.13	70	120	**3.0**	**0.12**	**90**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	18.0	0.11	0.15	150	210	**4.0**	**0.13**	**190**
			13		42 HRc	0.5	12.9	0.11	0.13	90	150	**3.0**	**0.12**	**130**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	18.0	0.13	0.22	150	240	**4.0**	**0.17**	**200**
			15		200 HB	0.5	18.0	0.13	0.22	150	220	**4.0**	**0.17**	**180**
			16		250 HB	0.5	18.0	0.13	0.22	150	190	**4.0**	**0.17**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	18.0	0.11	0.20	100	200	**4.0**	**0.15**	**180**
			17,19		200 HB	0.5	18.0	0.11	0.20	100	180	**4.0**	**0.15**	**150**
			18,20		250 HB	0.5	18.0	0.11	0.20	100	150	**4.0**	**0.15**	**130**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.5	12.9	0.08	0.13	25	45	**3.0**	**0.12**	**32**
			33	Inconel 700	250 HB	0.5	12.9	0.08	0.13	25	45	**3.0**	**0.12**	**30**
			34	Stellite 21	350 HB	0.5	12.9	0.08	0.13	25	45	**3.0**	**0.12**	**30**
	Ti Based	10	36	TiAl6V4	-	0.5	12.9	0.08	0.14	40	65	**3.0**	**0.13**	**55**
			37	T40	-	0.5	12.9	0.08	0.13	30	55	**3.0**	**0.12**	**40**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	6.4	0.07	0.13	40	80	**2.0**	**0.10**	**60**
			38		50 HRc	0.5	4.5	0.07	0.11	40	70	**1.5**	**0.09**	**55**
			38		55 HRc	0.5	3.9	0.07	0.10	40	60	**1.0**	**0.09**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	5.1	0.07	0.13	40	80	**1.5**	**0.10**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	3.9	0.07	0.10	30	60	**1.0**	**0.09**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	18.0	0.13	0.22	200	400	**4.0**	**0.18**	**280**

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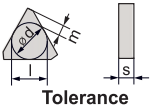
T P U N

Shape **Clearance Angle**



Tolerance
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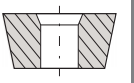
m ± 0.13
s ± 0.13



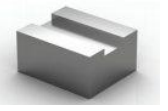
Fixing, Chipbreaker

LT 30	Multi-Mat™ General Usage – Standard				
Insert Designation	l	s	r	Direction	Catalog Nr.
TPUN 160308 LT 30	13.49	3.18	0.8	Right	M0000054

Application Guide

Shoulder Milling

Slotting



Surfacing

Machining Recommendations

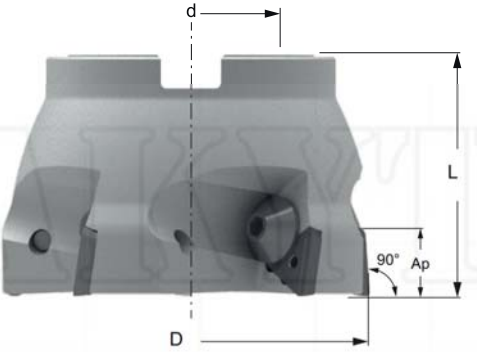
F ⇒ Productivity

Coolant	1, 2, 3, 4	No
	6, 7, 8, 11	No
	10, 12	Yes
	5, 9	Yes

Shell Mill for TPUN1603 PDTR						
Cutter Designation	D	d	L	Ap	z	Catalog Nr.
LT 310 M-D063/4*	63	22	50	13	4	M2000699
LT 310 M-D080/5*	80	27	50	13	5	M2000700
LT 310 M-D100/6*	100	32	50	13	6	M2000701
LT 310 M-D125/6*	125	40	63	13	6	M2000702

* On request

Screw: On request
Key: M2000609



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TPUN 160308 NN PDTR – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	12.0	0.14	0.27	190	330	**3.0**	**0.20**	**250**
			2		190 HB	0.5	12.0	0.14	0.27	190	300	**3.0**	**0.20**	**220**
			3		250 HB	0.5	12.0	0.14	0.27	190	250	**3.0**	**0.20**	**200**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	12.0	0.12	0.21	150	240	**3.0**	**0.17**	**200**
			4,6		230 HB	0.5	12.0	0.12	0.21	150	210	**3.0**	**0.17**	**180**
			5,7		280 HB	0.5	12.0	0.12	0.19	130	190	**3.0**	**0.15**	**150**
			8		350 HB	0.5	12.0	0.12	0.19	130	170	**3.0**	**0.15**	**140**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	8.6	0.10	0.19	90	150	**2.3**	**0.15**	**130**
			10		280 HB	0.5	8.6	0.10	0.19	90	130	**2.3**	**0.15**	**120**
			11		320 HB	0.5	8.6	0.10	0.15	60	110	**2.3**	**0.14**	**100**
			11		350 HB	0.5	8.6	0.10	0.15	60	90	**2.3**	**0.14**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	12.0	0.14	0.27	150	240	**3.0**	**0.20**	**200**
			15		200 HB	0.5	12.0	0.14	0.27	150	220	**3.0**	**0.20**	**180**
			16		250 HB	0.5	12.0	0.14	0.27	150	190	**3.0**	**0.20**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.5	12.0	0.12	0.24	100	200	**3.0**	**0.17**	**180**
			17,19		200 HB	0.5	12.0	0.12	0.24	100	180	**3.0**	**0.17**	**150**
			18,20		250 HB	0.5	12.0	0.12	0.24	100	150	**3.0**	**0.17**	**130**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	4.3	0.08	0.15	40	80	**1.5**	**0.12**	**60**
			38		50 HRc	0.5	3.0	0.08	0.14	40	70	**1.1**	**0.11**	**55**
			38		55 HRc	0.5	2.6	0.08	0.12	40	60	**0.8**	**0.10**	**50**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.5	3.4	0.08	0.15	40	80	**1.1**	**0.12**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.5	2.6	0.08	0.12	30	60	**0.8**	**0.10**	**40**

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ALU-MILLING

LT 05

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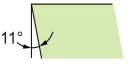
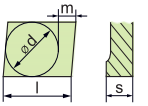
A P G T

Shape

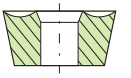


Clearance Angle



Tolerance

d ± 0.025
m ± 0.025
s ± 0.13



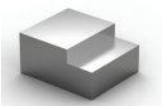
Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

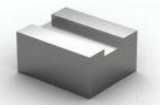
Insert Designation	l	s	r	Direction	Catalog Nr.
APGT 100304 PDER-ALU LT05	10.80	3.52	0.4	Right	M0003089
APGT 160408 PDER-ALU LT05	16.40	4.89	0.8	Right	M0001010

Application Guide

Shoulder Mill



Slotting



Surfacing

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

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APGT 100304 PDER-ALU – **LT 05**

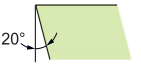
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	9.0	0.12	0.20	400	1200	**3.0**	**0.14**	**500**
NF				4% < Si < 8 %	100 HB	0.3	9.0	0.10	0.18	250	600	**3.0**	**0.14**	**400**
NF	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	9.0	0.10	0.18	100	800	**3.0**	**0.14**	**300**
NF	Non-Metallic	15	29	Fiber Plastics	-	0.3	9.0	0.12	0.20	80	500	**3.0**	**0.12**	**200**
NF			30	Hard Rubber	-	0.3	9.0	0.12	0.20	80	300	**3.0**	**0.12**	**150**
NF			-	Graphite	-	0.3	9.0	0.12	0.20	100	200	**3.0**	**0.12**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	5.0	0.08	0.20	35	60	**2.0**	**0.12**	**45**
H.T.A			37	TiAl 6 V4	-	0.3	5.0	0.08	0.15	28	45	**2.0**	**0.12**	**35**

APGT 160408 PDER-ALU – **LT 05**

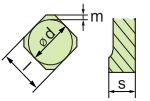
	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.5	15.0	0.15	0.32	400	1200	**4.0**	**0.16**	**500**
NF				4% < Si < 8 %	100 HB	0.5	15.0	0.13	0.29	250	600	**4.0**	**0.16**	**400**
NF	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.5	15.0	0.13	0.29	100	800	**4.0**	**0.16**	**300**
NF	Non-Metallic	15	29	Fiber Plastics	-	0.5	15.0	0.15	0.32	80	500	**4.0**	**0.14**	**200**
NF			30	Hard Rubber	-	0.5	15.0	0.15	0.32	80	300	**4.0**	**0.14**	**150**
NF			-	Graphite	-	0.5	15.0	0.15	0.32	100	200	**4.0**	**0.14**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.5	15.0	0.10	0.32	35	60	**4.0**	**0.14**	**45**
H.T.A			37	TiAl 6 V4	-	0.5	15.0	0.10	0.24	28	45	**4.0**	**0.14**	**35**

S E G T

Shape



Clearance Angle



Tolerance
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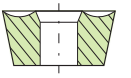
m ± 0.025
s ± 0.13



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
SEGT 1204 AFEN-ALU LT05	12.70	4.79	0.84	Neutral	M0001008

Application Guide

Surfacing

Chamfering

Machining Recommendations

F ⇒ Productivity

Coolant

1, 2, 3, 4	No
6, 7, 8, 11	No
10, 12	Yes
5, 9	Yes

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SEGT 1204 AFEN-ALU – **LT 05**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		V_c [m/min]		Suggested Starting Parameters		
						min	max	min	max	min	max	D.O.C	Feed	V_c
NF	Al (<8%Si)	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	9.0	0.12	0.35	400	1200	**3.0**	**0.25**	**500**
NF				4% < Si < 8 %	100 HB	0.3	9.0	0.10	0.35	250	600	**3.0**	**0.25**	**400**
NF	Copper Alloys	14	26,27,28	CuZn30	100 HB	0.3	9.0	0.10	0.35	100	800	**3.0**	**0.25**	**300**
NF	Non-Metallic	15	29	Fiber Plastics	-	0.3	9.0	0.12	0.35	80	500	**3.0**	**0.20**	**200**
NF			30	Hard Rubber	-	0.3	9.0	0.12	0.35	80	300	**3.0**	**0.20**	**150**
NF			-	Graphite	-	0.3	9.0	0.12	0.35	100	200	**3.0**	**0.20**	**150**
H.T.A	Ti Based Alloys	10	36	Ti 1	-	0.3	5.0	0.08	0.35	35	60	**2.0**	**0.20**	**45**
H.T.A			37	TiAl 6 V4	-	0.3	5.0	0.08	0.28	28	45	**2.0**	**0.20**	**35**

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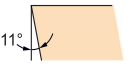
DRILLING

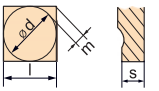
LT 30

S P M G

Shape



Clearance Angle



Tolerance
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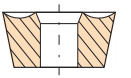
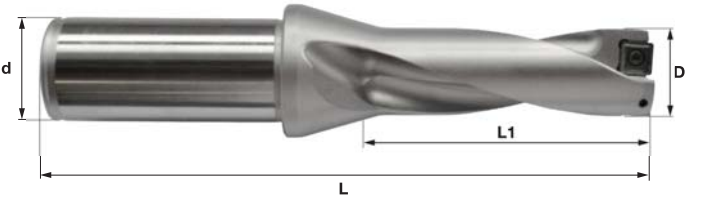
m ± 0.08
s ± 0.13



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
SPMG 050204 NN LT 30	5.0	2.38	0.4	Neutral	M3003882
SPMG 060204 NN LT 30	6.0	2.38	0.4	Neutral	M3002913
SPMG 07T308 NN LT 30	7.94	3.97	0.8	Neutral	M3002914
SPMG 090408 NN LT 30	9.80	4.30	0.8	Neutral	M3002915
SPMG 110408 NN LT 30	11.50	4.80	0.8	Neutral	M3003883



Insert SPMG 050204 **			2xD			3xD		
Drill bodies Designation	D	d	L	L1	Catalog Nr	L	L1	Catalog Nr
LT DR125 S05-_D	12.5	20	94	26	M2003704	107	39	M2003718
LT DR130 S05-_D	13.0	20	94	26	M2003705	107	39	M2003719
LT DR135 S05-_D	13.5	20	96	28	M2003706	110	42	M2003720
LT DR140 S05-_D	14.0	20	96	28	M2003707	110	42	M2003721
LT DR145 S05-_D	14.5	20	99	30	M2003708	114	45	M2003722
LT DR150 S05-_D	15.0	20	99	30	M2003709	114	45	M2003723

Screw: M2003820

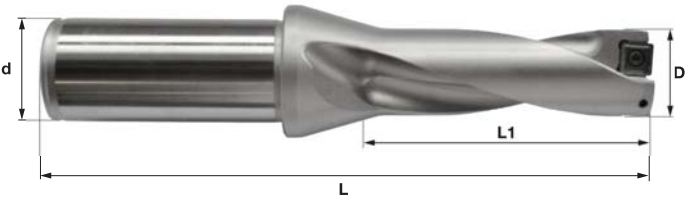
Insert SPMG 060204			2xD			3xD		
Drill bodies Designation	D	d	L	L1	Catalog Nr	L	L1	Catalog Nr
LT DR160 S06-_D	16.0	25	108	32	M2003247	124	48	M2003266
LT DR170 S06-_D	17.0	25	110	34	M2003248	127	51	M2003267
LT DR175 S06-_D	17.5	25	113	36	M2003695	131	54	M2003700
LT DR180 S06-_D	18.0	25	113	36	M2003249	131	54	M2003268
LT DR185 S06-_D	18.5	25	115	38	M2003696	134	57	M2003701
LT DR190 S06-_D	19.0	25	115	38	M2003250	134	57	M2003269
LT DR200 S06-_D	20.0	25	119	40	M2003251	139	60	M2003270
LT DR210 S06-_D	21.0	25	121	42	M2003252	142	63	M2003271

Screw: M2003823

Insert SPMG 07T308			2xD			3xD		
Drill bodies Designation	D	d	L	L1	Catalog Nr	L	L1	Catalog Nr
LT DR220 S07-_D	22.0	25	123	44	M2003253	145	66	M2003272
LT DR230 S07-_D	23.0	32	131	46	M2003255	154	69	M2003273
LT DR240 S07-_D	24.0	32	134	48	M2003256	158	72	M2003274
LT DR250 S07-_D	25.0	32	137	50	M2003257	162	75	M2003275
LT DR260 S07-_D	26.0	32	139	52	M2003258	165	78	M2003276
LT DR265 S07-_D	26.5	32	141	54	M2003698	168	81	M2003702
LT DR270 S07-_D	27.0	32	141	54	M2003259	168	81	M2003277

