

1. DIAMETAL

2. BIMU

3. IFANGER

4. ARNO

5. SPHINX

6. ZEUS

7. PRAMET

8. BECKER

9. WHIZCUT



CERATIZIT GROUP

Diamond Cutting Tools



MDC · TFC · PDC



Turning ■ Grooving ■ Boring ■ Milling

376 (주)진성 JINSUNG EUROTEC CO.,LTD.

ultrahard

cutting materials



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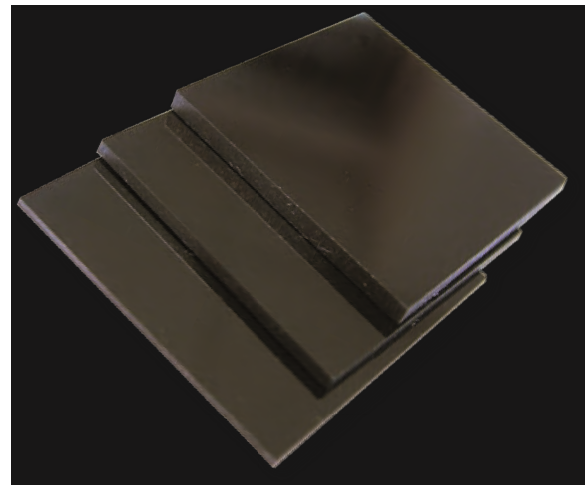
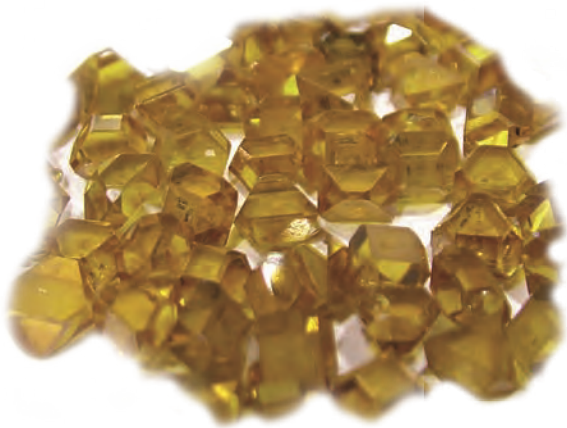
New ultrahard diamond cutting materials and their processing

Technical advancement never stands still. Fortunately we can present various new developments in regard to cutting tools. The diamond cutting edges will expedite the processing of nonferrous metals and plastics of all kinds into unknown dimensions.

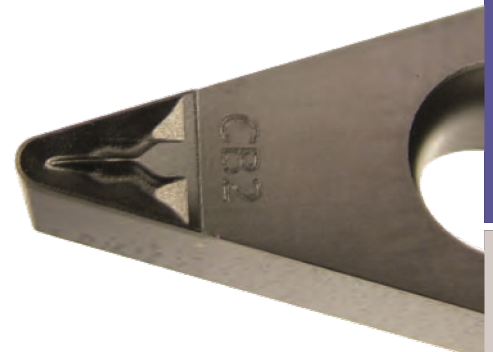
First of all we would like to introduce new monocrystalline diamonds manufactured under the HPHT technique. The diamonds weigh between 0.8 and 3,5 carat and completely substitute the established natural diamond up to cutting edge lengths of 7mm.

Furthermore we can present the production and professional processing of polycrystalline TFC-solid CVD diamond with thicknesses between 0.5 and 1.8 mm. Since this pure diamond material without any binder cannot be eroded or economically ground, the only remaining machining procedure is the newly-developed laser technology.

The required segments are cut by laser. After the high vacuum brazing process the cutting edges are also treated by laser both in the periphery and on the top rake with or without a chip breaker geometry.



We are the world's market leader for full machining of diamond cutting edges by laser technology.



