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Diamond inserts with chip breaker



Thanks to the latest technological achievements diamond inserts can now be produced with chip breakers. Through this high-tech machining operation μm thin layers are removed, which enables the production of almost any geometry.

The next generation of aluminium machining starts now!



The Chip Breakers

CB1:

- Finish and Superfinish
- Extremely sharp cutting edge geometry
- Depth of Cut a_p : 0,05 - 1,5 mm
- smallest cutting pressure for highest accuracies
- machining of thin-walled and unstable workpieces



CB2:

- Semi-finish and Finish Machining
- Negative edge preparation
- Cutting Depth a_p : 0,5 - 2,0 mm
- High surface quality and tight tolerances
- Machining of solid workpieces under stable conditions





The cutting materials



	PDC	PDC-S	CVD-D
	Fine Grain Size	Coarse Grain Size	Fine Grain Size
Properties	<ul style="list-style-type: none"> - High Sharpness - lower cutting pressure than PDC-S - Close Tolerance - Lower abrasion resistance with increased toughness 	<ul style="list-style-type: none"> - High Sharpness - lower cutting pressure - Close Tolerance - lower abrasion resistance than with the PDC, with increased toughness 	<ul style="list-style-type: none"> - Perfect Sharp Cutting - No Cutting Pressure - Very Close Tolerances - highest abrasion resistance with higher toughness - very high heat conductivity
Material	Suitable for fine machining of all NE materials with low abrasiveness	Suitable for fine machining of all NE-materials and non-ferrous metals with low to very high levels of abrasiveness	Suitable for Superfinishing and Semi-finishing of all non-ferrous metals and NE-composite materials with small to high levels of abrasiveness

Cutting Data

	3D-Chip Breaker CB1				
	Corner Radius	ap in mm		fz in mm/U	
		min.	max.	min.	max.
0,1 mm	0,05	0,30	0,02	0,05	
0,2 mm	0,06	0,40	0,03	0,08	
0,4 mm	0,10	0,80	0,04	0,15	
0,8 mm	0,15	1,00	0,08	0,20	
1,2 mm	0,30	1,50	0,12	0,25	

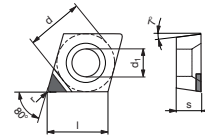
	3D-Chip Breaker CB2				
	Corner Radius	ap in mm		fz in mm/U	
		min.	max.	min.	max.
0,2 mm	0,50	0,80	0,08	0,12	
0,4 mm	0,60	1,50	0,08	0,20	
0,8 mm	0,70	1,50	0,15	0,30	
1,2 mm	0,80	2,00	0,20	0,40	

List of contents

CB1		CB2	
Inserts	Page(s)	Inserts	Page(s)
CCGT	4	CCGT	5
DCGT	6	DCGT	6
RCGT	7	RCGT	7
SCGT	7	SCGT	8
TCGT	8	TCGT	9
VCGT	9	VCGT	10



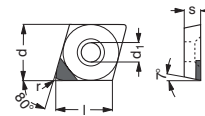
Designation	l mm	s mm	d ₁ mm	d mm
CCGT 0602..	6.45	2.38	2.8	6.350
CCGT 09T3..	9.70	3.97	4.4	9.525
CCGT 1204..	12.90	4.76	5.5	12.700



		PG	Y0	Y0	Y0	
CCGT-CB1		Article no. 71 300 ...	PDC	PDC-S	CVD	MDC
	r 0.2	CCGT 060202 £	102 49.10		302 64.80	
	r 0.4	CCGT 060204 £	104 49.10		304 64.80	
	r 0.2	CCGT 09T302 £	112 50.20			
	r 0.4	CCGT 09T304 £	114 50.20		314 66.90	
	r 0.8	CCGT 09T308 £	118 54.40			
	r 0.4	CCGT 120404 £	124 51.20			
	r 0.8	CCGT 120408 £	128 55.40			

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals	•		•

Designation	l mm	s mm	d ₁ mm	d mm
CCGT 0602..	6.45	2.38	2.8	6.350
CCGT 09T3..	9.70	3.97	4.4	9.525
CCGT 1204..	12.90	4.76	5.5	12.700

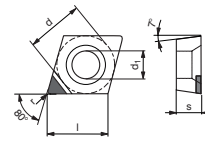


		PG	Y0	Y0	Y0	
CCGT-W-CB1		Article no. 71 305 ...	PDC	PDC-S	CVD	MDC
	r 0.4	CCGT 060204 £	104 56.40			
	r 0.4	CCGT 09T304 £	114 57.10			
	r 0.4	CCGT 120404 £	124 58.50			