Screw: M2003824

** 4D for SPMG 050204 and 110408 also available on request



Insert SPMG 090408			2xD			3xD		
Drill bodies Designation	D	d	L	L1	Catalog Nr	L	L1	Catalog Nr
LT DR280 S09-_D	28.0	32	144	56	M2003260	172	84	M2003278
LT DR290 S09-_D	29.0	32	146	58	M2003261	175	87	M2003280
LT DR295 S09-_D	29.5	32	151	60	M2003699	181	90	M2003703
LT DR300 S09-_D	30.0	32	151	60	M2003262	181	90	M2003281
LT DR310 S09-_D	31.0	32	154	62	M2003263	185	93	M2003282
LT DR320 S09-_D	32.0	32	156	64	M2003264	188	96	M2003283
LT DR330 S09-_D	33.0	32	159	66	M2003265	192	99	M2003284

Screw: M2003821

Insert SPMG 110408 **			2xD*			3xD		
Drill bodies Designation	D	d	L	L1	Catalog Nr	L	L1	Catalog Nr
LT DR340 S11-_D	34.0	40	171	68	M2003710	205	102	M2003724
LT DR350 S11-_D	35.0	40	174	70	M2003711	209	105	M2003725
LT DR360 S11-_D	36.0	40	177	72	M2003712	213	108	M2003726
LT DR370 S11-_D	37.0	40	180	74	M2003713	217	111	M2003727
LT DR380 S11-_D	38.0	40	183	76	M2003714	221	114	M2003728
LT DR390 S11-_D	39.0	40	185	78	M2003715	224	117	M2003729
LT DR400 S11-_D	40.0	40	188	80	M2003716	228	120	M2003730
LT DR410 S11-_D	41.0	40	191	82	M2003717	232	123	M2003731

Screw: M2003822

* Available on request
** 4D for SPMG 050204 and 110408 also available on request

SPMG 050204 NN – **LT 30**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.04	0.09	180	270	**0.07**	**225**
			2		190 HB	0.04	0.09	180	230	**0.07**	**205**
			3		250 HB	0.04	0.09	180	200	**0.07**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.04	0.09	120	230	**0.07**	**175**
			4,6		230 HB	0.04	0.09	120	190	**0.05**	**155**
			5,7		280 HB	0.04	0.09	100	170	**0.04**	**135**
			8		350 HB	0.04	0.09	100	150	**0.04**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.05	0.09	70	170	**0.07**	**120**
			10		280 HB	0.05	0.09	70	150	**0.07**	**110**
			11		320 HB	0.05	0.08	60	130	**0.07**	**95**
			11		350 HB	0.05	0.08	60	100	**0.07**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.04	0.09	170	230	**0.06**	**200**
			14		240 HB	0.05	0.09	120	210	**0.07**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.05	0.08	70	120	**0.07**	**95**
			14		310 HB	0.05	0.08	70	120	**0.07**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.05	0.08	100	150	**0.07**	**125**
			13		42 HRc	0.04	0.07	60	100	**0.05**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.07	0.09	150	230	**0.08**	**190**
			15		200 HB	0.07	0.09	150	210	**0.08**	**180**
			16		250 HB	0.07	0.09	150	170	**0.08**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.07	0.09	120	200	**0.08**	**160**
			17,19		200 HB	0.07	0.09	120	170	**0.08**	**145**
			18,20		250 HB	0.07	0.09	120	150	**0.08**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.04	0.07	25	35	**0.05**	**30**
			33	Inconel 700	250 HB	0.04	0.07	25	35	**0.05**	**30**
			34	Stellite 21	350 HB	0.04	0.07	23	35	**0.07**	**29**
	Ti Based	10	36	TiAl6V4	-	0.04	0.07	35	60	**0.05**	**48**
			37	T40	-	0.04	0.07	28	40	**0.05**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.04	0.07	50	90	**0.05**	**70**
			38		50 HRc	0.04	0.07	40	70	**0.05**	**55**
			38		55 HRc	0.04	0.07	30	60	**0.05**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.04	0.07	40	60	**0.05**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.04	0.07	30	50	**0.05**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.04	0.09	200	400	**0.07**	**300**

SPMG 060204 NN – **LT 30**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.04	0.09	180	270	**0.07**	**225**
			2		190 HB	0.04	0.09	180	230	**0.07**	**205**
			3		250 HB	0.04	0.09	180	200	**0.07**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.04	0.09	120	230	**0.07**	**175**
			4,6		230 HB	0.04	0.09	120	190	**0.07**	**155**
			5,7		280 HB	0.04	0.09	100	170	**0.06**	**135**
			8		350 HB	0.04	0.09	100	150	**0.06**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.05	0.09	70	170	**0.07**	**120**
			10		280 HB	0.05	0.09	70	150	**0.07**	**110**
			11		320 HB	0.05	0.08	60	130	**0.07**	**95**
			11		350 HB	0.05	0.08	60	100	**0.07**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.04	0.09	170	230	**0.06**	**200**
			14		240 HB	0.05	0.09	120	210	**0.07**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.05	0.08	70	120	**0.07**	**95**
			14		310 HB	0.05	0.08	70	120	**0.07**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.05	0.08	100	150	**0.07**	**125**
			13		42 HRc	0.04	0.07	60	100	**0.05**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.07	0.10	150	230	**0.09**	**190**
			15		200 HB	0.07	0.10	150	210	**0.09**	**180**
			16		250 HB	0.07	0.10	150	170	**0.09**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.07	0.10	120	200	**0.09**	**160**
			17,19		200 HB	0.07	0.10	120	170	**0.09**	**145**
			18,20		250 HB	0.07	0.10	120	150	**0.09**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.04	0.07	25	35	**0.05**	**30**
			33	Inconel 700	250 HB	0.04	0.07	25	35	**0.05**	**30**
			34	Stellite 21	350 HB	0.04	0.07	23	35	**0.05**	**29**
	Ti Based	10	36	TiAl6V4	-	0.04	0.07	35	60	**0.05**	**45**
			37	T40	-	0.04	0.07	28	40	**0.05**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.04	0.07	50	90	**0.05**	**70**
			38		50 HRc	0.04	0.07	40	70	**0.05**	**55**
			38		55 HRc	0.04	0.07	30	60	**0.05**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.04	0.07	40	60	**0.05**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.04	0.07	30	50	**0.05**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.04	0.09	200	400	**0.07**	**300**

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SPMG 07T308 NN – **LT 30**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.05	0.10	180	270	**0.08**	**225**
			2		190 HB	0.05	0.10	180	230	**0.08**	**205**
			3		250 HB	0.05	0.10	180	200	**0.08**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.05	0.10	120	230	**0.08**	**175**
			4,6		230 HB	0.05	0.10	120	190	**0.08**	**155**
			5,7		280 HB	0.05	0.10	100	170	**0.07**	**135**
			8		350 HB	0.05	0.10	100	150	**0.07**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.07	0.10	70	170	**0.09**	**120**
			10		280 HB	0.07	0.10	70	150	**0.09**	**110**
			11		320 HB	0.07	0.09	60	130	**0.08**	**95**
			11		350 HB	0.07	0.09	60	100	**0.08**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.05	0.10	170	230	**0.07**	**200**
			14		240 HB	0.07	0.10	120	210	**0.08**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.07	0.09	70	120	**0.08**	**95**
			14		310 HB	0.07	0.09	70	120	**0.08**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.07	0.09	100	150	**0.08**	**125**
			13		42 HRc	0.05	0.08	60	100	**0.07**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.10	0.11	150	230	**0.11**	**190**
			15		200 HB	0.10	0.11	150	210	**0.11**	**180**
			16		250 HB	0.10	0.11	150	170	**0.11**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.10	0.11	120	200	**0.11**	**160**
			17,19		200 HB	0.10	0.11	120	170	**0.11**	**145**
			18,20		250 HB	0.10	0.11	120	150	**0.11**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.05	0.08	25	35	**0.07**	**30**
			33	Inconel 700	250 HB	0.05	0.08	25	35	**0.07**	**30**
			34	Stellite 21	350 HB	0.05	0.08	23	35	**0.07**	**29**
	Ti Based	10	36	TiAl6V4	-	0.05	0.08	35	60	**0.07**	**45**
			37	T40	-	0.05	0.08	28	40	**0.07**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.05	0.08	50	90	**0.07**	**70**
			38		50 HRc	0.05	0.08	40	70	**0.07**	**55**
			38		55 HRc	0.05	0.08	30	60	**0.07**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.05	0.08	40	60	**0.07**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.05	0.08	30	50	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.05	0.10	200	400	**0.08**	**300**

SPMG 090408 NN – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.06	0.11	180	270	**0.09**	**225**
			2		190 HB	0.06	0.11	180	230	**0.09**	**205**
			3		250 HB	0.06	0.11	180	200	**0.09**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.06	0.11	120	230	**0.09**	**175**
			4,6		230 HB	0.06	0.11	120	190	**0.09**	**155**
			5,7		280 HB	0.06	0.11	100	170	**0.08**	**135**
			8		350 HB	0.06	0.11	100	150	**0.08**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.09	0.11	70	170	**0.10**	**120**
			10		280 HB	0.09	0.11	70	150	**0.10**	**110**
			11		320 HB	0.09	0.10	60	130	**0.09**	**95**
			11		350 HB	0.09	0.10	60	100	**0.09**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.06	0.11	170	230	**0.08**	**200**
			14		240 HB	0.09	0.11	120	210	**0.10**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.09	0.10	70	120	**0.09**	**95**
			14		310 HB	0.09	0.10	70	120	**0.09**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.09	0.10	100	150	**0.09**	**125**
			13		42 HRc	0.06	0.09	60	100	**0.08**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.10	0.12	150	230	**0.11**	**190**
			15		200 HB	0.10	0.12	150	210	**0.11**	**180**
			16		250 HB	0.10	0.12	150	170	**0.11**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.10	0.12	120	200	**0.11**	**160**
			17,19		200 HB	0.10	0.12	120	170	**0.11**	**145**
			18,20		250 HB	0.10	0.12	120	150	**0.11**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.06	0.09	25	35	**0.08**	**30**
			33	Inconel 700	250 HB	0.06	0.09	25	35	**0.08**	**30**
			34	Stellite 21	350 HB	0.06	0.09	23	35	**0.08**	**29**
	Ti Based	10	36	TiAl6V4	-	0.06	0.09	35	60	**0.08**	**45**
			37	T40	-	0.06	0.09	28	40	**0.08**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.06	0.09	50	90	**0.08**	**70**
			38		50 HRc	0.06	0.09	40	70	**0.08**	**55**
			38		55 HRc	0.06	0.09	30	60	**0.08**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.06	0.09	40	60	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.06	0.09	30	50	**0.08**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.06	0.11	200	400	**0.09**	**300**

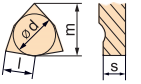
SPMG 110408 NN – **LT 30**

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.08	0.14	180	270	**0.11**	**225**
			2		190 HB	0.08	0.14	180	230	**0.11**	**205**
			3		250 HB	0.08	0.14	180	200	**0.11**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.07	0.14	120	230	**0.11**	**175**
			4,6		230 HB	0.07	0.14	120	190	**0.07**	**155**
			5,7		280 HB	0.07	0.14	100	170	**0.07**	**135**
			8		350 HB	0.07	0.12	100	150	**0.07**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.07	0.12	70	170	**0.10**	**120**
			10		280 HB	0.07	0.12	70	150	**0.10**	**110**
			11		320 HB	0.07	0.11	60	130	**0.09**	**95**
			11		350 HB	0.07	0.10	60	100	**0.08**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.06	0.11	170	230	**0.08**	**200**
			14		240 HB	0.09	0.11	120	210	**0.10**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.06	0.10	70	120	**0.08**	**95**
			14		310 HB	0.06	0.09	70	120	**0.08**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.09	0.10	100	150	**0.09**	**125**
			13		42 HRc	0.06	0.09	60	100	**0.08**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.10	0.15	150	230	**0.13**	**190**
			15		200 HB	0.10	0.15	150	210	**0.13**	**180**
			16		250 HB	0.10	0.15	150	170	**0.13**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.10	0.15	120	200	**0.13**	**160**
			17,19		200 HB	0.10	0.14	120	170	**0.12**	**145**
			18,20		250 HB	0.10	0.14	120	150	**0.12**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.06	0.10	25	35	**0.08**	**30**
			33	Inconel 700	250 HB	0.06	0.10	25	35	**0.08**	**30**
			34	Stellite 21	350 HB	0.06	0.10	23	35	**0.10**	**29**
	Ti Based	10	36	TiAl6V4	-	0.06	0.09	35	60	**0.08**	**48**
			37	T40	-	0.06	0.09	28	40	**0.08**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.06	0.09	50	90	**0.08**	**70**
			38		50 HRc	0.06	0.09	40	70	**0.08**	**55**
			38		55 HRc	0.06	0.09	30	60	**0.08**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.06	0.09	40	60	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.06	0.09	30	50	**0.08**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.06	0.11	200	400	**0.09**	**300**

W C M X

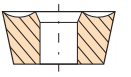
Shape

Clearance Angle



Tolerance

s ± 0.13
For l = 04/05/06, **d** ± 0.05 **m** ± 0.08
For l = 08, **d** ± 0.08 **m** ± 0.13



Fixing, Chipbreaker

LT 30 Multi-Mat™ General Usage – Standard

Insert Designation	l	s	r	Direction	Catalog Nr.
WCMX 040208 NN LT 30	4.00	2.38	0.8	Neutral	M3001122
WCMX 050308 NN LT 30	5.00	3.18	0.8	Neutral	M3001121
WCMX 06T308 NN LT 30	6.00	3.97	0.8	Neutral	M3000953
WCMX 080412 NN LT 30	8.00	4.76	1.2	Neutral	M3000954

ООО "АКИТЭК", РФ., г. Москва.
ул. Подольских курсантов, дом. 22, корпус 5,
тел. 8 (499) 550 5039, mail@akytec.ru
www.akytec.ru