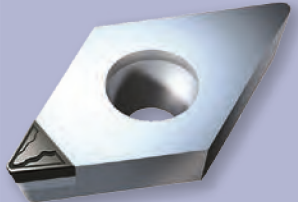
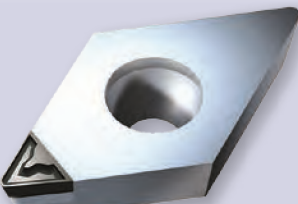
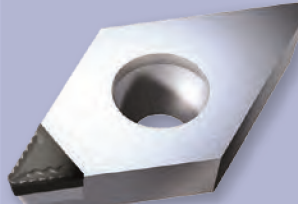
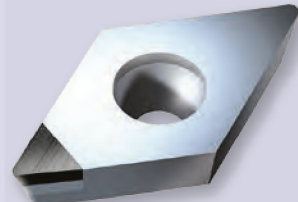
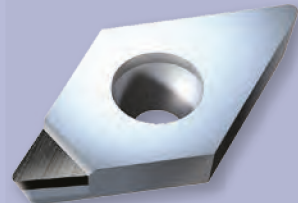
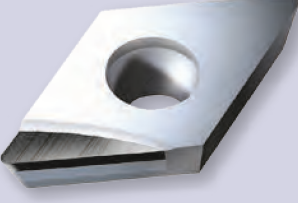
ultrahard

cutting materials



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Top Rake Geometries

Top rake geometries		Diamond grade	Applications
	CB 1	TFC PDC PDC-S PDC-CU-S	Slight cutting pressure <ul style="list-style-type: none"> n Thin-walled or instable workpieces n Minor tolerances n Medium surface finish n Chip breakage
	CB 2	TFC PDC PDC-S PDC-CU-S	Increased cutting pressure <ul style="list-style-type: none"> n Solid or firm workpieces n Minor tolerances n Best surface finish n Chip breakage
	CB 3	PDC-CU-S	Roughing <ul style="list-style-type: none"> n High cutting pressure n Massive or solid parts n Superior material removal rate n Chip breakage
	Neutral	MDC TFC PDC PDC-S PDC-CU-S	Medium cutting pressure <ul style="list-style-type: none"> n Solid or firm workpieces n Minor tolerances n Very good surface finish n No chip breakage, flow chip
	Positive Neutral	MDC PDC PDC-S	Minor cutting pressure <ul style="list-style-type: none"> n Thin-walled or instable workpieces n Minor tolerances n Medium surface finish n No chip breakage, flow chip
	Positive R/L	PDC PDC-S	Minor cutting pressure <ul style="list-style-type: none"> n Thin-walled or instable workpieces n Minor tolerances n Medium surface finish n High depth of cut n No chip breakage, flow chip

ultrahard

cutting materials



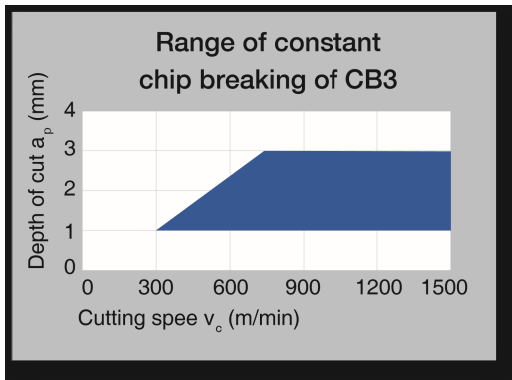
Cutting Data - Range of chip breaker application

CB3:

Wave-design of chip breaker generates constant chip-breaking during process of roughing. Suited for a wide range of applications, outstanding ablation rates.

Constant chip breaking under the circumstance of $a_p < 1,1$ mm, even with low cutting speeds from v_c 300.

Only for roughing of thick-walled or massive workpieces, under stable circumstances.



v_c	= 750 - 2500 m/min
f_z	= 0,2 - 0,35 mm/U
a_p	= 0,8 - 3mm

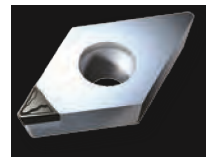
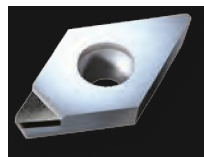
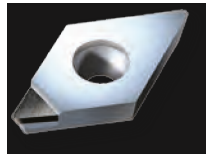
Emulsion coolant required in case of CB3 application!





