

ALU-TURNING

LT 05





C

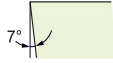
C

G

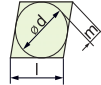
T



Shape

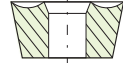


Clearance Angle



Tolerance

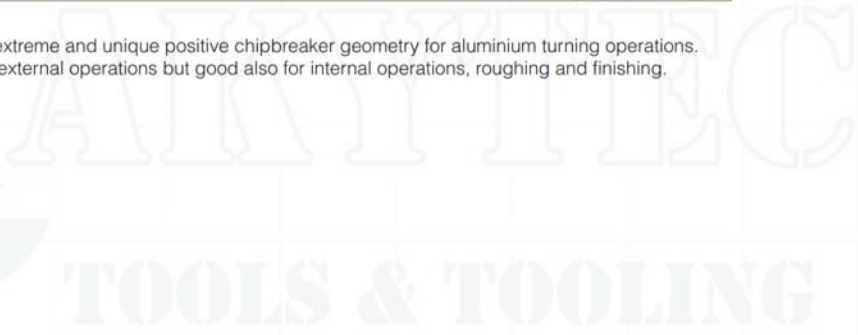
$d \pm 0.025$
 $m \pm 0.025$
 $s \pm 0.130$



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
 $f_n = 0.08 - 0.20$ mm/rev

Medium: (M)

d.o.c. = 0.70 - 4.50 mm
 $f_n = 0.15 - 0.45$ mm/rev

Roughing: (R)

d.o.c. = 3.00 - 7.00 mm
 $f_n = 0.35 - 0.70$ mm/rev

● = Good

● = Acceptable

● = Not recommended

CCGT 060204 ALU – LT 05

Material Group	Gr. N°	VDI Group	Material Examples	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) Copper Alloys Non-Metallic	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	
	14	26,27,28	CuZn30	100 HB	0.3	2.5	0.10	0.29	150	800	1.5	0.23	250	
			Fiber Plastics	-	0.3	2.5	0.10	0.19	70	500	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

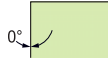
Material Group	Gr. N°	VDI Group	Material Examples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm²]	V _c [m/min]		Suggested Starting Parameters			
					min	max	min	max		min	max	D.O.C	Feed	V _c	
NF Al (<8%Si) Copper Alloys Non-Metallic	13	21, 22 23, 24	Si < 4 %	60 HB	0.3	4.5	0.12	0.35	1.50	400	1200	2.5	0.23	400	
			4% < Si < 8 %	100 HB	0.3	4.5	0.10	0.30	1.20	250	600	2.5	0.23	300	
	14	26,27,28	CuZn30	100 HB	0.3	4.5	0.10	0.30	1.20	150	800	2.5	0.23	250	
			Fiber Plastics	-	0.3	4.5	0.10	0.20	1.20	70	500	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



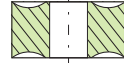
Shape



Clearance Angle



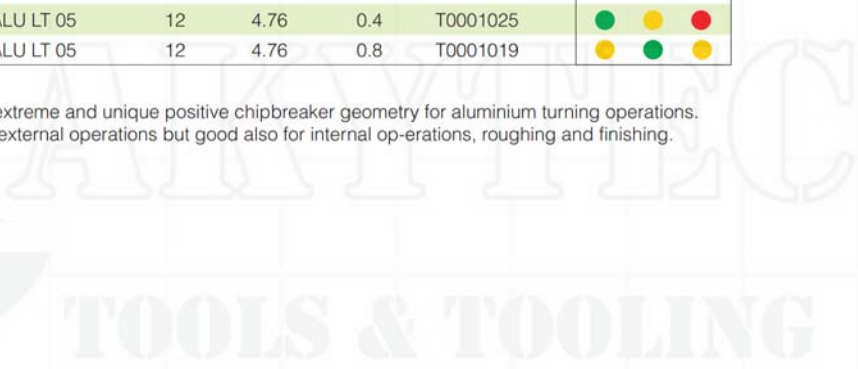
Tolerance
 $d \pm 0.025$
 $m \pm 0.025$
 $s \pm 0.13$



Fixing,
Chipbreaker

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 operations, roughing and finishing.