WCMX 040208 NN – LT 30

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.05	0.10	180	270	**0.08**	**225**
			2		190 HB	0.05	0.10	180	230	**0.08**	**205**
			3		250 HB	0.05	0.10	180	200	**0.08**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.05	0.10	120	230	**0.08**	**175**
			4,6		230 HB	0.05	0.10	120	190	**0.08**	**155**
			5,7		280 HB	0.05	0.10	100	170	**0.07**	**135**
			8		350 HB	0.05	0.10	100	150	**0.07**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.07	0.10	70	170	**0.09**	**120**
			10		280 HB	0.07	0.10	70	150	**0.09**	**110**
			11		320 HB	0.07	0.09	60	130	**0.08**	**95**
			11		350 HB	0.07	0.09	60	100	**0.08**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.05	0.10	170	230	**0.07**	**200**
			14		240 HB	0.07	0.10	120	210	**0.08**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.07	0.09	70	120	**0.08**	**95**
			14		310 HB	0.07	0.09	70	120	**0.08**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.07	0.09	100	150	**0.08**	**125**
			13		42 HRc	0.05	0.08	60	100	**0.07**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.09	0.11	150	230	**0.10**	**190**
			15		200 HB	0.09	0.11	150	210	**0.10**	**180**
			16		250 HB	0.09	0.11	150	170	**0.10**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.09	0.11	120	200	**0.10**	**160**
			17,19		200 HB	0.09	0.11	120	170	**0.10**	**145**
			18,20		250 HB	0.09	0.11	120	150	**0.10**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.05	0.08	25	35	**0.07**	**30**
			33	Inconel 700	250 HB	0.05	0.08	25	35	**0.07**	**30**
			34	Stellite 21	350 HB	0.05	0.08	23	35	**0.07**	**29**
	Ti Based	10	36	TiAl6V4	-	0.05	0.08	35	60	**0.07**	**45**
			37	T40	-	0.05	0.08	28	40	**0.07**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.05	0.08	50	90	**0.07**	**70**
			38		50 HRc	0.05	0.08	40	70	**0.07**	**55**
			38		55 HRc	0.05	0.08	30	60	**0.07**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.05	0.08	40	60	**0.07**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.05	0.08	30	50	**0.07**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.05	0.10	200	400	**0.08**	**300**

WCMX 050308 NN – LT 30

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.06	0.11	180	270	**0.09**	**225**
			2		190 HB	0.06	0.11	180	230	**0.09**	**205**
			3		250 HB	0.06	0.11	180	200	**0.09**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.06	0.11	120	230	**0.09**	**175**
			4,6		230 HB	0.06	0.11	120	190	**0.09**	**155**
			5,7		280 HB	0.06	0.11	100	170	**0.08**	**135**
			8		350 HB	0.06	0.11	100	150	**0.08**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.09	0.11	70	170	**0.10**	**120**
			10		280 HB	0.09	0.11	70	150	**0.10**	**110**
			11		320 HB	0.09	0.10	60	130	**0.09**	**95**
			11		350 HB	0.09	0.10	60	100	**0.09**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.06	0.11	170	230	**0.08**	**200**
			14		240 HB	0.09	0.11	120	210	**0.10**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.09	0.10	70	120	**0.09**	**95**
			14		310 HB	0.09	0.10	70	120	**0.09**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.09	0.10	100	150	**0.09**	**125**
			13		42 HRc	0.06	0.09	60	100	**0.08**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.09	0.12	150	230	**0.11**	**190**
			15		200 HB	0.09	0.12	150	210	**0.11**	**180**
			16		250 HB	0.09	0.12	150	170	**0.11**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.09	0.12	120	200	**0.11**	**160**
			17,19		200 HB	0.09	0.12	120	170	**0.11**	**145**
			18,20		250 HB	0.09	0.12	120	150	**0.11**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.06	0.09	25	35	**0.08**	**30**
			33	Inconel 700	250 HB	0.06	0.09	25	35	**0.08**	**30**
			34	Stellite 21	350 HB	0.06	0.09	23	35	**0.08**	**29**
	Ti Based	10	36	TiAl6V4	-	0.06	0.09	35	60	**0.08**	**45**
			37	T40	-	0.06	0.09	28	40	**0.08**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.06	0.09	50	90	**0.08**	**70**
			38		50 HRc	0.06	0.09	40	70	**0.08**	**55**
			38		55 HRc	0.06	0.09	30	60	**0.08**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.06	0.09	40	60	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.06	0.09	30	50	**0.08**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.06	0.11	200	400	**0.09**	**300**

WCMX 06T308 NN – LT 30

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.06	0.12	180	270	**0.09**	**225**
			2		190 HB	0.06	0.12	180	230	**0.09**	**205**
			3		250 HB	0.06	0.12	180	200	**0.09**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.06	0.12	120	230	**0.09**	**175**
			4,6		230 HB	0.06	0.12	120	190	**0.09**	**155**
			5,7		280 HB	0.06	0.12	100	170	**0.09**	**135**
			8		350 HB	0.06	0.12	100	150	**0.09**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.08	0.12	70	170	**0.10**	**120**
			10		280 HB	0.08	0.12	70	150	**0.10**	**110**
			11		320 HB	0.08	0.11	60	130	**0.09**	**95**
			11		350 HB	0.08	0.11	60	100	**0.09**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.06	0.12	170	230	**0.09**	**200**
			14		240 HB	0.08	0.12	120	210	**0.10**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.08	0.11	70	120	**0.09**	**95**
			14		310 HB	0.08	0.11	70	120	**0.09**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.08	0.11	100	150	**0.09**	**125**
			13		42 HRc	0.06	0.10	60	100	**0.08**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.09	0.13	150	230	**0.11**	**190**
			15		200 HB	0.09	0.13	150	210	**0.11**	**180**
			16		250 HB	0.09	0.13	150	170	**0.11**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.09	0.13	120	200	**0.11**	**160**
			17,19		200 HB	0.09	0.13	120	170	**0.11**	**145**
			18,20		250 HB	0.09	0.13	120	150	**0.11**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.06	0.10	25	35	**0.08**	**30**
			33	Inconel 700	250 HB	0.06	0.10	25	35	**0.08**	**30**
			34	Stellite 21	350 HB	0.06	0.10	23	35	**0.08**	**29**
	Ti Based	10	36	TiAl6V4	-	0.06	0.10	35	60	**0.08**	**45**
			37	T40	-	0.06	0.10	28	40	**0.08**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.06	0.10	50	90	**0.08**	**70**
			38		50 HRc	0.06	0.10	40	70	**0.08**	**55**
			38		55 HRc	0.06	0.10	30	60	**0.08**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.06	0.10	40	60	**0.08**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.06	0.10	30	50	**0.08**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.10	0.12	200	400	**0.11**	**300**

WCMX 080412 NN – **LT 30**

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	Feed [mm/rev] min	Feed [mm/rev] max	V_c [m/min] min	V_c [m/min] max	Suggested Starting Parameters Feed	Suggested Starting Parameters V_c
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.06	0.16	180	270	**0.11**	**225**
			2		190 HB	0.06	0.16	180	230	**0.11**	**205**
			3		250 HB	0.06	0.16	180	200	**0.11**	**190**
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.06	0.16	120	230	**0.11**	**175**
			4,6		230 HB	0.06	0.16	120	190	**0.11**	**155**
			5,7		280 HB	0.06	0.15	100	170	**0.11**	**135**
			8		350 HB	0.06	0.15	100	150	**0.11**	**125**
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.09	0.16	70	170	**0.13**	**120**
			10		280 HB	0.09	0.16	70	150	**0.13**	**110**
			11		320 HB	0.09	0.14	60	130	**0.11**	**95**
			11		350 HB	0.09	0.14	60	100	**0.11**	**80**
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.06	0.15	170	230	**0.11**	**200**
			14		240 HB	0.09	0.15	120	210	**0.12**	**165**
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.09	0.14	70	120	**0.11**	**95**
			14		310 HB	0.09	0.14	70	120	**0.11**	**95**
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.09	0.14	100	150	**0.11**	**125**
			13		42 HRc	0.06	0.13	60	100	**0.09**	**80**
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.10	0.18	150	230	**0.14**	**190**
			15		200 HB	0.10	0.18	150	210	**0.14**	**180**
			16		250 HB	0.10	0.18	150	170	**0.14**	**160**
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.10	0.18	120	200	**0.14**	**160**
			17,19		200 HB	0.10	0.18	120	170	**0.14**	**145**
			18,20		250 HB	0.10	0.18	120	150	**0.14**	**135**
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.06	0.13	25	35	**0.09**	**30**
			33	Inconel 700	250 HB	0.06	0.13	25	35	**0.09**	**30**
			34	Stellite 21	350 HB	0.06	0.13	23	35	**0.09**	**29**
	Ti Based	10	36	TiAl6V4	-	0.06	0.13	35	60	**0.09**	**45**
			37	T40	-	0.06	0.13	28	40	**0.09**	**34**
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.06	0.13	50	90	**0.09**	**70**
			38		50 HRc	0.06	0.13	40	70	**0.09**	**55**
			38		55 HRc	0.06	0.13	30	60	**0.09**	**45**
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.06	0.13	40	60	**0.09**	**50**
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.06	0.13	30	50	**0.09**	**40**
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.10	0.16	200	400	**0.13**	**300**

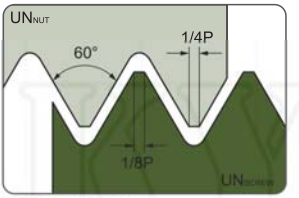
THREAD MILLING

ISO METRIC Internal Miniature Tools

Designation	Thread Size	Pitch mm	L	L1	D1	D2	N° of Flutes	Catalog Nr.
TMC03012L5 0.35 ISO	M1.6x0.35	0.35	39	5.1	3	1.20	3	TH400001
TMC06015L6 0.4 ISO	M2.0x0.4	0.40	39	6.1	3	1.54	3	TH400019
TMC06019L7 0.45 ISO	M2.5x0.45	0.45	39	7.6	4	1.96	3	TH400016
TMC06024L9 0. 5 ISO	M3.0x0.5	0.50	51	9.3	4	2.40	3	TH400013
TMC06031L12 0.7 ISO	M4.0x0.7	0.70	51	12.4	6	3.15	3	TH400004
TMC06040L15 0.8 ISO	M5.0x0.8	0.80	57	15.6	6	4.00	3	TH400010
TMC06047L19 1.0 ISO	M6.0x1.0	1.00	57	19.0	6	4.75	3	TH400007
TMC06059L24 1.25 ISO	M8.0x1.25	1.25	57	24.3	6	5.95	3	TH400022
TMC08079L31 1.5 ISO	M10x1.5	1.50	63	31.0	8	7.90	3	TH400025

Thread Length - Up to 3D

D = Nominal Thread size



ISO 965-1:1999-11
DIN 13: 2005-08

UN Internal Miniature Tools

Designation	Coarse UNC	Fine UNF	Pitch TPI	L	L1	D1	D2	N° of Flutes	Catalog Nr.
TMC03011L3 80UN	-	0-80UNF	80	39	3.9	3	1.18	3	TH400052
TMC03014L5 72UN	-	1-72UNF	72	39	5.8	3	1.44	3	TH400040
TMC03016L6 56UN	2-56UNC	3-56UNF	56	39	6.8	3	1.66	3	TH400034
TMC06021L8 40UN	4-40UNC	-	40	51	8.1	6	2.12	3	TH400028
TMC06024L9 40UN	5-40UNC	6-40UNF	40	51	9.8	6	2.46	3	TH400055
TMC06025L10 32UN	6-32UNC	-	32	51	10.7	6	2.57	3	TH400031
TMC06032L12 32UN	8-32UNC	10-32UNF	32	57	12.7	6	3.22	3	TH400037
TMC06052L19 28 UN	-	1/4-28UNF	28	57	19.3	6	5.20	3	TH400043
TMC08066L24 24 UN	-	5/16-24UNF	24	63	24.2	8	6.65	3	TH400049
TMC06048L19 20UN	1/4-20UNC	7/16-20UNF	20	57	19.4	6	4.85	3	TH400046

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Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	V_c [m/min] min	V_c [m/min] max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	80	130
			2		190 HB	70	110
			3		250 HB	60	100
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	70	110
			4,6		230 HB	70	110
			5,7		280 HB	60	100
			8		350 HB	50	80
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	70	110
			10		280 HB	60	100
			11		320 HB	50	80
			11		350 HB	50	70
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	70	110
			14		240 HB	60	90
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	60	80
			14		310 HB	60	80
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	70	90
			13		42 HRc	60	80
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	60	110
			15		200 HB	70	110
			16		250 HB	60	90
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	60	110
			17,19		200 HB	60	90
			18,20		250 HB	60	90
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	40	60
			33	Inconel 700	250 HB	30	50
			34	Stellite 21	350 HB	20	40
	Ti Based	10	36	TiAl6V4	-	40	70
			37	T40	-	25	50
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	30	50
			38		50 HRc	25	50
			38		55 HRc	25	40
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	25	40
	White Cast Iron		41	G-X300CrMo15	55 HRc	25	40
NF	Al (>8%Si)	12	25	AlSi12	130 HB	80	300

Feed (mm/tooth) per cutting dia				
1.5-3.0	3.0-5.0	5.0-7.0	7.0-9.0	9.0-11
0.030	0.040	0.060	0.070	0.090
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.050	0.050
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.060	0.060
0.020	0.030	0.050	0.060	0.060
0.020	0.030	0.050	0.050	0.050
0.020	0.020	0.030	0.040	0.050
0.020	0.020	0.020	0.030	0.040
0.020	0.020	0.020	0.030	0.040
0.015	0.020	0.020	0.030	0.040
0.020	0.020	0.020	0.030	0.040
0.015	0.020	0.020	0.030	0.030
0.020	0.030	0.060	0.070	0.080
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.060	0.070	0.080
0.020	0.030	0.050	0.060	0.070
0.020	0.030	0.050	0.060	0.070
0.020	0.020	0.020	0.030	0.040
0.015	0.015	0.015	0.020	0.020
0.010	0.010	0.010	0.015	0.015
0.020	0.020	0.020	0.020	0.025
0.020	0.020	0.020	0.020	0.020
0.010	0.010	0.020	0.020	0.020
0.010	0.010	0.020	0.020	0.020
0.010	0.010	0.020	0.020	0.020
0.010	0.010	0.020	0.020	0.020
0.010	0.010	0.020	0.020	0.020
0.030	0.030	0.040	0.080	0.120

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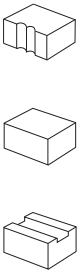
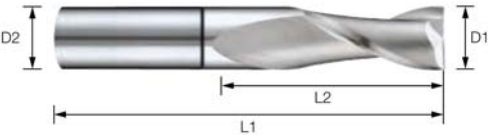
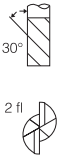
SOLID ENDMILLS