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals	•		



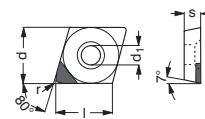
Designation	mm	mm	mm	mm
CCGT 0602..	6.45	2.38	2.8	6.350
CCGT 09T3..	9.70	3.97	4.4	9.525
CCGT 1204..	12.90	4.76	5.5	12.700



		PG		Y0	Y0		
CCGT-CB2		Article no.	71 301 ...	PDC	PDC-S	CVD	MDC
	r 0.2	CCGT 060202			202		
		£			49.10		
	r 0.4	CCGT 060204			204	304	
		£			49.10	64.80	
	r 0.8	CCGT 060208			208		
		£			53.30		
	r 0.2	CCGT 09T302			212		
		£			49.00		
	r 0.4	CCGT 09T304			214	314	
	£			49.00	66.90		
r 0.8	CCGT 09T308			218			
	£			53.10			
r 0.4	CCGT 120404			224			
	£			51.20			
r 0.8	CCGT 120408			228	328		
	£			55.40	75.30		

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals		•	•

Designation	l mm	s mm	d ₁ mm	d mm
CCGT 0602..	6.45	2.38	2.8	6.350
CCGT 09T3..	9.70	3.97	4.4	9.525
CCGT 1204..	12.90	4.76	5.5	12.700

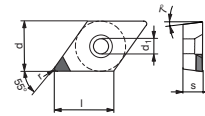


		PG		Y0	Y0		
CCGT-W-CB2		Article no.	71 306 ...	PDC	PDC-S	CVD	MDC
	r 0.2	CCGT 060202			202		
		£			56.40		
	r 0.4	CCGT 060204			204	304	
		£			56.40	69.00	
	r 0.2	CCGT 09T302			212		
		£			57.10		
	r 0.4	CCGT 09T304			214	314	
		£			57.10	69.60	
	r 0.2	CCGT 120402			222		
	£			58.50			
r 0.4	CCGT 120404			224	324		
	£			58.50	71.10		

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals		•	•



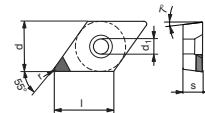
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DCGT 0702..	7.75	2.38	2.8	6.350
DCGT 11T3..	11.60	3.97	4.4	9.525



		PG	Y0	Y0	Y0	
	DCGT-CB1	Article no. 71 310 ...	PDC	PDC-S	CVD	MDC
	r 0.2	DCGT 070202 £	102 51.20	202 51.20	302 65.90	
	r 0.4	DCGT 070204 £	104 51.20	204 51.20	304 65.90	
	r 0.8	DCGT 070208 £	108 56.40	208 56.40		
	r 0.2	DCGT 11T302 £	112 54.40	212 54.40		
	r 0.4	DCGT 11T304 £	114 54.40	214 54.40	314 66.90	
	r 0.8	DCGT 11T308 £	118 60.60	218 60.60	318 72.10	

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals	•	•	•

Designation	l mm	s mm	d ₁ mm	d mm
DCGT 0702..	7.75	2.38	2.8	6.350
DCGT 11T3..	11.60	3.97	4.4	9.525

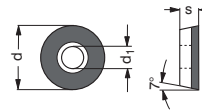


		PG	Y0	Y0		
	DCGT-CB2	Article no. 71 311 ...	PDC	PDC-S	CVD	MDC
	r 0.2	DCGT 070202 £		202 51.20		
	r 0.4	DCGT 070204 £		204 51.20	304 65.90	
	r 0.8	DCGT 070208 £			308 71.10	
	r 0.2	DCGT 11T302 £		212 53.10		
	r 0.4	DCGT 11T304 £		214 53.10	314 66.90	
	r 0.8	DCGT 11T308 £		218 60.60	318 72.10	

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals	•	•	



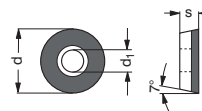
Designation	s mm	d ₁ mm	d mm
RCGT 0602..	2.38	2.8	6
RCGT 10T3..	3.97	4.4	10



		PG	Y0	Y0	CVD	MDC
RCGT-CB1		Article no. 71 315 ...	PDC	PDC-S		
	r 3.0	RCGT 0602 MO VM £	102 124.00	202 124.00		
	r 5.0	RCGT 10T3 MO VM £	104 163.00	204 163.00		

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals	•	•	

Designation	s mm	d ₁ mm	d mm
RCGT 0602..	2.38	2.8	6
RCGT 10T3..	3.97	4.4	10

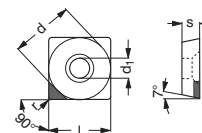


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		PG	Y0	CVD	MDC
RCGT-CB2		Article no. 71 316 ...	PDC	PDC-S	
	r 3.0	RCGT 0602 MO VM £		202 124.00	
	r 5.0	RCGT 10T3 MO VM £		204 163.00	