TURNING ISO

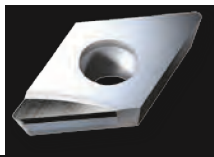
DCGT
positive-neutral



insert size	PDC-CU-S				PDC-S			PDC			TFC			MDC	dimensions								
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	d	d ₁	s	l	r	PDC l ₁	TFC l ₁		
070201					●	●	●		●						6,35	2,8	2,38	7,75	0,1	3,8			
070202		●	●		●	●	●	●	●			●	●	○							0,2	3,7	2,6
070204		●	●	●		●	●	●	●			●	●	●							0,4	3,4	2,3
070208							●	●	●			●	●	●							0,8	3,0	2,0
070201-LW *					●										6,35	2,8	2,38	7,75	0,1	3,0			
070201-RW *					●									○							0,1	3,0	
070202-LW *					●									○							0,2	3,0	
070202-RW *					●									○							0,2	3,0	
070204-LW *								●						○	0,4	3,0							
070204-RW *								●						○	0,4	3,0							
11T301					●	●	●		●						9,52	4,4	3,97	11,6	0,1	4,8			
11T302					●	●	●	●	●			●	●	●							0,2	4,7	2,6
11T304		●	●	●		●	●	●	●			●	●	●							0,4	4,3	2,3
11T308		●	●	●		●	●	●	●			●	●	●							0,8	4,0	2,0
11T312								●							1,2	3,5							
11T301-LW *					●										9,52	4,4	3,97	11,6	0,1	4,0			
11T301-RW *					●									○							0,1	4,0	
11T302-LW *					●									○							0,2	4,0	
11T302-RW *					●									○							0,2	4,0	
11T304-LW *								●						○	0,4	4,0							
11T304-RW *								●						○	0,4	4,0							

* Wiper R/L = 93° holder

DCGT
positive right or left hand

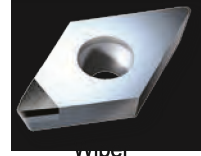
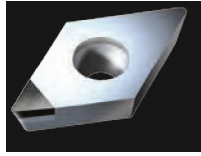


insert size	PDC-CU-S				PDC-S			PDC			TFC			MDC	dimensions								
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	d	d ₁	s	l	r	l ₁	right hand shown		
070204R/L					●			●							6,35	2,8	2,38	7,8	0,4	5,5			
070208R/L					●			●						○							0,8	5,0	
11T304R/L					●			●							9,52	4,4	3,97	11,6	0,4	7,5			
11T308R/L					●			●						○							0,8	7,0	
11T312R/L					●									○							1,2	6,5	

● = ex stock
○ = on short call

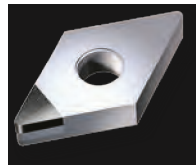


TURNING ISO



insert size	PDC-CU-S				PDC-S			PD			TF			MDC	dimensions							
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral								
															d	d ₁	s	l	r	PDC		TFC
																			l ₁	l ₂		
070201					●									○	6,35	2,8	2,38	7,75	0,1	3,8		
070202					●			●			●			○					0,2	3,7	2,6	
070204	●				●			●			●			●					0,4	3,4	2,3	
070208	●				●			●			●			●					0,8	3,0	2,0	
110302								●							9,52	4,4	3,18	11,6	0,2	4,7		
110304								●											0,4	4,3		
110308								●											0,8	4,0		
11T301					●									●					0,1	4,8		
11T302					●			●			●			●					0,2	4,7	2,6	
11T304	●				●			●			●			●	9,52	4,4	3,97	11,6	0,4	4,3	2,3	
11T308	●				●			●			●			●					0,8	4,0	2,0	
11T312					●			●											1,2	3,6		
11T302-LW *					●														0,2	4,0		
11T302-RW*					●										9,52	4,4	3,97	11,6	0,2	4,0		
11T304-LW*					●									○					0,4	4,0		
11T304-RW *					●									○					0,4	4,0		
150404								●						○	12,70	5,5	4,76	15,5	0,4	4,3		
150408								●						○					0,8	4,0		