90° 2 Flutes

Product Designation	D1	D2	L1	L2	Catalog Nr.
E90 Z2 D01.0(03) L03.0(038) LT 4000	01.0	03	038	03.0	M5003520
E90 Z2 D01.5(03) L05.0(038) LT 4000	01.5	03	038	05.0	M5003537
E90 Z2 D02.0(03) L06.0(038) LT 4000	02.0	03	038	06.0	M5003538
E90 Z2 D02.5(03) L07.0(038) LT 4000	02.5	03	038	07.0	M5003539
E90 Z2 D03.0(03) L09.0(038) LT 4000	03.0	03	038	09.0	M5003540
E90 Z2 D04.0(04) L14.0(050) LT 4000	04.0	04	050	14.0	M5003541
E90 Z2 D05.0(05) L16.0(050) LT 4000	05.0	05	050	16.0	M5003542
E90 Z2 D06.0(06) L20.0(063) LT 4000	06.0	06	063	20.0	M5003543
E90 Z2 D08.0(08) L20.0(063) LT 4000	08.0	08	063	20.0	M5003544
E90 Z2 D10.0(10) L22.0(072) LT 4000	10.0	10	072	22.0	M5003545
E90 Z2 D12.0(12) L26.0(075) LT 4000	12.0	12	075	26.0	M5003546

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E90° Z2 Ø 1 - 5

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]					V_c [m/min]	
						ap	ae	ap	Ø 1.0	Ø 2.0	Ø3.0	Ø4.0	Ø5.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.012	0.017	0.024	0.030	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.012	0.017	0.024	0.030	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.012	0.017	0.024	0.030	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.011	0.016	0.025	0.030	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.011	0.016	0.025	0.030	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.007	0.009	0.014	0.020	0.024	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.007	0.009	0.014	0.020	0.024	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.010	0.015	0.021	0.026	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.010	0.015	0.021	0.026	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.007	0.008	0.011	0.016	0.020	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.007	0.008	0.011	0.016	0.020	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.007	0.008	0.012	0.017	0.022	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.007	0.008	0.012	0.017	0.022	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.006	0.006	0.009	0.013	0.017	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.006	0.006	0.009	0.013	0.017	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.006	0.006	0.009	0.013	0.017	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.006	0.006	0.009	0.013	0.017	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.014	0.020	0.029	0.036	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.014	0.020	0.029	0.036	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.014	0.020	0.029	0.036	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.012	0.017	0.025	0.031	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.012	0.017	0.025	0.031	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.010	0.012	0.017	0.025	0.031	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.006	0.007	0.010	0.014	0.018	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.006	0.007	0.010	0.014	0.018	25	45
			34	Stellite 21	350 HB	1.5xØ	0.3xØ	1.0xØ	0.006	0.007	0.010	0.014	0.018	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.006	0.007	0.010	0.015	0.018	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.006	0.007	0.010	0.015	0.018	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.004	0.005	0.007	0.011	0.013	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.004	0.005	0.007	0.011	0.013	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.003	0.004	0.005	0.008	0.010	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.003	0.004	0.005	0.008	0.010	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.003	0.004	0.005	0.008	0.010	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5xØ	0.1xØ	0.011	0.013	0.018	0.027	0.033	160	250

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E90° Z2 Ø 6, 8, 10, 12

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]				V_c [m/min]	
						ap	ae	ap	Ø 6.0	Ø 8.0	Ø10.0	Ø12.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.065	0.077	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.065	0.077	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.065	0.077	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.039	0.053	0.063	0.074	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.039	0.053	0.063	0.074	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.032	0.043	0.052	0.062	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.032	0.043	0.052	0.062	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.046	0.055	0.064	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.046	0.055	0.064	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.025	0.035	0.041	0.049	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.025	0.035	0.041	0.049	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.028	0.038	0.045	0.053	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.028	0.038	0.045	0.053	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	25	45
			34	Stellite 21	350 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.023	0.032	0.038	0.045	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.023	0.032	0.038	0.045	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.017	0.023	0.028	0.032	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.017	0.023	0.028	0.032	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5xØ	0.1xØ	0.042	0.058	0.069	0.081	160	250

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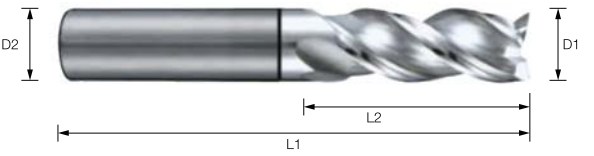

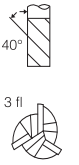

90° 3 Flutes

Product Designation	D1	D2	L1	L2	Catalog Nr.
E90 Z3 D03.0(06) L08.0(050) LT 4000	03.0	06	050	08.0	M5003548
E90 Z3 D04.0(06) L11.0(050) LT 4000	04.0	06	050	11.0	M5003549
E90 Z3 D05.0(06) L13.0(050) LT 4000	05.0	06	050	13.0	M5003550
E90 Z3 D06.0(06) L16.0(050) LT 4000	06.0	06	050	16.0	M5003551
E90 Z3 D08.0(08) L20.0(060) LT 4000	08.0	08	060	20.0	M5003552
E90 Z3 D10.0(10) L25.0(072) LT 4000	10.0	10	072	25.0	M5003553
E90 Z3 D12.0(12) L30.0(075) LT 4000	12.0	12	075	30.0	M5003554

E90° Z3 Ø 3 - 5

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]			V_c [m/min]	
						ap	ae	ap	Ø 3.0	Ø 4.0	Ø5.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.018	0.027	0.033	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.018	0.027	0.033	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.018	0.027	0.033	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.015	0.021	0.026	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.015	0.021	0.026	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.015	0.021	0.026	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.015	0.021	0.026	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.011	0.016	0.020	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.011	0.016	0.020	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.017	0.022	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.017	0.022	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.016	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.016	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	25	45
			34	Stellite 21	350 HB	1.5xØ	0.2xØ	1.0xØ	0.010	0.014	0.018	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.007	0.011	0.013	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.007	0.011	0.013	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.006	0.009	0.012	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.006	0.009	0.012	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.006	0.008	0.010	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.006	0.008	0.010	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.006	0.008	0.010	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5 x Ø	1.0 x Ø	0.018	0.027	0.033	160	250

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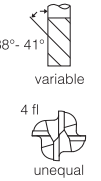
E90° Z3 Ø 6, 8, 10, 12

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]				V_c [m/min]	
						ap	ae	ap	Ø 6.0	Ø 8.0	Ø10.0	Ø12.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.042	0.058	0.069	0.081	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.042	0.058	0.069	0.081	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.042	0.058	0.069	0.081	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.054	0.065	0.076	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.054	0.065	0.076	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.034	0.046	0.055	0.065	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.034	0.046	0.055	0.065	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.046	0.055	0.064	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.046	0.055	0.064	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.025	0.035	0.041	0.049	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.025	0.035	0.041	0.049	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.028	0.038	0.045	0.053	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.028	0.038	0.045	0.053	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.028	0.033	0.039	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.020	0.028	0.033	0.039	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	25	45
			34	Stellite 21	350 HB	1.5xØ	0.2xØ	1.0xØ	0.023	0.031	0.037	0.044	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.017	0.023	0.028	0.032	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.017	0.023	0.028	0.032	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.015	0.020	0.024	0.028	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.015	0.020	0.024	0.028	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5 x Ø	1.0 x Ø	0.042	0.058	0.069	0.081	160	250



90° 4 Flutes

Product Designation	D1	D2	L1	L2	Catalog Nr.
E90 Z4 D01.0(04) L03.0(050) LT 4000	01.0	04	050	03.0	M5003568
E90 Z4 D01.5(04) L05.0(050) LT 4000	01.5	04	050	05.0	M5003569
E90 Z4 D02.0(04) L06.0(050) LT 4000	02.0	04	050	06.0	M5003570
E90 Z4 D02.5(04) L08.0(050) LT 4000	02.5	04	050	08.0	M5003571
E90 Z4 D03.0(06) L08.0(050) LT 4000	03.0	06	050	08.0	M5003572
E90 Z4 D04.0(06) L11.0(050) LT 4000	04.0	06	050	11.0	M5003573
E90 Z4 D05.0(06) L13.0(050) LT 4000	05.0	06	050	13.0	M5003574
E90 Z4 D06.0(06) L16.0(050) LT 4000	06.0	06	050	16.0	M5003575
E90 Z4 D08.0(08) L20.0(060) LT 4000	08.0	08	060	20.0	M5003576
E90 Z4 D10.0(10) L22.0(072) LT 4000	10.0	10	072	22.0	M5003577
E90 Z4 D12.0(12) L26.0(075) LT 4000	12.0	12	075	26.0	M5003578
E90 Z4 D16.0(16) L38.0(100) LT 4000	16.0	16	100	38.0	M5003579

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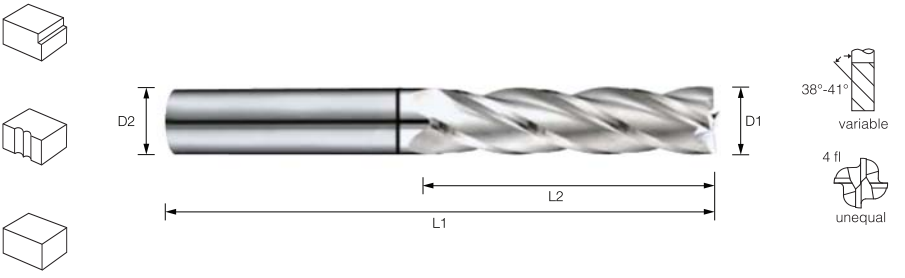
E90° Z4 Ø 3 - 5

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]			V_c [m/min]	
						ap	ae	ap	Ø 3.0	Ø 4.0	Ø5.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.024	0.030	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.024	0.030	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.024	0.030	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.016	0.025	0.030	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.016	0.025	0.030	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.014	0.020	0.024	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.014	0.020	0.024	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.015	0.021	0.026	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.015	0.021	0.026	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.011	0.016	0.020	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.011	0.016	0.020	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.017	0.022	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.012	0.017	0.022	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.009	0.013	0.017	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.020	0.029	0.036	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.025	0.031	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	25	45
			34	Stellite 21	350 HB	1.5xØ	0.3xØ	1.0xØ	0.010	0.014	0.018	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.010	0.015	0.018	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.010	0.015	0.018	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.007	0.011	0.013	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.007	0.011	0.013	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.005	0.008	0.010	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.005	0.008	0.010	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.005	0.008	0.010	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5xØ	1.0xØ	0.018	0.027	0.033	160	250

E90° Z4 Ø 6, 8, 10, 12

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]				V_c [m/min]	
						ap	ae	ap	Ø 6.0	Ø 8.0	Ø10.0	Ø12.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.065	0.077	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.065	0.077	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.065	0.077	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.039	0.053	0.063	0.074	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.039	0.053	0.063	0.074	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.032	0.043	0.052	0.062	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.032	0.043	0.052	0.062	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.046	0.055	0.064	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.033	0.046	0.055	0.064	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.025	0.035	0.041	0.049	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.025	0.035	0.041	0.049	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.028	0.038	0.045	0.053	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.028	0.038	0.045	0.053	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.021	0.029	0.035	0.040	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.047	0.064	0.076	0.089	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.040	0.055	0.066	0.077	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	25	45
			34	Stellite 21	350 HB	1.5xØ	0.3xØ	1.0xØ	0.023	0.031	0.037	0.044	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.023	0.032	0.038	0.045	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.023	0.032	0.038	0.045	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.017	0.023	0.028	0.032	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.017	0.023	0.028	0.032	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.013	0.017	0.021	0.024	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5xØ	1.0xØ	0.042	0.058	0.069	0.081	160	250



90° 2 Flutes Long

Product Designation	D1	D2	L1	L2	Catalog Nr.
E90 Z4 D03.0(06) L12.0(050) LT 4000	03.0	06	050	12.0	M5003559
E90 Z4 D04.0(06) L16.0(055) LT 4000	04.0	06	055	16.0	M5003560
E90 Z4 D05.0(06) L20.0(060) LT 4000	05.0	06	060	20.0	M5003561
E90 Z4 D06.0(06) L24.0(065) LT 4000	06.0	06	065	24.0	M5003562
E90 Z4 D08.0(08) L32.0(090) LT 4000	08.0	08	090	32.0	M5003563
E90 Z4 D10.0(10) L40.0(100) LT 4000	10.0	10	100	40.0	M5003564
E90 Z4 D12.0(12) L48.0(110) LT 4000	12.0	12	110	48.0	M5003565
E90 Z4 D16.0(16) L64.0(160) LT 4000	16.0	16	160	64.0	M5003566

E90° Z4 L Ø 1 - 5

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]					V_c [m/min]	
						ap	ae	ap	Ø 1.0	Ø 2.0	Ø3.0	Ø4.0	Ø5.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	3.0xØ	0.25xØ	1.0xØ	0.010	0.011	0.016	0.023	0.029	150	200
			2		190 HB	3.0xØ	0.25xØ	1.0xØ	0.010	0.011	0.016	0.023	0.029	140	190
			3		250 HB	3.0xØ	0.25xØ	1.0xØ	0.010	0.011	0.016	0.023	0.029	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	3.0xØ	0.25xØ	1.0xØ	0.008	0.010	0.014	0.020	0.025	120	180
			4,6		230 HB	3.0xØ	0.25xØ	1.0xØ	0.008	0.010	0.014	0.020	0.025	90	130
			5,7		280 HB	3.0xØ	0.25xØ	0.7xØ	0.007	0.008	0.011	0.016	0.020	80	120
			8		350 HB	3.0xØ	0.25xØ	0.7xØ	0.007	0.008	0.011	0.016	0.020	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	3.0xØ	0.25xØ	0.7xØ	0.007	0.008	0.011	0.016	0.020	70	130
			10		280 HB	3.0xØ	0.25xØ	0.7xØ	0.007	0.008	0.011	0.016	0.020	65	110
			11		320 HB	3.0xØ	0.25xØ	0.5xØ	0.005	0.006	0.008	0.011	0.014	60	90
			11		350 HB	3.0xØ	0.25xØ	0.5xØ	0.005	0.006	0.008	0.011	0.014	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	3.0xØ	0.25xØ	1.0xØ	0.006	0.007	0.010	0.015	0.019	80	120
			14		240 HB	3.0xØ	0.25xØ	1.0xØ	0.005	0.007	0.010	0.015	0.019	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	3.0xØ	0.25xØ	1.0xØ	0.005	0.006	0.008	0.011	0.014	60	100
			14		310 HB	3.0xØ	0.25xØ	1.0xØ	0.005	0.006	0.008	0.011	0.014	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	3.0xØ	0.25xØ	1.0xØ	0.005	0.005	0.008	0.011	0.014	50	90
			13		42 HRc	3.0xØ	0.25xØ	1.0xØ	0.005	0.005	0.008	0.011	0.014	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	3.0xØ	0.25xØ	1.0xØ	0.009	0.011	0.015	0.022	0.027	140	200
			15		200 HB	3.0xØ	0.25xØ	1.0xØ	0.009	0.011	0.015	0.022	0.027	150	190
			16		250 HB	3.0xØ	0.25xØ	1.0xØ	0.009	0.011	0.015	0.022	0.027	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	3.0xØ	0.25xØ	1.0xØ	0.009	0.010	0.014	0.021	0.026	130	180
			17,19		200 HB	3.0xØ	0.25xØ	1.0xØ	0.009	0.010	0.014	0.021	0.026	110	150
			18,20		250 HB	3.0xØ	0.25xØ	1.0xØ	0.009	0.010	0.014	0.021	0.026	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	3.0xØ	0.10xØ	1.0xØ	0.004	0.004	0.006	0.009	0.011	30	50
			33	Inconel 700	250 HB	3.0xØ	0.10xØ	1.0xØ	0.004	0.004	0.006	0.009	0.011	25	45
			34	Stellite 21	350 HB	3.0xØ	0.10xØ	1.0xØ	0.004	0.004	0.006	0.009	0.011	20	50
	Ti Based	10	36	TiAl6V4	-	3.0xØ	0.25xØ	1.0xØ	0.004	0.004	0.006	0.009	0.011	30	60
			37	T40	-	3.0xØ	0.25xØ	1.0xØ	0.004	0.004	0.006	0.009	0.011	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	3.0xØ	0.10xØ	0.1xØ	0.003	0.004	0.006	0.008	0.010	40	60
			38		50 HRc	3.0xØ	0.10xØ	0.1xØ	0.003	0.004	0.006	0.008	0.010	35	55
			38		55 HRc	3.0xØ	0.10xØ	0.1xØ	0.003	0.003	0.005	0.007	0.009	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	3.0xØ	0.10xØ	0.1xØ	0.003	0.003	0.005	0.007	0.009	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	3.0xØ	0.10xØ	0.1xØ	0.003	0.003	0.005	0.007	0.009	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	3.0xØ	0.25xØ	1.0xØ	0.010	0.011	0.016	0.023	0.029	160	250