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals		•	

Designation	l mm	s mm	d ₁ mm	d mm
SCGT 09T3..	9.52	3.97	4.4	9.525
SCGT 1204..	12.70	4.76	5.5	12.700

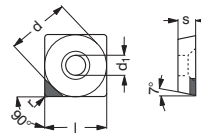


		PG	Y0	CVD	MDC
SCGT-CB1		Article no. 71 320 ...	PDC	PDC-S	
	r 0.4	SCGT 09T304 £	114 56.40		
	r 0.8	SCGT 09T308 £	118 60.60		
	r 0.4	SCGT 120404 £	124 58.50		
	r 0.8	SCGT 120408 £	128 64.80		

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals	•		



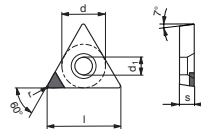
Designation	l mm	s mm	d ₁ mm	d mm
SCGT 09T3..	9.52	3.97	4.4	9.525
SCGT 1204..	12.70	4.76	5.5	12.700



		PG		Y0		
	SCGT-CB2	Article no. 71 321 ...	PDC	PDC-S	CVD	MDC
	r 0.4	SCGT 09T304 £		214 56.40		
	r 0.8	SCGT 09T308 £		218 60.60		
	r 0.4	SCGT 120404 £		224 58.50		
	r 0.8	SCGT 120408 £		228 64.80		

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals		•	

Designation	l mm	s mm	d ₁ mm	d mm
TCGT 0902..	9.6	2.38	2.5	5.560
TCGT 1102..	11.0	2.38	2.8	6.350
TCGT 16T3..	16.5	3.97	4.4	9.525

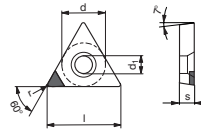



		PG		Y0		
	TCGT-CB1	Article no. 71 325 ...	PDC	PDC-S	CVD	MDC
	r 0.2	TCGT 090202 £		112 49.10		
	r 0.4	TCGT 090204 £		114 49.10		
	r 0.2	TCGT 110202 £		122 51.20		
	r 0.4	TCGT 110204 £		124 51.20		
	r 0.4	TCGT 16T304 £		134 53.30		


F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals		•	



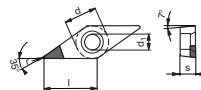
Designation	l mm	s mm	d ₁ mm	d mm
TCGT 0902..	9.6	2.38	2.5	5.560
TCGT 1102..	11.0	2.38	2.8	6.350
TCGT 16T3..	16.5	3.97	4.4	9.525




		PG		Y0		
	TCGT-CB2	Article no. 71 326 ...	PDC	PDC-S	CVD	MDC
	r 0.2	TCGT 090202 £		212 49.10		
	r 0.4	TCGT 090204 £		214 49.10		
	r 0.2	TCGT 110202 £		222 51.20		
	r 0.4	TCGT 110204 £		224 51.20		
	r 0.4	TCGT 16T304 £		234 53.30		

F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals		•	

Designation	l mm	s mm	d ₁ mm	d mm
VCGT 1103..	11.1	3.18	2.9	6.350
VCGT 1604..	16.6	4.76	4.4	9.525

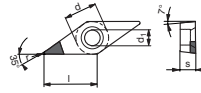



		PG	Y0	Y0	Y0	MDC
	VCGT-CB1	Article no. 71 330 ...	PDC	PDC-S	CVD	
	r 0.2	VCGT 110302 £	112 69.00		312 79.40	
	r 0.4	VCGT 110304 £	114 69.00	214 69.00	314 79.40	
	r 0.4	VCGT 160404 £	134 72.10	234 72.10		
	r 0.8	VCGT 160408 £	138 79.40	238 79.40		


F	M	R	Steel			
			Stainless steel			
			Cast iron			
			Non ferrous metals	•	•	•



Designation	l mm	s mm	d ₁ mm	d mm
VCGT 1103..	11.1	3.18	2.9	6.350
VCGT 1604..	16.6	4.76	4.4	9.525



		PG		Y0	Y0		
VCGT-CB2		Article no.	71 331 ...	PDC	PDC-S	CVD	MDC
	r 0.2	VCGT 110302			212	312	
		£			66.90	79.40	
	r 0.4	VCGT 110304			214	314	
		£			69.00	79.40	
	r 0.4	VCGT 160404			234	334	
		£			72.10	82.60	
r 0.8	VCGT 160408			238	338		
	£			79.40	92.00		
r 1.2	VCGT 160412			242			
	£			87.80			

