ARNO®
WERKZEUGE

We have a passion for precision.

HIGH POSITIVE GEOMETRIES

for turning

Ideal for application areas within:

- Pharmaceutical
- Automotive
- Aerospace
- Measuring equipment
- Machine building
- Instrument building

50 JAHRE
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11/2012

High Positive Geometries

Geometry description

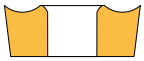
High positive

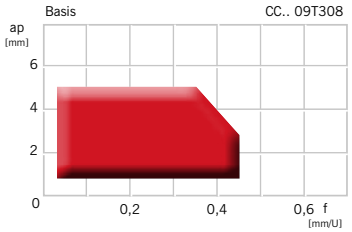
- ALU

Geometry for machining aluminium, alu alloys and non ferrous materiales. Also suitable for finishing stainless steel. Very low cutting forces due to sharp cutting edges and special chip-breaker. Excellent machining of unstable and thin-walled workpieces. Completely ground insert.

Medium cutting

single sided





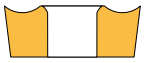
High positive

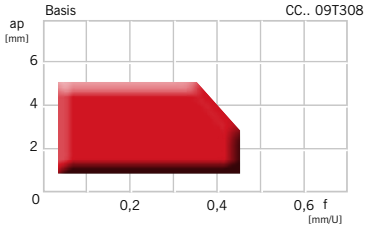
- ACB

Same application as “-ALU” geometry, however with optimized chipbreaker. Special chipbreaker for small chips.

Medium cutting

single sided





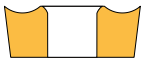
High positive

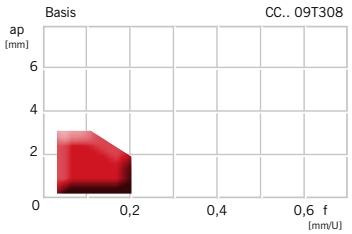
- ASF

Finishing geometry for machining aluminium, aluminium alloys and non ferrous materials. Also suitable for finishing stainless steel. Very low cutting forces due to sharp cutting edges and spezial chip breaker. Completly ground insert.

Finishing

single sided





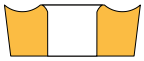
High positive

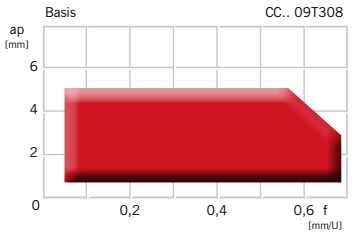
- AWI

Wiper geometry for finishing to roughing of aluminium and aluminium alloys. Also suitable for finishing stainless steel and exotic materials. Optimum chip breaking because of increased feed rates.

Finishing to Roughing

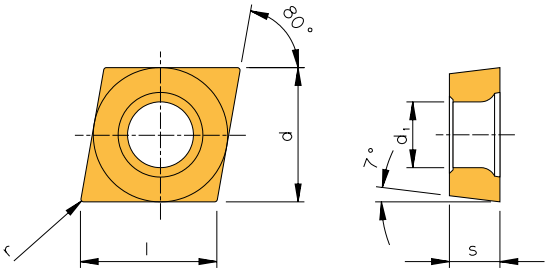
single sided



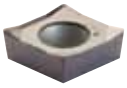


High Positive Geometries

Inserts



CCGT



Designation	l	d	s	d_1	r	PG 22						
						AM5015	AM5025	AM5110	AM5120	AM5120+	AM5220	AP5210
CCGT 060204FN-ALU	6,45	6,350	2,38	2,8	0,4							●
CCGT 09T304FN-ALU	9,67	9,525	3,97	4,4	0,4							●
CCGT 120404FN-ALU	12,90	12,700	4,76	5,5	0,4							●
CCGT 060204FN-ACB	6,45	6,350	2,38	2,8	0,4							●
CCGT 09T304EN-ACB	9,67	9,525	3,97	4,4	0,4					●		
CCGT 09T304FN-ACB	9,67	9,525	3,97	4,4	0,4							●
CCGT 09T308EN-ACB	9,67	9,525	3,97	4,4	0,8					●		
CCGT 09T308FN-ACB	9,67	9,525	3,97	4,4	0,8							●
CCGT 120404EN-ACB	12,90	12,700	4,76	5,5	0,4					●		
CCGT 120408EN-ACB	12,90	12,700	4,76	5,5	0,8					●		
CCGT 060201EN-ASF	6,45	6,350	2,38	2,8	0,1	●						
CCGT 060202EN-ASF	6,45	6,350	2,38	2,8	0,2	●	●					
CCGT 060202FN-ASF	6,45	6,350	2,38	2,8	0,2			●				
CCGT 060204EN-ASF	6,45	6,350	2,38	2,8	0,4	●	●					
CCGT 060204FN-ASF	6,45	6,350	2,38	2,8	0,4			●				
CCGT 09T302EN-ASF	9,67	9,525	3,97	4,4	0,2	●	●					
CCGT 09T304EN-ASF	9,67	9,525	3,97	4,4	0,4	●	●					
CCGT 09T304FN-ASF	9,67	9,525	3,97	4,4	0,4			●				
CCGT 09T308FN-ASF	9,67	9,525	3,97	4,4	0,8			●				