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E90° Z4 L Ø 6, 8, 10, 12

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]				V_c [m/min]	
						ap	ae	ap	Ø 6.0	Ø 8.0	Ø10.0	Ø12.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	3.0xØ	0.25xØ	1.0xØ	0.036	0.050	0.059	0.070	150	200
			2		190 HB	3.0xØ	0.25xØ	1.0xØ	0.036	0.050	0.059	0.070	140	190
			3		250 HB	3.0xØ	0.25xØ	1.0xØ	0.036	0.050	0.059	0.070	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	3.0xØ	0.25xØ	1.0xØ	0.032	0.044	0.053	0.062	120	180
			4,6		230 HB	3.0xØ	0.25xØ	1.0xØ	0.032	0.044	0.053	0.062	90	130
			5,7		280 HB	3.0xØ	0.25xØ	0.7xØ	0.026	0.035	0.042	0.049	80	120
			8		350 HB	3.0xØ	0.25xØ	0.7xØ	0.026	0.035	0.042	0.049	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	3.0xØ	0.25xØ	0.7xØ	0.026	0.035	0.042	0.049	70	130
			10		280 HB	3.0xØ	0.25xØ	0.7xØ	0.026	0.035	0.042	0.049	65	110
			11		320 HB	3.0xØ	0.25xØ	0.5xØ	0.018	0.025	0.030	0.035	60	90
			11		350 HB	3.0xØ	0.25xØ	0.5xØ	0.018	0.025	0.030	0.035	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	3.0xØ	0.25xØ	1.0xØ	0.024	0.032	0.039	0.045	80	120
			14		240 HB	3.0xØ	0.25xØ	1.0xØ	0.024	0.032	0.039	0.045	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	3.0xØ	0.25xØ	1.0xØ	0.018	0.025	0.030	0.035	60	100
			14		310 HB	3.0xØ	0.25xØ	1.0xØ	0.018	0.025	0.030	0.035	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	3.0xØ	0.25xØ	1.0xØ	0.017	0.024	0.029	0.033	50	90
			13		42 HRc	3.0xØ	0.25xØ	1.0xØ	0.017	0.024	0.029	0.033	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	3.0xØ	0.25xØ	1.0xØ	0.035	0.047	0.056	0.066	140	200
			15		200 HB	3.0xØ	0.25xØ	1.0xØ	0.035	0.047	0.056	0.066	150	190
			16		250 HB	3.0xØ	0.25xØ	1.0xØ	0.035	0.047	0.056	0.066	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	3.0xØ	0.25xØ	1.0xØ	0.033	0.045	0.053	0.063	130	180
			17,19		200 HB	3.0xØ	0.25xØ	1.0xØ	0.033	0.045	0.053	0.063	110	150
			18,20		250 HB	3.0xØ	0.25xØ	1.0xØ	0.033	0.045	0.053	0.063	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	3.0xØ	0.10xØ	1.0xØ	0.015	0.020	0.024	0.028	30	50
			33	Inconel 700	250 HB	3.0xØ	0.10xØ	1.0xØ	0.015	0.020	0.024	0.028	25	45
			34	Stellite 21	350 HB	3.0xØ	0.10xØ	1.0xØ	0.015	0.020	0.024	0.028	20	50
	Ti Based	10	36	TiAl6V4	-	3.0xØ	0.25xØ	1.0xØ	0.015	0.020	0.024	0.028	30	60
			37	T40	-	3.0xØ	0.25xØ	1.0xØ	0.015	0.020	0.024	0.028	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	3.0xØ	0.10xØ	0.1xØ	0.013	0.017	0.021	0.024	40	60
			38		50 HRc	3.0xØ	0.10xØ	0.1xØ	0.013	0.017	0.021	0.024	35	55
			38		55 HRc	3.0xØ	0.10xØ	0.1xØ	0.011	0.015	0.018	0.021	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	3.0xØ	0.10xØ	0.1xØ	0.011	0.015	0.018	0.021	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	3.0xØ	0.10xØ	0.1xØ	0.011	0.015	0.018	0.021	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	3.0xØ	0.25xØ	1.0xØ	0.036	0.050	0.059	0.070	160	250

90° 3 Flutes, Rougher

Product Designation	D1	D2	L1	L2	Catalog Nr.
ERO Z3 D04.0(06) L11.0(057) LT 4000	04.0	06	057	11.0	M5003607

90° 4 Flutes, Rougher

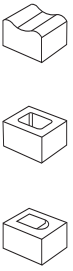
Product Designation	D1	D2	L1	L2	Catalog Nr.
ERO Z4 D05.0(06) L13.0(057) LT 4000	05.0	06	057	13.0	M5003608
ERO Z4 D06.0(06) L13.0(057) LT 4000	06.0	06	057	13.0	M5003609
ERO Z4 D08.0(08) L19.0(063) LT 4000	08.0	08	063	19.0	M5003610
ERO Z4 D10.0(10) L22.0(072) LT 4000	10.0	10	072	22.0	M5003611
ERO Z4 D12.0(12) L26.0(083) LT 4000	12.0	12	083	26.0	M5003612

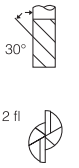
ERO Z4 Ø 4, 5, 6

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]			V_c [m/min]	
						ap	ae	ap	Ø 4.0	Ø 5.0	Ø6.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.024	0.030	0.040	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.024	0.030	0.040	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.024	0.030	0.040	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.025	0.030	0.039	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.025	0.030	0.039	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.020	0.024	0.032	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.020	0.024	0.032	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.026	0.033	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.021	0.026	0.033	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.016	0.020	0.025	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.016	0.020	0.025	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.022	0.028	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.017	0.022	0.028	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.013	0.017	0.021	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.013	0.017	0.021	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.013	0.017	0.021	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.013	0.017	0.021	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.029	0.036	0.047	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.029	0.036	0.047	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.029	0.036	0.047	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.025	0.031	0.040	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.025	0.031	0.040	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.025	0.031	0.040	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.014	0.018	0.023	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.014	0.018	0.023	25	45
			34	Stellite 21	350 HB	1.5xØ	0.3xØ	1.0xØ	0.014	0.018	0.023	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.015	0.018	0.023	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.015	0.018	0.023	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.011	0.013	0.017	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.011	0.013	0.017	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.008	0.010	0.013	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.008	0.010	0.013	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.008	0.010	0.013	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5xØ	1.0xØ	0.027	0.033	0.042	160	250

ERO Z4 Ø 8, 10, 12

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	profiling		slotting	fz[mm/tooth]			V_c [m/min]	
						ap	ae	ap	Ø 8.0	Ø 10.0	Ø12.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	1.5xØ	0.5xØ	1.0xØ	0.055	0.065	0.077	150	200
			2		190 HB	1.5xØ	0.5xØ	1.0xØ	0.055	0.065	0.077	140	190
			3		250 HB	1.5xØ	0.5xØ	1.0xØ	0.055	0.065	0.077	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	1.5xØ	0.5xØ	1.0xØ	0.053	0.063	0.074	120	180
			4,6		230 HB	1.5xØ	0.5xØ	1.0xØ	0.053	0.063	0.074	90	130
			5,7		280 HB	1.5xØ	0.5xØ	0.7xØ	0.043	0.052	0.062	80	120
			8		350 HB	1.5xØ	0.5xØ	0.7xØ	0.043	0.052	0.062	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	1.5xØ	0.5xØ	1.0xØ	0.046	0.055	0.064	70	130
			10		280 HB	1.5xØ	0.5xØ	1.0xØ	0.046	0.055	0.064	65	110
			11		320 HB	1.5xØ	0.5xØ	0.6xØ	0.035	0.041	0.049	60	90
			11		350 HB	1.5xØ	0.5xØ	0.6xØ	0.035	0.041	0.049	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	1.5xØ	0.5xØ	1.0xØ	0.038	0.045	0.053	80	120
			14		240 HB	1.5xØ	0.5xØ	1.0xØ	0.038	0.045	0.053	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	1.5xØ	0.5xØ	1.0xØ	0.029	0.035	0.040	60	100
			14		310 HB	1.5xØ	0.5xØ	1.0xØ	0.029	0.035	0.040	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	1.5xØ	0.5xØ	1.0xØ	0.029	0.035	0.040	50	90
			13		42 HRc	1.5xØ	0.5xØ	1.0xØ	0.029	0.035	0.040	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	1.5xØ	0.5xØ	1.0xØ	0.064	0.076	0.089	140	200
			15		200 HB	1.5xØ	0.5xØ	1.0xØ	0.064	0.076	0.089	150	190
			16		250 HB	1.5xØ	0.5xØ	1.0xØ	0.064	0.076	0.089	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	1.5xØ	0.5xØ	1.0xØ	0.055	0.066	0.077	130	180
			17,19		200 HB	1.5xØ	0.5xØ	1.0xØ	0.055	0.066	0.077	110	150
			18,20		250 HB	1.5xØ	0.5xØ	1.0xØ	0.055	0.066	0.077	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	1.5xØ	0.3xØ	1.0xØ	0.031	0.037	0.044	30	50
			33	Inconel 700	250 HB	1.5xØ	0.3xØ	1.0xØ	0.031	0.037	0.044	25	45
			34	Stellite 21	350 HB	1.5xØ	0.3xØ	1.0xØ	0.031	0.037	0.044	20	50
	Ti Based	10	36	TiAl6V4	-	1.5xØ	0.5xØ	1.0xØ	0.032	0.038	0.045	30	60
			37	T40	-	1.5xØ	0.5xØ	1.0xØ	0.032	0.038	0.045	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	1.5xØ	0.3xØ	0.2xØ	0.023	0.028	0.032	40	60
			38		50 HRc	1.5xØ	0.3xØ	0.2xØ	0.023	0.028	0.032	35	55
			38		55 HRc	1.5xØ	0.2xØ	0.1xØ	0.017	0.021	0.024	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	1.5xØ	0.2xØ	0.1xØ	0.017	0.021	0.024	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	1.5xØ	0.2xØ	0.1xØ	0.017	0.021	0.024	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	1.5xØ	0.5xØ	1.0xØ	0.058	0.069	0.081	160	250





Ball Nose 2 Flutes

Product Designation	D1	D2	L1	L2	Catalog Nr.
EBN Z2 D01.0(03) L03.0(038) R0.50 LT 4000	01.0	03	038	03.0	M5003587
EBN Z2 D01.5(03) L05.0(038) R0.75 LT 4000	01.5	03	038	05.0	M5003588
EBN Z2 D02.0(03) L06.0(038) R1.00 LT 4000	02.0	03	038	06.0	M5003589
EBN Z2 D02.5(03) L07.0(038) R1.25 LT 4000	02.5	03	038	07.0	M5003590
EBN Z2 D03.0(03) L09.0(038) R1.50 LT 4000	03.0	03	038	09.0	M5003591
EBN Z2 D04.0(04) L14.0(050) R2.00 LT 4000	04.0	04	050	14.0	M5003592
EBN Z2 D05.0(05) L16.0(050) R2.50 LT 4000	05.0	05	050	16.0	M5003593
EBN Z2 D06.0(06) L20.0(063) R3.00 LT 4000	06.0	06	063	20.0	M5003594
EBN Z2 D08.0(08) L20.0(063) R4.00 LT 4000	08.0	08	063	20.0	M5003595
EBN Z2 D10.0(10) L22.0(072) R5.00 LT 4000	10.0	10	072	22.0	M5003596
EBN Z2 D12.0(12) L26.0(075) R6.00 LT 4000	12.0	12	075	26.0	M5003597