F	M	R	Steel				
			Stainless steel				
			Cast iron				
			Non ferrous metals		•	•	

Difference between PDC and PDC-S

Material group		ap = 0,04 - 0,4 mm		ap = 0,4 - 1,0 mm		ap = 0,4 - 2,5 mm	
		Surface roughness Rz (µm)		Surface roughness Rz (µm)		Surface roughness Rz (µm)	
		2,5 - 5,0	5,0 - 10	2,5 - 5,0	5,0 - 10	2,5 - 5,0	5,0 - 10
Aluminium wrought alloys without Si f=0.05-0.5 mm/rev.	Cutting material V _c (m/min.)	PDC / CVD 400-2500	PDC / CVD 400-2500	PDC / CVD 400-2000	PDC / CVD 400-2000	PDC / CVD 400-1600	PDC / CVD 400-1600
	Cutting material V _c (m/min.)		PDC / CVD 400-2500		PDC / CVD 400-2000		PDC / CVD 400-1600
	Cutting material V _c (m/min.)	PDC / CVD 400-2500	PDC / CVD 400-2500	PDC / CVD 400-2000	PDC / CVD 400-2000	PDC / CVD 400-1600	PDC / CVD 400-1600
Aluminium cast alloys Si=2-12% f=0.05-0.5 mm/rev.	Cutting material V _c (m/min.)	PDC-S / CVD 600-2000	PDC-S / CVD 600-2200	PDC-S / CVD 600-1800	PDC-S / CVD 600-2000	PDC-S / CVD 600-1500	PDC-S / CVD 600-1800
	Cutting material V _c (m/min.)	PDC / CVD 400-2000	PDC-S / CVD 400-2200	PDC / CVD 400-1800	PDC-S / CVD 600-2000	PDC / CVD 400-1500	PDC-S / CVD 400-1800
	Cutting material V _c (m/min.)	PDC-S / CVD 600-2000	PDC-S / CVD 600-2200	PDC-S / CVD 600-1800	PDC-S / CVD 600-2000	PDC-S / CVD 600-1500	
Aluminium cast alloys Si=12-20% f=0.05-0.5 mm/rev.	Cutting material V _c (m/min.)	PDC-S / CVD 800-1200	PDC-S / CVD 400-1800	PDC-S / CVD 700-1000	PDC-S / CVD 400-1500	PDC-S / CVD 600-900	PDC-S / CVD 400-1200
	Cutting material V _c (m/min.)		PDC-S / CVD 600-1800		PDC-S / CVD 600-1500		PDC-S / CVD 600-1200
	Cutting material V _c (m/min.)		PDC-S / CVD 600-1800		PDC-S / CVD 600-1500		
Copper and copper wrought alloys f=0.05-0.5 mm/rev.	Cutting material V _c (m/min.)	PDC / CVD 400-1800	PDC / CVD 300-1600	PDC / CVD 400-1600	PDC-S / CVD 300-1600	PDC / CVD 400-1400	PDC-S / CVD 400-1500
	Cutting material V _c (m/min.)		PDC / CVD 300-1500	PDC / CVD 400-1600	PDC-S / CVD 300-1500	PDC / CVD 400-1500	PDC-S / CVD 300-1400
	Cutting material V _c (m/min.)		PDC / CVD 300-1800		PDC-S / CVD 300-1700	PDC / CVD 300-1600	PDC-S / CVD 200-1300
Plastic materials without reinforcement (acrylic glass) f=0.05-0.7 mm/rev.	Cutting material V _c (m/min.)		PDC / CVD 400-1200		PDC / CVD 300-1000		PDC / CVD 200-1000
	Cutting material V _c (m/min.)		PDC / CVD 300-1200		PDC / CVD 200-1000		PDC-S / CVD 200-900
	Cutting material V _c (m/min.)		PDC / CVD 400-1200		PDC / CVD 300-1000		PDC / CVD 200-1000
Plastic materials with reinforcement (glass-fibre, carbon-fibre reinforced) f=0.05-0.7 mm/rev.	Cutting material V _c (m/min.)	PDC-S / CVD 500-1000		PDC-S / CVD 400-900	PDC-S / CVD 300-900	PDC-S / CVD 300-800	PDC-S / CVD 200-1200
	Cutting material V _c (m/min.)	PDC-S / CVD 400-900		PDC-S / CVD 300-800	PDC-S / CVD 200-900	PDC-S / CVD 200-800	PDC-S / CVD 200-1400
	Cutting material V _c (m/min.)	PDC-S / CVD 500-1000		PDC-S / CVD 400-800	PDC-S / CVD 300-1000	PDC-S / CVD 300-800	

Continuous cut	Irregular cutting depth	Interrupted cut
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