P	●		○			●
M	●	●	●		○	○
K	○		○			●
N			○		●	
S	●	●	●		●	●
H	○		○			

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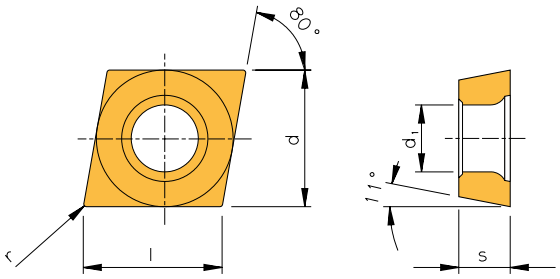
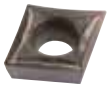
High Positive Geometries

Inserts

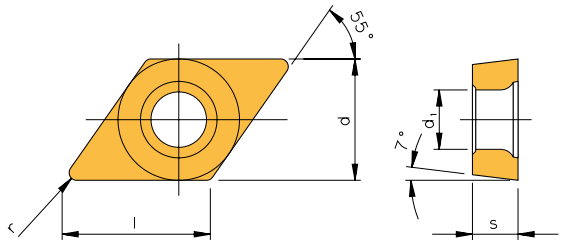


CPGT

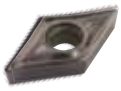


Designation	l	d	s	d_1	r	PG 22						
						AM5015	AM5025	AM5110	AM5120	AM5120+	AM5220	AP5210
CPGT 05T102EN-ASF	5,6	5,560	1,98	2,5	0,2		●					
CPGT 05T104EN-ASF	5,6	5,560	1,98	2,5	0,4		●					

P							
M		●					
K							
N							
S		●					
H							



DCGT



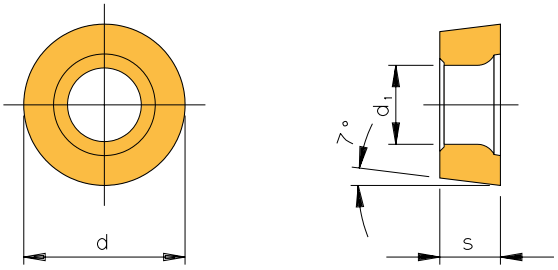
Designation	l	d	s	d_1	r	PG 22						
						AM5015	AM5025	AM5110	AM5120	AM5120+	AM5220	AP5210
DCGT 070204FN-ALU	7,75	6,35	2,38	2,8	0,4							●
DCGT 11T304FN-ALU	11,6	9,525	3,97	4,4	0,4							●
DCGT 070204FN-ACB	7,75	6,35	2,38	2,8	0,4							●
DCGT 11T304EN-ACB	11,6	9,525	3,97	4,4	0,4					●		
DCGT 11T304FN-ACB	11,6	9,525	3,97	4,4	0,4							●
DCGT 11T308EN-ACB	11,6	9,525	3,97	4,4	0,8					●		
DCGT 11T308FN-ACB	11,6	9,525	3,97	4,4	0,8							●
DCGT 070201EN-ASF	7,75	6,35	2,38	2,8	0,1	●						
DCGT 070202EN-ASF	7,75	6,35	2,38	2,8	0,2	●	●					
DCGT 070202FN-ASF	7,75	6,35	2,38	2,8	0,2			●				
DCGT 070204EN-ASF	7,75	6,35	2,38	2,8	0,4	●	●					
DCGT 070204FN-ASF	7,75	6,35	2,38	2,8	0,4			●				
DCGT 11T301EN-ASF	11,6	9,525	3,97	4,4	0,1	●						
DCGT 11T302EN-ASF	11,6	9,525	3,97	4,4	0,2	●	●					
DCGT 11T304EN-ASF	11,6	9,525	3,97	4,4	0,4	●	●					
DCGT 11T304FN-ASF	11,6	9,525	3,97	4,4	0,4			●				
DCGT 11T308EN-ASF	11,6	9,525	3,97	4,4	0,8	●	●					
DCGT 11T308FN-ASF	11,6	9,525	3,97	4,4	0,8			●				
DCGT 11T308FN-AWI	11,6	9,525	3,97	4,4	0,8	●						