EBN Z2 Ø 1 - 5

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	contouring		fz[mm/tooth]					V_c [m/min]	
						ap	ae	Ø1.0	Ø2.0	Ø 3.0	Ø 4.0	Ø 5.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.25xØ	0.7xØ	0.035	0.045	0.065	0.080	0.105	150	200
			2		190 HB	0.25xØ	0.7xØ	0.035	0.045	0.065	0.080	0.105	140	190
			3		250 HB	0.25xØ	0.7xØ	0.035	0.045	0.065	0.080	0.105	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.25xØ	0.7xØ	0.033	0.042	0.061	0.075	0.099	120	180
			4,6		230 HB	0.25xØ	0.7xØ	0.033	0.042	0.061	0.075	0.099	90	130
			5,7		280 HB	0.25xØ	0.7xØ	0.028	0.036	0.052	0.064	0.084	80	120
			8		350 HB	0.25xØ	0.7xØ	0.028	0.036	0.052	0.064	0.084	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.25xØ	0.7xØ	0.028	0.036	0.051	0.063	0.083	70	130
			10		280 HB	0.25xØ	0.7xØ	0.028	0.036	0.051	0.063	0.083	65	110
			11		320 HB	0.25xØ	0.7xØ	0.021	0.027	0.039	0.048	0.063	60	90
			11		350 HB	0.25xØ	0.7xØ	0.021	0.027	0.039	0.048	0.063	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.25xØ	0.7xØ	0.023	0.029	0.042	0.052	0.068	80	120
			14		240 HB	0.25xØ	0.7xØ	0.023	0.029	0.042	0.052	0.068	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.25xØ	0.7xØ	0.018	0.023	0.033	0.040	0.053	60	100
			14		310 HB	0.25xØ	0.7xØ	0.018	0.023	0.033	0.040	0.053	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.25xØ	0.7xØ	0.024	0.031	0.044	0.054	0.071	50	90
			13		42 HRc	0.25xØ	0.7xØ	0.024	0.031	0.044	0.054	0.071	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.25xØ	0.7xØ	0.039	0.050	0.072	0.088	0.116	140	200
			15		200 HB	0.25xØ	0.7xØ	0.039	0.050	0.072	0.088	0.116	150	190
			16		250 HB	0.25xØ	0.7xØ	0.039	0.050	0.072	0.088	0.116	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.25xØ	0.7xØ	0.033	0.043	0.062	0.076	0.100	130	180
			17,19		200 HB	0.25xØ	0.7xØ	0.033	0.043	0.062	0.076	0.100	110	150
			18,20		250 HB	0.25xØ	0.7xØ	0.033	0.043	0.062	0.076	0.100	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.25xØ	0.6xØ	0.022	0.029	0.042	0.051	0.067	30	50
			33	Inconel 700	250 HB	0.25xØ	0.6xØ	0.022	0.029	0.042	0.051	0.067	25	45
			34	Stellite 21	350 HB	0.25xØ	0.6xØ	0.022	0.029	0.042	0.051	0.067	20	50
	Ti Based	10	36	TiAl6V4	-	0.25xØ	0.7xØ	0.019	0.025	0.036	0.044	0.058	30	60
			37	T40	-	0.25xØ	0.7xØ	0.019	0.025	0.036	0.044	0.058	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.25xØ	0.6xØ	0.014	0.018	0.026	0.032	0.042	40	60
			38		50 HRc	0.25xØ	0.6xØ	0.014	0.018	0.026	0.032	0.042	35	55
			38		55 HRc	0.25xØ	0.3xØ	0.011	0.014	0.020	0.024	0.032	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.25xØ	0.3xØ	0.011	0.014	0.020	0.024	0.032	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.25xØ	0.3xØ	0.011	0.014	0.020	0.024	0.032	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.25xØ	0.7xØ	0.035	0.045	0.065	0.080	0.105	160	250

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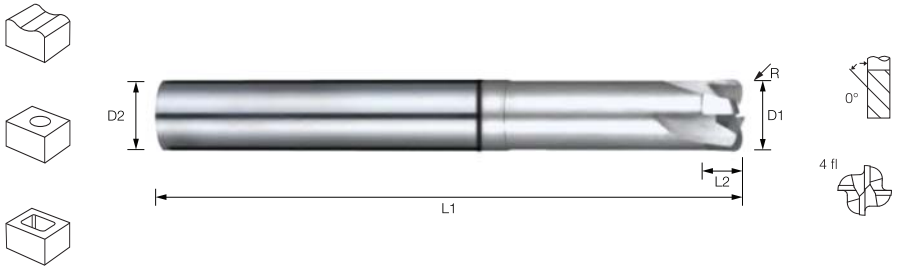
EBN Z2 Ø 6, 8, 10, 12

	Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	contouring		fz[mm/tooth]				V_c [m/min]	
						ap	ae	Ø 6.0	Ø 8.0	Ø 10.0	Ø 12.0	min	max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.25xØ	0.7xØ	0.100	0.115	0.125	0.140	150	200
			2		190 HB	0.25xØ	0.7xØ	0.100	0.115	0.125	0.140	140	190
			3		250 HB	0.25xØ	0.7xØ	0.100	0.115	0.125	0.140	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.25xØ	0.7xØ	0.094	0.108	0.118	0.132	120	180
			4,6		230 HB	0.25xØ	0.7xØ	0.094	0.108	0.118	0.132	90	130
			5,7		280 HB	0.25xØ	0.7xØ	0.080	0.092	0.100	0.112	80	120
			8		350 HB	0.25xØ	0.7xØ	0.080	0.092	0.100	0.112	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.25xØ	0.7xØ	0.079	0.091	0.099	0.111	70	130
			10		280 HB	0.25xØ	0.7xØ	0.079	0.091	0.099	0.111	65	110
			11		320 HB	0.25xØ	0.7xØ	0.060	0.069	0.075	0.084	60	90
			11		350 HB	0.25xØ	0.7xØ	0.060	0.069	0.075	0.084	50	80
Stainless Steel	Austenitic	4	14	304, 316, X5CrNi18-9	180 HB	0.25xØ	0.7xØ	0.065	0.075	0.081	0.091	80	120
			14		240 HB	0.25xØ	0.7xØ	0.065	0.075	0.081	0.091	70	115
	Duplex	5	14	X2CrNiN23-4, S31500	290 HB	0.25xØ	0.7xØ	0.050	0.058	0.063	0.070	60	100
			14		310 HB	0.25xØ	0.7xØ	0.050	0.058	0.063	0.070	60	90
	Ferritic & Martensitic	6	12	410, X6Cr17, 17-4 PH, 430	200 HB	0.25xØ	0.7xØ	0.068	0.078	0.085	0.095	50	90
			13		42 HRc	0.25xØ	0.7xØ	0.068	0.078	0.085	0.095	30	55
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.25xØ	0.7xØ	0.110	0.127	0.138	0.154	140	200
			15		200 HB	0.25xØ	0.7xØ	0.110	0.127	0.138	0.154	150	190
			16		250 HB	0.25xØ	0.7xØ	0.110	0.127	0.138	0.154	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.25xØ	0.7xØ	0.095	0.109	0.119	0.133	130	180
			17,19		200 HB	0.25xØ	0.7xØ	0.095	0.109	0.119	0.133	110	150
			18,20		250 HB	0.25xØ	0.7xØ	0.095	0.109	0.119	0.133	90	130
High Temp. Alloys	Fe, Ni & Co Based	9	31,32	Incoloy 800	240 HB	0.25xØ	0.6xØ	0.064	0.074	0.080	0.090	30	50
			33	Inconel 700	250 HB	0.25xØ	0.6xØ	0.064	0.074	0.080	0.090	25	45
			34	Stellite 21	350 HB	0.25xØ	0.6xØ	0.064	0.074	0.080	0.090	20	50
	Ti Based	10	36	TiAl6V4	-	0.25xØ	0.7xØ	0.055	0.063	0.069	0.077	30	60
			37	T40	-	0.25xØ	0.7xØ	0.055	0.063	0.069	0.077	40	70
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.25xØ	0.6xØ	0.040	0.046	0.050	0.056	40	60
			38		50 HRc	0.25xØ	0.6xØ	0.040	0.046	0.050	0.056	35	55
			38		55 HRc	0.25xØ	0.3xØ	0.030	0.035	0.038	0.042	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.25xØ	0.3xØ	0.030	0.035	0.038	0.042	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.25xØ	0.3xØ	0.030	0.035	0.038	0.042	30	50
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.25xØ	0.7xØ	0.100	0.115	0.125	0.140	160	250



High Feed 4 Flutes

Product Designation	D1	D2	L1	L2	Catalog Nr.
EHF Z4 D03.0(06) L02.0(070) R0.37 LT 4000	03.0	06	070	02.0	M5003600
EHF Z4 D04.0(06) L02.0(070) R0.47 LT 4000	04.0	06	070	02.0	M5003601
EHF Z4 D05.0(06) L02.5(070) R0.60 LT 4000	05.0	06	070	02.5	M5003602
EHF Z4 D06.0(06) L03.0(070) R0.73 LT 4000	06.0	06	070	03.0	M5003603
EHF Z4 D08.0(08) L04.0(080) R0.98 LT 4000	08.0	08	080	04.0	M5003604
EHF Z4 D10.0(10) L05.0(090) R1.23 LT 4000	10.0	10	090	05.0	M5003605
EHF Z4 D12.0(12) L06.0(100) R1.65 LT 4000	12.0	12	100	06.0	M5003606

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EHF Z4 Ø 3 - 5

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	contouring ap	contouring ae	fz[mm/tooth] Ø 3.0	fz[mm/tooth] Ø 4.0	fz[mm/tooth] Ø 5.0	V_c [m/min] min	V_c [m/min] max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.025xØ	0.5xØ	0.140	0.200	0.240	150	200
			2		190 HB	0.025xØ	0.5xØ	0.140	0.200	0.240	140	190
			3		250 HB	0.025xØ	0.5xØ	0.140	0.200	0.240	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.025xØ	0.5xØ	0.132	0.188	0.226	120	180
			4,6		230 HB	0.025xØ	0.5xØ	0.132	0.188	0.226	90	130
			5,7		280 HB	0.025xØ	0.5xØ	0.132	0.188	0.226	80	120
			8		350 HB	0.025xØ	0.5xØ	0.132	0.188	0.226	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.025xØ	0.5xØ	0.111	0.158	0.190	70	130
			10		280 HB	0.025xØ	0.5xØ	0.111	0.158	0.190	65	110
			11		320 HB	0.025xØ	0.5xØ	0.084	0.120	0.144	60	90
			11		350 HB	0.025xØ	0.5xØ	0.084	0.120	0.144	50	80
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.025xØ	0.5xØ	0.154	0.220	0.264	140	200
			15		200 HB	0.025xØ	0.5xØ	0.154	0.220	0.264	150	190
			16		250 HB	0.025xØ	0.5xØ	0.154	0.220	0.264	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.025xØ	0.5xØ	0.133	0.190	0.228	130	180
			17,19		200 HB	0.025xØ	0.5xØ	0.133	0.190	0.228	110	150
			18,20		250 HB	0.025xØ	0.5xØ	0.133	0.190	0.228	90	130
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.025xØ	0.5xØ	0.070	0.100	0.120	40	60
			38		50 HRc	0.025xØ	0.5xØ	0.070	0.100	0.120	35	55
			38		55 HRc	0.025xØ	0.3xØ	0.056	0.080	0.096	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.025xØ	0.3xØ	0.056	0.080	0.096	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.025xØ	0.3xØ	0.056	0.080	0.096	30	50

EHF Z4 Ø 6, 8,10,12

Material Group		Gr. N°	VDI Group	Material Exemples	Hardness	contouring ap	contouring ae	fz[mm/tooth] Ø 6.0	fz[mm/tooth] Ø 8.0	fz[mm/tooth] Ø10.0	fz[mm/tooth] Ø12.0	V_c [m/min] min	V_c [m/min] max
Steel	Non Alloyed	1	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.025xØ	0.5xØ	0.260	0.340	0.400	0.450	150	200
			2		190 HB	0.025xØ	0.5xØ	0.260	0.340	0.400	0.450	140	190
			3		250 HB	0.025xØ	0.5xØ	0.260	0.340	0.400	0.450	120	160
	Low Alloyed	2	6	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.025xØ	0.5xØ	0.244	0.320	0.376	0.423	120	180
			4,6		230 HB	0.025xØ	0.5xØ	0.244	0.320	0.376	0.423	90	130
			5,7		280 HB	0.025xØ	0.5xØ	0.244	0.320	0.376	0.423	80	120
			8		350 HB	0.025xØ	0.5xØ	0.244	0.320	0.376	0.423	60	90
	High Alloyed	3	10	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.025xØ	0.5xØ	0.205	0.269	0.316	0.356	70	130
			10		280 HB	0.025xØ	0.5xØ	0.205	0.269	0.316	0.356	65	110
			11		320 HB	0.025xØ	0.5xØ	0.156	0.204	0.240	0.270	60	90
			11		350 HB	0.025xØ	0.5xØ	0.156	0.204	0.240	0.270	50	80
Cast Iron	Grey	7	15	GG20, GG40, EN-GJL-250, No30B	150 HB	0.025xØ	0.5xØ	0.286	0.374	0.440	0.495	140	200
			15		200 HB	0.025xØ	0.5xØ	0.286	0.374	0.440	0.495	150	190
			16		250 HB	0.025xØ	0.5xØ	0.286	0.374	0.440	0.495	120	160
	Malleable & Nodular	8	17,19	GGG40, GGG70, 50005	150 HB	0.025xØ	0.5xØ	0.247	0.323	0.380	0.428	130	180
			17,19		200 HB	0.025xØ	0.5xØ	0.247	0.323	0.380	0.428	110	150
			18,20		250 HB	0.025xØ	0.5xØ	0.247	0.323	0.380	0.428	90	130
Hardened Mat.	Steel	11	38	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.025xØ	0.5xØ	0.130	0.170	0.200	0.225	40	60
			38		50 HRc	0.025xØ	0.5xØ	0.130	0.170	0.200	0.225	35	55
			38		55 HRc	0.025xØ	0.3xØ	0.104	0.136	0.160	0.180	30	50
	Chilled Cast Iron		40	Ni-Hard 2	400 HB	0.025xØ	0.3xØ	0.104	0.136	0.160	0.180	35	55
	White Cast Iron		41	G-X300CrMo15	55 HRc	0.025xØ	0.3xØ	0.104	0.136	0.160	0.180	30	50