Machining Recommendations

Details on page 14

Application Guide

Finishing: (F)

d.o.c. = 0.30 - 1.50 mm
 $f_n = 0.08 - 0.20$ mm/rev

Medium: (M)

d.o.c. = 0.70 - 4.50 mm
 $f_n = 0.15 - 0.45$ mm/rev

Roughing: (R)

d.o.c. = 3.00 - 7.00 mm
 $f_n = 0.35 - 0.70$ mm/rev

● = Good

● = Acceptable

● = Not recommended

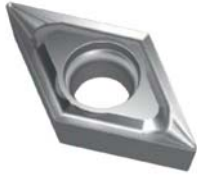
CNGG 09T304 ALU – LT 05

CNGG 120404 ALU – LT 05

Material Group	Gr. N°	VDI Group	Material Examples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm ²]	V _c [m/min]		Suggested Starting Parameters		
					min	max	min	max		min	max	D.O.C	Feed	V _c
NF Al (<8%Si) Copper Alloys Non-Metallic	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
	14	26, 27, 28	CuZn30	100 HB	0.3	5.0	0.10	0.30	1.20	150	800	2.5	0.23	250
			Fiber Plastics	-	0.3	5.0	0.10	0.20	1.20	70	500	2.0	0.15	150
	15	30	-	Hard Rubber	-	0.3	5.0	0.10	0.20	1.20	80	300	2.0	0.15
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
			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 Examples	Hardness	D.O.C [mm]		Feed [mm/rev]		Amax [mm ²]	V _c [m/min]		Suggested Starting Parameters		
					min	max	min	max		min	max	D.O.C	Feed	V _c
NF Al (<8%Si) Copper Alloys Non-Metallic	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
	14	26, 27, 28	CuZn30	100 HB	0.3	5.0	0.15	0.40	1.20	150	800	3.0	0.25	250
			Fiber Plastics	-	0.3	5.0	0.15	0.40	1.20	70	500	3.0	0.25	150
	15	30	-	Hard Rubber	-	0.3	5.0	0.15	0.40	1.20	80	300	3.0	0.25
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
			TiAl 6 V4	-	0.3	4.0	0.15	0.26	0.24	28	40	2.5	0.18	35



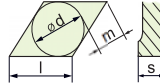
D C G T



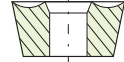
Shape



Clearance Angle



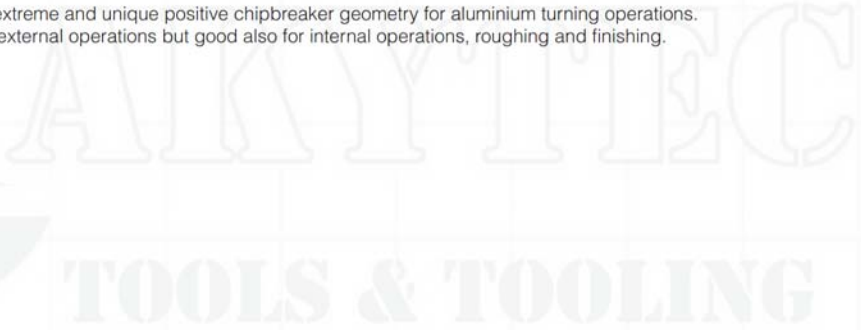
Tolerance
 $d \pm 0.025$
 $m \pm 0.025$
 $s \pm 0.130$



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
 $f_n = 0.08 - 0.20$ mm/rev