P	●		○				●
M	●	●	●		○		○
K	○		○				●
N			○		●		
S	●	●	●		●		●
H	○		○				

● = Main application ○ = Secondary application All dimensions are in mm

High Positive Geometries

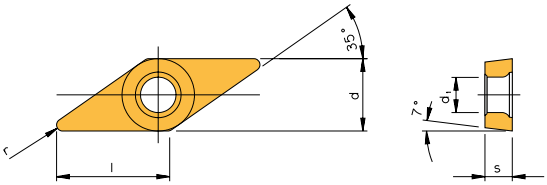
Inserts



RCGT

Designation	l	d	s	d_1	r	PG 22						
						AM5015	AM5025	AM5110	AM5120	AM5120+	AM5220	AP5210
RCGT 10T3MOEN-ALU	–	10,0	3,97	4,4	–							●

P							●
M							○
K							●
N							
S							●
H							



VCGT

Designation	l	d	s	d_1	r	PG 22						
						AM5015	AM5025	AM5110	AM5120	AM5120+	AM5220	AP5210
VCGT 110304FN-ACB	11,10	6,350	3,18	2,8	0,4							●
VCGT 070202EN-ASF	6,92	3,970	2,38	2,2	0,2		●					
VCGT 070204EN-ASF	6,92	3,970	2,38	2,2	0,4		●					
VCGT 070204FN-ASF	6,92	3,970	2,38	2,2	0,4						●	
VCGT 1103005FN-ASF	11,10	6,350	3,18	2,8	0,05				●			
VCGT 110301EN-ASF	11,10	6,350	3,18	2,8	0,1	●						
VCGT 110301FN-ASF	11,10	6,350	3,18	2,8	0,1				●			
VCGT 110302EN-ASF	11,10	6,350	3,18	2,8	0,2	●	●					
VCGT 110302FN-ASF	11,10	6,350	3,18	2,8	0,2			●	●			
VCGT 110304EN-ASF	11,10	6,350	3,18	2,8	0,4	●	●					
VCGT 110304FN-ASF	11,10	6,350	3,18	2,8	0,4			●	●			
VCGT 130302EN-ASF	13,10	7,940	3,18	3,2	0,2	●						
VCGT 130304EN-ASF	13,10	7,940	3,18	3,2	0,4	●						
VCGT 160402EN-ASF	16,50	9,525	4,76	4,4	0,2	●	●					
VCGT 160404EN-ASF	16,50	9,525	4,76	4,4	0,4	●	●					
VCGT 160408EN-ASF	16,50	9,525	4,76	4,4	0,8	●						

P	●		○	○		●	●
M	●	●	●	●		●	○
K	○		○	○		○	●
N			○	○			
S	●	●	●	●		●	●
H	○		○	○		○	

All dimensions are in mm ● = Main application ○ = Secondary application

High Positive Geometries

Grade description

AM5015
Wear resistant grade for machining steel, cast steel, stainless steel and high temperature alloys (super alloys).

AM5025
Ideal grade for finish to medium machining of stainless steel, temperature resistant steel and titanium (alloys). AM5025 has very good toughness and good wear resistance and can be used both at varied cutting depth and interupted cutting.

AM5110
Grade for finish machining of stainless steel, nickel –, titanium alloys and exotic materials. Also for abrasive and hard materials such as CoCrMo and chilled cast iron.

AM5120
The grade for roughing stainless steel and machining of exotic materials, heat resistant and titanium alloys.

AM5120+
Suitable for medium and roughing of tough exotic materials such as E-cu, molybdenum, nickel, pure iron, Inconel and stainless steel.

AM5220
PVD multilayer coating and high wear resistance grade for machining steel, cast steel, stainless steel and high temperature super alloys.

AP5210
Medium to light machining of exotic materials, titanium, titanium alloys, nickel alloys, machining of abrasive and hard materials such as CoCrMo or chilled cast iron. Finishing of steel and stainless steel.

For further information please ask for our complete catalogue.
Please contact us.