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Materials Reference List

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Material number	DIN	AFNOR	BS	UNI	JIS	AISI / SAE
Non-Alloyed Steel						
Lamina group Nr. 1						
1.0036	US137-3	-	-	FE 37BFU	-	-
1.0401	C15	CC12	080M15	C15 / C16	S15C	1015
1.0402	C22	CC20	050A20	C20 / C21	S20C / S22C	1020
1.0501	-	-	-	-	-	-
1.0503	C45	CC45	080M46	C45	S45C / S45CM	1045
1.0715	9 SMn 28	S250	230M07	CF 9 SMn 28	SUM22	1213
1.0718	9 SMnPb 28	S250Pb	-	CF 9 SMnPb 28	SUM22L / SUM23L	12L3
1.0722	10 SPb 20	-	-	-	-	-
1.0725	15 SMn 13	-	-	-	-	-
1.0726	35 S 20	-	-	-	-	-
1.0756	35 SPb 20	-	-	-	-	-
1.0760	38 SMn 28	-	-	-	-	-
1.0762	44 SMn 28	-	-	-	-	-
1.0763	44 SMnPb 28	-	-	-	-	-
1.0764	36 SMn 14	-	-	-	-	-
1.0765	36 SMnPb 14	-	-	-	-	-
1.1121	Ck 10	XC10	040 A10	2 C 10	S9 CK / S 10 C	1010
1.1133	20 Mn 5	20 M5	120 M19	20 Mn 7	SMnC 420	1022 / 1518
1.1141	Ck 15	XC 12	080 M15	C16	S15/S15CK	1015
1.1157	40 Mn 4	40 M5	150 M36	-	-	1035 / 1041
1.1158	C25E (CK 25)	XC 25	070M25	C25	S25 / S28C	1025
1.1166	35 Mn 5	-	-	-	SMn 433H	1536
1.1170	28 Mn 6	20 M5	(150 M8)	C 28 Mn	SCMn 1	1330
1.1173	30 Mn 5	35 M5	(150 M28)	-	SMn 433H / SCMn 2	1306 / 1330
1.1181	C35E (CK 35)	XC 32	080 A35	C35	S 35C	1035 / 1038
1.1183	Cf 35	XC 38TS	080 A35	C36 / C38	S35C / S35CM	1035
1.1191	C45E (Ck 45)	XC 45	080 M46 / 060 A47	C45	S45C/S48C/S45CM045CM	1045
Low Alloyed Steel						
Lamina group Nr. 2						
1.0050	St 50-2	-		FE 50	SS50 / SS490	-
1.0060	St 60-2	-	-	FE 60-2	SM570 / SM58	-
1.0070	St 70-2	-	-	FE 70-2	FE70-2	-
1.0535	C55	-	070M55	C55	S55C / S55CM	1055
1.0601	C60	CC55	080A62	C60	S58C	1060
1.1203	C55E (CK 55)	XC 55	060 A57 / 070 M55	C50	S55C / S55CM	1055
1.1213	Cf 53	XC 48TS	060A52	C53	S50C / S50CM	1050
1.1221	C60E (CK 60)	XC 60	060A62	C60	S58C / S60CM	1060 / 1064
1.1525	C 80 W1	C 90 E2U	-	C 80 KU	-	W108
1.1545	C 105 W1	C 105 E2U	-	C 100 KU	SK3 / SUP4	W110
1.1563	C 125 W	C 120 E3U	-	C 120 KU	SK2	W112
1.1573	C 135 W	C 140 E3U	-	C 140 KU	-	-
1.1625	C 80 W2	-	BW 1B	-	SK5 / SK6	W1
1.1750	C 75 W	-	BW 1A	-	-	W1
1.2330	35 CrMo 4	34 CD 4	708 A37 / (BP20)	35 CrMo 4	-	4135 / P20
1.2332	47 CrMo 4	-	-	40 CrMo 4	-	4142
1.5415	15 Mo 3	15 D 3	1501 - 240	16 Mo3 KW	STBA12 / STFA12	ASTM A204 GrA
1.5423	16 Mo 5	-	1503 - 245 - 420	16 Mo5	SB 450M / SB 480M	4520
1.5622	14 Ni 6	16 N 6	-	14 Ni 6	SL9N590	ASTM A350LF5
1.5711	40 NiCr 6	38 NC 6	-	-	3140	-
1.5713	13 NiCr 6	10 NC 6	-	-	3115	-
1.5732	14 NiCr 10	14 NC 11	-	16 NiCr 11	SNC 415(H)	3415
1.5752	-	-	-	-	-	-
1.5919	15 CrNi 6	-	-	-	-	3115
1.7003	-	-	-	-	-	-
1.7006	46 Cr 2	42 C 2	-	45 Cr 2	-	5045 / 5046
1.7015	15 Cr 3	15 C 2	523 M15	-	SCr 415 (H)	5015 / 5115
1.7033	34 Cr 4	32 C 4	530 A32	34 CR 4 (KB)	SCr 430 (H)	5132

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Material number	DIN	AFNOR	BS	UNI	JIS	AISI / SAE
Low Alloyed Steel						
1.7035	41 Cr 4	42 C 4	530 M40	-	SCr 440 (H)(M)	5140
1.7045	41 Cr 4	41 C 4	530 A40	41 Cr 4	SCr 440	5140
1.7147	20 MnCr 5	20 MC 5	-	20 MnCr 5	SMnC 420H	5120
1.7176	55 Cr 3	55 C 3	527 A60	55 Cr 3	SUP9 (A)	5155 / 5160
1.7218	25 CrMo 4	25 CD 4	708 A25	25 CrMo 4 (KB)	SCM 420 / SCM 430	4130
1.7220	34 CrMo 4	35 CD 4	708 A37	35 CrMo 4	SCCr M3 / SCM 435H	4137 / 4135
1.7223	41 CrMo 4	42 CD 4TS	708 M40	41 CrMo 4	SCM 440	4140 / 4142
1.7225	42 CrMo 4	42 CD 4	708 M40	42 CrMo 4	SCM 440(H) / SNB 7	4140 / 4142
1.7227	42 CrMoS 4	-	-	-	-	-
1.7228	50 CrMo 4	50 CD 4	708 A47	-	SCM 445 (H)	4150
1.7242	16 CrMo 4	-	-	18 CrMo 4	SCM 418 (H)	-
1.7262	15 CrMo 5	12 CD 4	-	-	SCM 415 (H)	-
1.7264	20 CrMo 5	18 CD 4	-	-	SCM 421 / SCM 420H	-
1.7335	13 CrMo 4 4	15 CD 3.5 / 4.5	1502 620 540	14 CrMo 3	SFVAF12	A182 A387 Gr.12
1.7337	16 CrMo 4 4	15 CD 4 5	-	18 CrMo 4 5 KW	-	A 387 Gr.12 C12
1.7361	32 CrMo 12	30 CD 12	722 M24	32 CrMo 12	-	-
1.2067	102 Cr 6	Y 100 C 6	(BL3)	-	SUJ 2	L1 / L3
1.2080	X210 Cr 12	Z200 C 12	BD3	X205 Cr 12KU	SKD 1	D3
1.2210	115 CrV 3	100 C 3	-	107 CrV3 KU	-	L2
1.2241	51 CrV 4	-	-	-	-	-
High Alloyed Steel						
1.2311	40 CrMnMo 7	-	-	35 CrMo 8 KU	-	-
1.2343	X38 CrMoV 5 1	Z38 CDV 5	BH11	X37 CrMoV51 KU	SKD 6	H 11
1.2344	X40 CrMoV 5 1	Z40 CDV 5	BH13	X40 CrMoV511 KU	SKD 61	H 13
1.2363	X100 CrMoV 5 1	Z100 CDV 5	BA2	X100 CrMoV 5 1 KU	SKD 12	A2
1.2365	X32 CrMoV 3 3	32 DCV 12 28	BH10	30 CrMoV 12 27 KU	-	H10
1.2379	X155 CrVMo 12 1	Z160 CDV 12	BD2	X155 CrVMo121 KU	SKD 11	D2
1.2419	105 WCr 6	105 WC 13	-	107 WCr 5 KU	SKS 31 / SKS 2 / SKS 3	-
1.2436	X210 CrW 12	Z210 CW 12 1	-	X215 CrW 12 1 KU	SKD 2	-
1.2510	100 MnCrW 4	90 MWCV 5	BO1	95 MnWCr 5KU	BO 1	O1
1.2542	45 WCrV 7	45 WCV 20	BS1	45 WCrV 8 KU	-	S1
1.2550	60 WCrV 7	55 WC 20	BS1	58 WCr 9 KU	-	S1
1.2567	30 WCrV 17 2	Z32 WCV 5	-	X30 WCrV 5 3 KU	SKD 4	-
1.2581	X30 WCrV 9 3	Z30 WCV 9	BH21	X30 WCrV 9 3 KU	SKD 5	H 21
1.2601	X165 CrMo V 12	-	-	X165 CrMoW 12 KU	-	-
1.2606	X37 CrMoW 5 1	Z35 CWDV 5	BH12	X35 CrMoW 05 KU	SKD 62	H 12
1.2713	55 NiCrMoV 6	55 NCDV 7	BH 244/5	-	SKT 4	L6
1.2721	50 NiCr 13	-	-	-	-	-
1.2762	75 CrMoNiW 6 7	-	-	-	-	-
1.2842	90 MnCrV 8	90 MV 8	BO2	88 MnV 8 KU	-	O2
1.2885	X32 CrMoCoV 3 3 3	-	BH 10A	-	-	(H10A)
1.3202	S 12-1-4-5	-	BT15	HS12-1-5-5	-	T15
1.3207	S 10-4-3-10	Z130 WKCDV 10 10 4 4 3	BT42	HS10-4-3-10	SKH 57	-
1.3243	S 6-5-2-5	Z90 KCV 6 5 5 4 2	334	HS 6-5-2-5	SKH 55	-
1.3246	S 7-4-2-5	Z110 WKCDV 7 5 4 4 2	-	HS 7-4-2-5	-	M 41
1.3247	S 2-10-1-8	Z110 DKCWV 9 8 4 2 1	BM42	HS 2-9-1-8	SKH 59	M 42
1.3249	S 2-9-8	-	(BM34)	-	-	M33 / M34
1.3343	S 6-5-2	Z85 WDCV 6 5 4 2	BM2	HS 6-5-2-5	SKH 51	M2
1.3344	S 6-5-3	Z130 WDCV 6 5 4 4	-	-	SKH 52 / SKH 53	M2 Class 2
1.3346	S 2-9-1	Z85 DCWV 8 4 2 1	BM1	-	-	H41 / M1
1.3401	G-X120 Mn 12	Z120 M 12	BW10	-	-	A128 75
1.3501	100 Cr 2	100 C 2	-	-	-	E 50100
1.3505	100 Cr 6	100 C 6	534 A99	100 Cr 6	SUJ2 / SUJ 4	52100
1.4086	G-X120 Cr 29	-	452 C11	-	-	-
1.4125	X105 CrMo 17	Z100 CD 17	-	-	SUS 440C	440C
1.4871	X53CrMnNiN 21 9	Z53 CMN 21 9 Az	349 S54	X53 CrMnNiN 21 9	SUH 35 / SUH 36	EV8

Lamina group Nr. 2

Lamina group Nr. 3

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Material number	DIN	AFNOR	BS	UNI	JIS	AISI / SAE
High Alloyed Steel						
Lamina group Nr. 3						
1.4922	X20 crM0V 12 1	-	-	X20 CrMoV 12 1	-	-
1.5662	X8 Ni 9	-	1502-502-650	X10 Ni 9	SL 9N53 / 60	A353
1.5680	X12 Ni 5	Z18 N5	-	-	SL 5N 590	2515 2517
1.5710	36 NiCr 6	35 NC 6	640 A35	-	SNC 236	3135
1.5736	36 NiCr 10	30 NC 11	-	-	SNC 631 (H)	3435
1.5755	31 NiCr 14	18 NC 13	653 M31	-	SNC 836	-
1.5864	35 NiCr 18	-	-	-	-	-
1.6511	36 CrNiMo 4	40 NCD 3	817 M37	38 NiCrMo 4(KB)	-	9840 4340
1.6523	21 NiCrMo 2	20 NCD 2	805 M20	20 NiCrMo 2	SNCM 220(H)	8620
1.6546	40 NiCrMo 22	-	311-Type 7	40 NiCrMo 2(KB)	SNCM 240	8740
1.6562	40 NiCrMo 8 4	-	817 M40	40 NiCrMo 7(KB)	-	E 4340
1.6565	40 NiCrMo 6	-	817 A37 / 818 M40	-	SNCM 439	4340 / 9850
1.6580	30 CrNiMo 8	30 CND 8	823 M30	30 NiCrMo 8	SNCM 431	-
1.6582	34 CrNiMo 6	35 NCD 6	817 M40	34 CrNiMo 6	SNCM 447	4340 / 4337
1.6587	17 CrNiMo 6	18 NCD 6	820 A16	-	-	-
1.6657	14 NiCrMo 34	16 NCD 13	832 M13	15 NiCrMo 13	-	9310
1.6746	32 NiCrMo 14 5	35 NCD 14	-	-	-	-
1.6747	30 NiCrMo 16 6	35 NCD 16	835 M30	-	-	-
1.6773	36 NiCrMo 16	-	-	-	-	-
1.7102	54 SiCr 6	54 SC 6	-	-	-	401
1.7108	60 SiCr 7	60 SC 7	-	60 SiCr 8	-	9262
1.7131	16 MnCr 5	16 MC 5	527 M17 / 590 H17	16 MnCr 5	-	5115
1.7238	49 CrMo 4	-	-	-	-	-
1.7362	12 CrMo 19 5	Z 10 CD 5 5	3606-625	16 CrMo 20 5	SFVAF5A / SFVAF5B	-
1.7380	10 CrMo 9 10	10 CD 9 10	3606-622	12 CrMo 9 10	SFVAF22A-B / SCMV4	A 182 F11 / A 387 Gr.22
1.7561	42 CrV 6	-	-	-	-	-
1.7701	51 CrMoV 4	51 CDV 4	-	51 CrMoV 4	-	-
1.7715	14 MoV 6 3	-	1503-660-440	-	-	-
1.7733	24 CrMoV 5 5	20 CDV 6	-	21 CrMoV 5 11	-	-
1.7755	GS-45 CrMoV 10 4	-	-	-	-	-
1.8070	21 CrMoV 5 11	-	-	35 NiCr 9	-	-
1.8159	50 CrV 4	51 CV 4	735 A51	50 CrV 4	SUP 10	6145 / 6150
1.8507	34 CrAlMo 5	30 CAD 6.12	-	34 CrAlMo 7	-	A 355 Cl.D
1.8509	41 CrAlMo 7	40 CAD 6 12	905 M39	41 CrAlMo 7	SACM 645 / SACM 1	A 355 Cl.A / E71400
1.8515	31 CrMo 12	30 DC 12	722 M24	30 CrMo 12	-	-
1.8519	31 CrMoV 9	-	-	-	-	-
1.8523	39 CrMoV 13 9	-	897 M39	36 CrMoV 12	-	-
1.8550	34 CrAlNi 7	30 CAD 6.12	905 M31	-	-	-
Austenitic Stainless Steel						
Lamina group Nr. 4						
1.4005	X12 CrS 13	Z11 CF 13	416 S21	X12 CrS 13	SUS 416	416
1.4104	X14 CrMoS 17	Z13 CF 17	441 S29	X10 CrS 17	SUS 430F	430F
1.4113	X6 CrMoS 17 1	Z8 CD 17 01	434 S17	X8 CrMo 17	SUS 434	434
1.4301	X5 CrNi 18 9	Z6 CN 18 9	304 S15 / LW21 / LWCF	X5 CrNi 18 10	SUS 304	304 / 304H
1.4303	X4 cr Ni 18 12	Z5 CN 18 11FF	305 S17 / 305 S19	X7 CrNi 18 10	SUS 305 / SUS 305J1	305 / 308
1.4305	X8 crNiS 18 9	Z8 CNF 18 9	303 S22 / 303 S31	X10 CrNiS 18 9	SUS 303	303
1.4306	X2 crNi 18 9	Z2 CN 18 9	304 S11 / LW20 / LWCF	X3 CrNi 18 11	SUS 304L / SCS19	304L
1.4308	G-X5 CrNi 19 10	Z6 CN 18 10M	304 C15 / LT196)	-	SCS 13	CF8
1.4310	X10 crNi 18 8	Z12 CN 17 8	301 S21 / 301 S22	X12 CrNi 18 07	SUS 301	301
1.4311	X2 crNiN 18 10	Z2 CN 18 7 Az	304 S61	X2 CrNiN 18 10	SUS 304LN	304LN
1.4312	G-X10 crNi 18 8	Z10 CN 18 9M	302 C25 / ANC3A	-	SCS 12 / SCS 13A	-
1.4567	X3 CrNiCu 18.9.4	-	304 Cu	X3 CrNiCu 18.9.4	XM7	304Cu
1.4568	X7 CrNiAl 17 7	Z CNA 17 7	301 S81	-	-	-
1.4570	X8 CrNiCuS 18.9.2	-	303 Cu	X8 CrNiCuS 18.9.2	SUS 303 Cu	303Cu
1.4401	X2 CrNiMo 17 12 2	Z6 CND 17 11 2	316 S13 / 316 S31	X5 CrNiMo 17 12	SUS 316	316
1.4404	X2 CrNiMo 17 12 2	Z2 CND 17 12 2	316 S11 / 316 S13	X2 CrNiMo 17 12	SUS 316L	316L
1.4406	X2 CrNiMoN 17 11 2	Z3 CND 17 11 Az	316 S61 / 316 S63	X2 CrNiMoN 17 12	SUS 316LN	316LN