Medium: (M)

d.o.c. = 0.70 - 4.50 mm
 $f_n = 0.15 - 0.45$ mm/rev

Roughing: (R)

d.o.c. = 3.00 - 7.00 mm
 $f_n = 0.35 - 0.70$ 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]		A _{max} [mm ²]	V _c [m/min]		Suggested Starting Parameters		
					min	max	min	max		min	max	D.O.C	Feed	V _c
MF	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
	14	26,27,28	CuZn30	100 HB	0.3	4.5	0.10	0.30	1.20	150	800	2.3	0.23	250
			Fiber Plastics	-	0.3	4.5	0.10	0.20	1.20	70	500	1.8	0.15	150
	Non-Metallic	15	30	Hard Rubber	-	0.3	4.5	0.10	0.20	1.20	80	300	1.8	0.15
-			Graphite	-	0.3	4.5	0.10	0.20	1.20	100	200	1.8	0.15	150
H.T.A	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



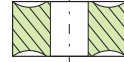
Shape



Clearance Angle



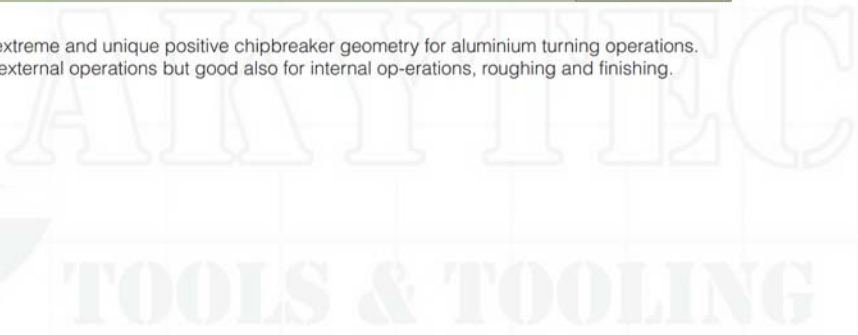
Tolerance
 $d \pm 0.025$
 $m \pm 0.025$
 $s \pm 0.13$



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 operations, roughing and finishing.



Machining Recommendations

Details on page 14

Application Guide

Finishing: (F)

d.o.c. = 0.30 - 1.50 mm
 $f_n = 0.08 - 0.20$ mm/rev

Medium: (M)

d.o.c. = 0.70 - 4.50 mm
 $f_n = 0.15 - 0.45$ mm/rev

Roughing: (R)

d.o.c. = 3.00 - 7.00 mm
 $f_n = 0.35 - 0.70$ 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]		A _{max} [mm ²]	V _c [m/min]		Suggested Starting Parameters		
					min	max	min	max		min	max	D.O.C	Feed	V _c
NF Al (<8%Si) Copper Alloys Non-Metallic	13	21, 22	Si < 4 %	60 HB	0.3	4.0	0.12	0.35	1.50	400	1200	2.5	0.23	400
		23, 24	4% < Si < 8 %	100 HB	0.3	4.0	0.10	0.30	1.20	250	600	2.5	0.23	300
	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	1.20	150	800	2.5	0.23	250
		29	Fiber Plastics	-	0.3	4.0	0.10	0.20	1.20	70	500	2.0	0.15	150
H.T.A Ti Based Alloys	10	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
		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]		A _{max} [mm ²]	V _c [m/min]		Suggested Starting Parameters		
					min	max	min	max		min	max	D.O.C	Feed	V _c
NF Al (<8%Si) Copper Alloys Non-Metallic	13	21, 22	Si < 4 %	60 HB	0.3	4.0	0.18	0.60	1.50	400	1200	2.0	0.25	400
		23, 24	4% < Si < 8 %	100 HB	0.3	4.0	0.18	0.50	1.20	250	600	2.0	0.25	300
	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.15	0.40	1.20	150	800	2.0	0.25	250
		29	Fiber Plastics	-	0.3	4.0	0.15	0.40	1.20	70	500	2.0	0.25	150
H.T.A Ti Based Alloys	10	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
		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