Inserts description

Cutting Data

ISO	Material		Toughness [N/mm²]	AM5015	AM5025	AM5110	AM5120	AM5120+	AM5220	AP5210
P	Non alloy steel and cast steel	0,15% C	350	220-320	180-280	220-350	220-320	180-280	180-280	220-370
		0,45% C	650	180-290	160-250	180-310	180-290	160-250	160-250	180-330
		0,75% C	1000	150-250	120-220	150-270	150-250	120-220	120-220	150-290
	Low alloy steel and cast steel		600	180-280	160-250	180-300	180-280	-	160-250	180-320
			900	170-250	140-230	170-270	170-250	-	140-230	170-290
			1200	150-220	120-200	150-240	150-220	-	120-200	150-260
	High alloy steel, tool steel and cast steel	annealed	700	80-160	70-150	80-180	80-160	-	70-150	80-180
		hardened and tempered	1100	40-130	35-120	40-140	40-130	-	35-120	40-150
	Stainless steel	ferritic/martensitic, annealed	700	60-180	50-160	40-180	40-150	50-160	50-160	40-140
	Cast steel	martensitic, tempered	1000	40-140	40-140	40-160	40-130	40-140	40-140	40-120
M	Stainless steel	austenitic and	450-600	80-160	70-150	80-180	80-160	70-150	70-150	70-150
		austenitic/ferritic, chilled	600-900	40-130	35-120	40-140	40-130	35-120	35-120	35-120
K	Cast Iron	pearlitic/ferritic	500-700	180-300	180-300	180-350	180-300	180-300	180-300	180-350
		pearlitic/martensitic	700-850	160-280	160-280	160-300	160-280	160-280	160-280	160-300
		pearlitic/martensitic	800-1100	120-240	120-240	120-270	120-240	120-240	120-240	120-270
	Cast iron with nodular graphite	ferritic	550	140-230	130-210	140-230	140-230	-	140-230	140-230
		pearlitic	800	120-170	110-150	120-170	120-170	-	120-170	120-170
	Malleable cast iron	ferritic	450	150-210	130-200	150-210	150-210	-	150-210	150-210
		pearlitic	750	150-210	130-200	150-210	150-210	-	150-210	150-210
N	Aluminium alloys long chipping	not heat treatable	200	-	-	-	-	-	-	-
		heat treatable, heat treated	350	-	-	-	-	-	-	-
	Casted aluminium alloys	≤ 12% Si, heat treated	250	-	-	-	-	-	-	-
		≤ 12% Si, heat treatable, heat treated	300	-	-	-	-	-	-	-
		≤ 12% Si, not heat treatable	450	-	-	-	-	-	-	-
	Copper and copper alloys (Brass/Bronze)	Lead alloys, Pb > 1%	400	200-500	200-400	200-650	200-500	150-500	-	-
		Brass, Bronze	300	200-500	200-400	200-650	200-500	150-500	-	-
		Aluminium bronze	500	160-450	160-400	160-350	160-450	120-400	-	-
		Copper and elektrolyte copper	200	100-320	100-300	120-220	100-320	120-250	-	-
	Non ferrous materials	Duroplastice		160-600	-	160-600	160-600	-	-	-
		Re-inforced plastics		100-300	-	100-300	100-300	100-300	-	-
		Hard rubber		-	-	-	80-250	-	-	-
S	High temperature resistant alloys	Fe-alloyed, annealed	700	20-60	20-60	20-70	20-60	20-60	20-60	20-70
		Fe-alloyed, heat treated	950	20-60	20-60	20-70	20-60	20-60	20-60	20-70
		Ni- or Co-alloyed, annealed	800	15-50	15-50	15-60	15-50	15-50	15-50	15-60
		Ni- or Co-alloyed, casting	1100	15-40	15-40	15-50	15-40	15-40	15-40	15-50
		Ni- or Co-alloyed, heat treated	1200	15-40	15-40	15-50	15-40	15-40	15-40	15-50
	Titanium alloys	Pure titan	500-700	90-180	90-170	100-210	90-180	-	-	-
	Alpha- and Beta-alloys	heat treated	700-1000	40-80	35-70	40-90	40-80	-	-	-
H	Hardened steel	hardened and tempered	1000-1350	30-50	30-50	-	30-50	-	-	-
		hardened and tempered	1350-1700	10-25	10-25	-	10-25	-	-	-
	Hard cast iron	casting	1350	40-70	40-70	-	40-70	-	-	-
	Hardened cast iron	hardened and tempered	1900	10-25	10-25	-	10-25	-	-	-

The data given is only approximate values. It can be necessary to adjust this data to the individual machining operation.

ARNO®-Werkzeuge

Tools and inserts for parting and grooving

Tooling and indexable inserts for turning and threading

Milling cutters and indexable inserts for milling and thread milling

Drilling tools and indexable inserts for drilling

ARNO®
WERKZEUGE

For further information please ask for our complete catalogue.

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