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				Austenitic Stainless Steel			
Lamina group Nr. 4	1.4408	G-X5 CrNiMo 19 11 2	-	316 C16 / (LT196) / A	-	SCS14	CF-8M
	1.4429	X2 CrNiMo 17 13 3	Z2 CND 17 12 Az	316 S63	X2 CrNiMoN 17 13	(SUS 316LN)	316LN
	1.4435	X2 CrNiMo 18 14 3	Z2 CND 17 12 3	316 S11 / 316 S31	X2 CrNiMo 17 13	SUS 316L	316L
	1.4436	X3 CrNiMo 17 13 3	Z6 CND 18 12 3	316 S19 / 316 S33 / LW	X5 CrNiMo 17 13	SUS 316	316
	1.4438	X2 CrNiMo 18 15 4	Z2 CND 19 15 4	317 S12	X2 CrNiMo 18 16	SUS 317L	317L
	1.4449	X3 CrNiMo 18 12 3	-	317 S16	X5 CrNiMo 18 15	SUS 317	317
				Duplex Stainless Steel			
	1.4057	X17 CrNi 16 2	Z15 CN 16 2	431 S29	X16 CrNi 16	SUS 431	431
	1.4313	X3 CrNiMo 13 4	Z4 CND 13 4	425 C11	-	SCS 5	-
	1.4319	X3 CrNiN 17 8	-	301 S26 / 302 S26	-	SUS 302	302
	1.4340	G-X40 CrNi 27 4	-	-	-	-	-
	1.4362	X2 CrNiN 23 4	Z2 CN 23 04 Az	-	-	-	S32304
	1.4410	X2 CrNiMoN 25 7 4	-	-	-	-	-
	1.4417	X2 CrNiMoSi 19 5	-	-	-	-	S31500
	1.4460	X8 CrNiMoN 27 5 2	Z5 CND 27 5 Az	-	-	SUS 329J1	329
	1.4462	X2 CrNiMoN 22 5 3	Z23 CND 22 5 3 Az	318 S13	-	SUS 329J3L	-
	1.4500	G-X 7 NiCrMoCuNb 25 20	23 NCDU 25 20M	-	-	-	-
	1.4510	X3 CrTi 17	Z4 CT 17	-	X6 CrTi 17	SUS 430LX	430 Ti / 439
	1.4511	X3 CrNb 17	Z4 CNb 17	-	X6 CrNb 17	SUS 430LX	-
	1.4521	X2 CrMoTi 18 2	-	-	-	SUS 444	443 / 444
	1.4539	X1 NiCrMoCuN 25 20 3	Z2 NCDU 25 20	-	-	-	904L / UNS N08904
	1.4541	X10 CrNiMoTi 18 10	Z6 CNT 18 10	321 S12 / 321 S51	X6 CrNiTi 18 11	SUS 321	321
	1.4542	X5 CrNiCuNb 16 4	Z7 CNU 17 4	-	-	SUS 630 / SCS 24	630
	1.4546	X5 CrNiNb 18 10	-	347 SD31	X6 CrNiNb 18 11	-	348
	1.4550	X6 CrNiNb 18 10	Z6 CNNb 18 10	347 S20 / 347 S31	X6 CrNiNb 18 11	SUS 347	347 / 348
	1.4552	G-X5 CrNiNb 19 11	Z4 CNNb 18 10M	347 C17	-	SCS 21	-
	1.4558	X2 NiCrAlTi 32 20	-	NA15	-	-	N 08800
	1.4562	X1 NiCrMoCu 32 28 7	-	-	-	-	N 08031
	1.4563	X1 NiCrMoCuN 31 27 4	Z1 NCDU 31 27	-	-	-	N 08028
	1.4571	X6 CrNiMoTi 17 12 2	Z6 CNDT 17 12	320 S18 / 320 S31	X6 CrNiMoTi 17 12	SUS 316Ti	316Ti
	1.4580	X6 CrNiMoNb 17 12 2	Z6 CNDNb 17 12	318 S17	X6 CrNiMoNb 17 12	-	(316 Cb)
	1.4581	G-X5 CrNiMoNb 19 11 2	Z4 CNDNb 18 12M	318 C17 / ANC4C	G-X6 CrNiMoNb 20 11	-	-
	1.4583	X10 CrNiMoNb 18 12	-	-	X6 CrNiMoNb 17 13	-	318
	1.4585	G-X7 CrNiMoCuNb 18 18	-	-	X6 CrNiMoSi 17 12	-	-
	1.4747	X80 CrNiSi 20	Z80 CNS 20 2	443 S65	X80 CrNiSi 20	SUH 4	HNV6
	1.4821	X20 CrNiSi 25 4	Z80 CNS 25 04	-	-	-	-
	1.4823	G-X40 CrNiSi 27 4	-	-	-	-	-
	1.4828	X15 CrNiSi 20 12	Z17 CNS 20 12	309 S24	X16 CrNi 23 14	SUH 309	309
	1.4833	X12 CrNi 22 13	Z15 CN 24 13	309 S13	X6 CrNi 23 14	-	309S
	1.4837	G-X40 CrNiSi 25 12	-	309 C30	G-X40 CrNiSi 25 12	SCH 17 / SCH 13A	-
	1.4841	X15 CrNiSi 25 20	Z15 CNS 25 20	314 S25	X15 CrNiSi 25 20	SUH 310	310 / 314
	1.4845	X12 CrNi 25 21	Z12 CN 25 20	310 S24	X6 CrNi 25 20	SUS 310	310
	1.4848	G-X40 CrNiSi 25 20	-	310 C40 / 310 C45	G-X40 CrNiSi 26 20	SCH 21 / SCH 22	HK
	1.4864	X12 NiCrSi 35 16	Z12 NCS 33 16	NA17	-	SUH 330	330
	1.4865	G-X40 NiCrSi 38 18	-	330 C11 / 330 C40	G-X50 NiCrSi 39 19	SCH 15 / SCH 16	-
	1.4873	X45 CrNiW 18 9	Z45 CNW 18 9	-	X45 CrNiW 18 9	SUH 31	-
	1.4876	X10 NiCrAlTi 32 20	Z10 NC 32 21	NA15(H)	-	NCF 800(TP)	B163
	1.4878	X12 CrNiTi 18 9	Z6 CNT 18 10	321 S51	(X6 CrNiTi 18 11)	SUS 321	321
	1.4882	X50 CrMnNiNbN 219	Z50 CMNNb 21 9	-	-	-	-
	1.4958	X5 NiCrAlTi 31 20	-	-	-	-	-
	1.4977	X40 CoCrNi 20 20	Z42 CNKDWNb	-	-	-	-

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Ferritic & Martensitic Stainless Steel						
1.4000	X6 Cr 13	Z6 C 13	403 S17	X6 Cr 13	SUS 403 / SUS 410S	403 / 410S / 429
1.4001	X7 Cr 14	Z8 C 13FF	403 S17	X6 Cr 13	SUS 403 / SUS 401S	403 / 410S / 429
1.4002	X6 CrAl 13	Z8 CA 12	405 S17	X6 CrAl 13	SUS 405	405
1.4008	G-X 7 CrNiMo 12 1	Z12 CN 13M	410 C21	GX12 Cr 13	-	-
1.4016	X8 Cr 17	Z8 C 17	403 S17 / 430 S18	X8 Cr 17	SUS 430	430
1.4742	X10 CrAl 18	Z12 CAS 18	403 S15	X8 Cr 17	SUH 21	-
1.4762	X10 CrAl 24	Z10 CAS 24	-	X16 Cr 26	(SUH 446)	446
1.2083	X42 Cr 13	Z40 C 14	-	-	SUS 420J2	420
1.4006	X12 Cr 13	Z10 C 13	410 S21 / 410 C21	X12 Cr 13	SUS 410	410
1.4011	G-X 12 Cr 12	-	ANC1A	-	-	CA-15
1.4021	X20 Cr 13	Z20 C 13	420 S37	X20 Cr 13	SUS 420J1	420
1.4024	X15 Cr 13	Z15 C 13	420 S29	-	SUS 410J1	410
1.4027	G-X20 Cr 14	Z20 C 13M	420 C24 / 420 C29	-	SCS 2	-
1.4028	X30 Cr 13	Z30 C 13	420 S45	(G) X30 Cr 13	SUS 420J2	420F
1.4031	X39 Cr 13	Z40 C 14	-	X40 Cr 13	SUS 420J2	-
1.4034	X46 Cr 13	Z44 C 14	(420 S45)	X40 Cr 14	-	-
1.4531	X40 CrSiMo 10 2	Z40 CSD 10	-	-	SUH 3	-
1.4718	X45 CrSi 9 3	Z45 CS 9	401 S45	X45 CrSi 8	SUH 1	HNV3
1.4720	X20 CrMo 13	-	-	-	-	-
1.4724	X10 CrAl 13	Z10 C 13	-	X10 CrAl 12	SUH 405	405
Cast Iron Grey						
0.6010	EN-GJL 100 / GG 10	Ft 10D	-	G 10	FC 100	CLASS 20
0.6015	EN-GJL 150 / GG 15	Ft 15D	GRADE 150	G 15	FC 150	CLASS 25
0.6020	EN-GJL 200 / GG 20	Ft 20D	GRADE 220	G 20	FC 200	CLASS 30
0.6025	EN-GJL 250 / GG 25	Ft 25D	GRADE 260	G 25	FC 250	CLASS 35
0.6030	EN-GJL 300 / GG 30	Ft 30D	GRADE 300	G 30	FC 300	CLASS 45
0.6035	EN-GJL 350 / GG 35	Ft 35D	GRADE 350	G 35	FC 350	CLASS 50
0.6040	EN-GJL 400 / GG 40	Ft 40D	GRADE 400	-	-	CLASS 55
Cast Iron Malleable & Nodular						
0.7033	EN-GJS 350 / GGG 35.3	-	-	-	-	-
0.7040	EN-GJS 400 / GGG 40	FCS 400-12	SNG420/12	GGG 40	FCD 400	60-40-18
0.7043	EN-GJS 400-15 / GGG 40.3	FCS 370-17	SNG370/17	-	-	-
0.7050	EN-GJS 500 / GGG 50	FCS 500-7	SNG500/7	GGG 50	FCD 500	80-55-06
0.7060	EN-GJS 6007 / GGG 60	FCS 600-3	SNG600/3	GGG 60	FCD 600	-
0.7070	EN-GJS 700 / GGG 70	FCS 700-2	SNG700/2	GGG 70	FCD 700	1000-70-03
0.8035	GTW-35	MB35-7	W340/3	-	-	-
0.8040	GTW-40	MB40-10	W410/4	GMB40	-	-
0.8045	GTW-45	-	-	GMB45	-	-
0.8055	GTW-55	-	-	-	-	-
0.8065	GTW-65	-	-	-	-	-
0.8135	GTS-35	MN35-10	B340/12	-	FCMW 330	32510
0.8145	GTS-45	-	P440/7	-	FCMW 370	40010
0.8155	GTS-55	MP50-5	P510/4	-	FCMP 490	50005
0.8165	GTS-65	MP60-3	P570/3	-	FCMP 540	70003
0.8170	GTS-70	M870-2	P690/2	-	-	90001
Fe, Ni & Co based High Temperature Alloys						
2.4360	NiCu 30 Fe	NU 30	NA13	-	Monel 400	Monel 400
2.4375	NiCu 30 Al	ND 30 AT	NA18	-	Monel K-500	Monel K-500
2.4610	NiMo 16Cr 16Ti	-	-	-	Hastelloy C-4	Hastelloy C-4
2.4630	NiCr 20 Ti	NC 20 T	HR 5, 203-4	-	Nimonic 75	Nimonic 75
2.4642	NiCr 29 Fe	NC 30 Fe	-	-	Inconel 690	Inconel 690
2.4668	NiCr 19 FeNbMo	NC 19 Fe Nb	-	-	Inconel 718	Inconel 718
2.4669	NiCr 15 Fe7TiAl	NC 15 TNb A	-	-	Inconel X-750	Inconel X-750
2.4685	G-NiMo 28	-	-	-	Hastelloy B	Hastelloy B
2.4694	NiCr 16 Fe7TiAl	-	-	-	Inconel 751	Inconel 751
2.4810	G-NiMo 30	-	-	-	Hastelloy C	Hastelloy C
2.4856	NiCr 22Mo 9Nb	NC 22 FeDNb	NA21	-	Inconel 625	Inconel 625
2.4858	NiCr 21 Mo	NC 21 FeDU	NA16	-	Incoloy 825	Incoloy 825
-	Stellite 6	Stellite 6	-	-	-	VF2
-	Stellite 7	Stellite 7	-	-	-	-
-	Stellite 12	Stellite 12	-	-	-	VF7
-	Stellite F	Stellite F	-	-	-	-

Lamina group Nr. 6
Lamina group Nr. 7
Lamina group Nr. 8
Lamina group Nr. 9

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