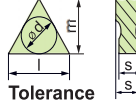
T N G G



Shape



Clearance Angle



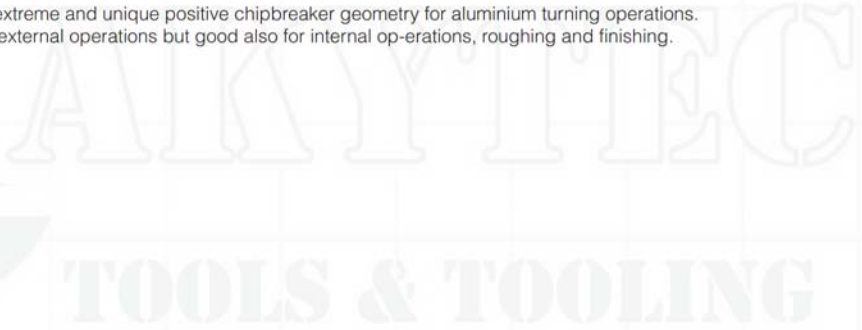
Tolerance
 $d \pm 0.025$
 $m \pm 0.025$
 $s \pm 0.13$



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 operations, roughing and finishing.



Machining Recommendations

Details on page 14

Application Guide

Finishing: (F)

d.o.c. = 0.30 - 1.50 mm
 $f_n = 0.08 - 0.20$ mm/rev

Medium: (M)

d.o.c. = 0.70 - 4.50 mm
 $f_n = 0.15 - 0.45$ mm/rev

Roughing: (R)

d.o.c. = 3.00 - 7.00 mm
 $f_n = 0.35 - 0.70$ mm/rev

● = Good

● = Acceptable

● = Not recommended

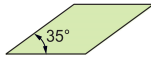
TNGG 160404 ALU – LT 05

Material Group	Gr. N°	VDI Group	Material Examples	Hardness	D.O.C [mm]		Feed [mm/rev]		A _{max} [mm ²]	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,	Si < 4 %	60 HB	0.3	4.0	0.12	0.35	1.50	400	1200	2.5	0.23	400
		24	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

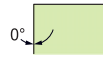
AKYTEC
TOOLS & TOOLING



V N G G



Shape



Clearance Angle



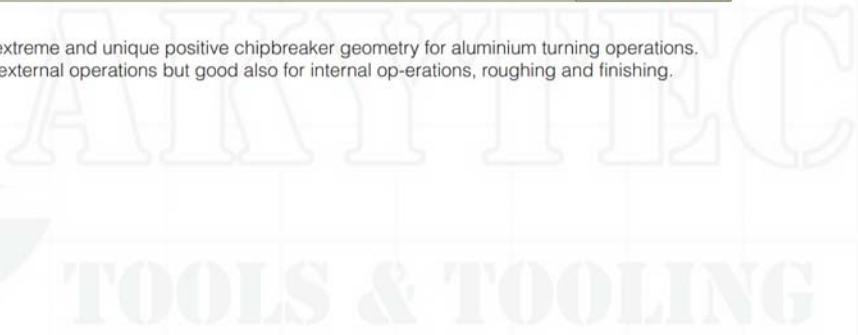
Tolerance
 $d \pm 0.025$
 $m \pm 0.025$
 $s \pm 0.13$



Fixing,
Chipbreaker

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 operations, roughing and finishing.



Machining Recommendations

Details on page 14

Application Guide

Finishing: (F)

d.o.c. = 0.30 - 1.50 mm
 $f_n = 0.08 - 0.20$ mm/rev

Medium: (M)

d.o.c. = 0.70 - 4.50 mm
 $f_n = 0.15 - 0.45$ mm/rev

Roughing: (R)

d.o.c. = 3.00 - 7.00 mm
 $f_n = 0.35 - 0.70$ mm/rev

● = Good

● = Acceptable

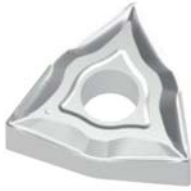
● = Not recommended

VNGG 160404 ALU – LT 05

Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		A _{max} [mm ²]	V _c [m/min]		Suggested Starting Parameters		
					min	max	min	max		min	max	D.O.C	Feed	V _c
NF Al (<8%Si) Copper Alloys Non-Metallic	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
	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	0.96	150	800	2.3	0.23	250
			29	Fiber Plastics	-	0.3	4.0	0.10	0.20	0.96	70	500	1.8	0.15
	15	30	-	Hard Rubber	-	0.3	4.0	0.10	0.20	0.96	80	300	1.8	0.15
-				Graphite	-	0.3	4.0	0.10	0.20	0.96	100	200	1.8	0.15
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

VNGG 160408 ALU – LT 05

Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		A _{max} [mm ²]	V _c [m/min]		Suggested Starting Parameters		
					min	max	min	max		min	max	D.O.C	Feed	V _c
NF Al (<8%Si) Copper Alloys Non-Metallic	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
	14	26,27,28	CuZn30	100 HB	0.010	0.236	0.006	0.016	0.0019	495	2640	0.118	0.010	825
			29	Fiber Plastics	-	0.010	0.236	0.006	0.016	0.0019	231	1650	0.118	0.010
	15	30	-	Hard Rubber	-	0.010	0.236	0.006	0.016	0.0019	264	990	0.118	0.010
-				Graphite	-	0.010	0.236	0.006	0.016	0.0019	330	660	0.118	0.010
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



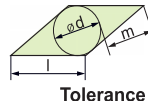
W N G G



Shape



Clearance Angle



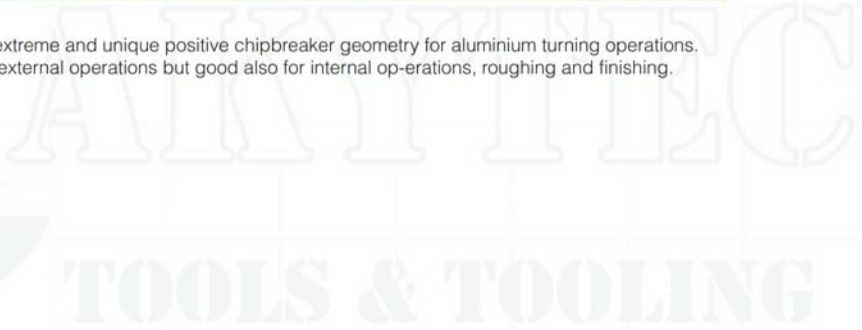
Tolerance
 $d \pm 0.025$
 $m \pm 0.025$
 $s \pm 0.13$



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 operations, roughing and finishing.



Machining Recommendations

Details on page 14

Application Guide

Finishing: (F)

d.o.c. = 0.30 - 1.50 mm
 $f_n = 0.08 - 0.20$ mm/rev

Medium: (M)

d.o.c. = 0.70 - 4.50 mm
 $f_n = 0.15 - 0.45$ mm/rev

Roughing: (R)

d.o.c. = 3.00 - 7.00 mm
 $f_n = 0.35 - 0.70$ mm/rev

● = Good

● = Acceptable

● = Not recommended

WNGG 060404 ALU – LT 05

Material Group	Gr. N°	VDI Group	Material Exemples	Hardness	D.O.C [mm]		Feed [mm/rev]		A _{max} [mm ²]	V _c [m/min]		Suggested Starting Parameters			
					min	max	min	max		min	max	D.O.C	Feed	V _c	
NF Al (<8%Si) Copper Alloys Non-Metallic	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	
	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	0.96	150	800	2.3	0.23	250	
			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
15		-	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]		Feed [mm/rev]		A _{max} [mm ²]	V _c [m/min]		Suggested Starting Parameters			
					min	max	min	max		min	max	D.O.C	Feed	V _c	
NF Al (<8%Si) Copper Alloys Non-Metallic	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	
	14	26,27,28	CuZn30	100 HB	0.3	4.0	0.10	0.30	0.96	150	800	2.3	0.23	250	
			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
15		-	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