* Wiper R/L = 93° holder



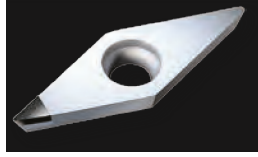
insert size	PDC-CU-S				PDC-S			PDC			TFC			MDC	dimensions							
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral								
															d	d ₁	s	l	r	PDC		TFC
																			l ₁	l ₂		
150404					●			●							12,70	5,13	4,76	15,5	0,4	6,4		
150408					●			●											0,8	6,0		
150412					●			●											1,2	5,6		
150604	●				●			●							12,70	5,13	6,35	15,5	0,4	6,4		
150608	●			●	●			●											0,8	6,0		
150612					●			●											1,2	5,6		

● = ex stock
○ = on short call

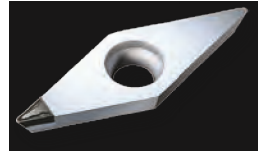
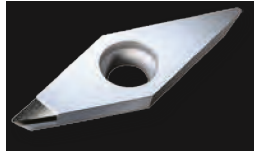




TURNING ISO



insert size	PDC-CU-S				PDC-S			PDC			TFC			MDC	dimensions						
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	d	d ₁	s	l	r	PDC l ₁	TFC l ₁
110202								●											0,2	4,6	
110204								●						m	6,35	2,8	2,38	11,1	0,4	3,9	
110208								●											0,8	3,3	
160402	●							●			●			m					0,2	5,9	3,0
160404	●							●			●				9,52	4,4	4,76	16,6	0,4	5,5	3,0
160408	●							●			●								0,8	5,0	3,0
160412								●											1,2	4,4	



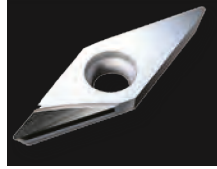
insert size	PDC-CU-S				PDC-S			PDC			TFC			MDC	dimensions						
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	d	d ₁	s	l	r	PDC l ₁	TFC l ₁
070201					●														0,1	3,8	
070202					●			●						○	3,97	2,2	2,38	6,9	0,2	3,6	
070204					●			●						○					0,4	3,2	
110301					●			●	●			●		○					0,1	5,4	3,0
110302			●		●	●	●	●	●			●	●	○	6,35	2,8	3,18	11,1	0,2	4,6	3,0
110304			●	●	●	●	●	●	●			●	●	○					0,4	3,9	3,0
110308							●	●					●	○					0,8	3,3	3,0
130302					●			●							7,94	3,4	3,18	13,3	0,2	5,9	
130304								●											0,4	5,5	
160401					●			●											0,1	6,0	
160402			●		●		●	●	●			●	●	○					0,2	5,9	3,0
160404	●		●	●	●	●	●	●	●			●	●	○	9,52	4,4	4,76	16,6	0,4	5,5	3,0
160408						●	●	●	●			●	●	○					0,8	5,0	3,0
160412						●	●	●	●			●	●						1,2	4,5	3,0

● = ex stock
○ = on short call

TURNING ISO

VCGT

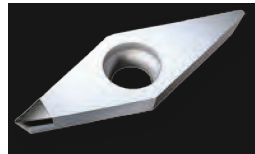
positive, right or left hand



insert size	PDC-CU-S				PDC-S			PDC			TFC			MDC	dimensions					
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral						
															d	d ₁	s	l	r	l ₁
110304R/L								1							6,35	2,8	3,18	11,1	0,4	6,5
110308R/L								1											0,8	6,0
160404R/L								1											0,4	7,5
160408R/L								1							9,52	4,4	4,76	16,6	0,8	7,0
160412R/L								1											1,2	7,0

VCGW

neutral



insert size	PDC-CU-S				PDC-S			PDC			TFC			MDC	dimensions							
	Neutral	CB 1	CB 2	CB 3	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral	CB 1	CB 2	Neutral								
															d	d ₁	s	l	r	PDC l ₁	TFC l ₁	
070201					1														0,1	3,8		
070202					1			1							3,97	2,2	2,38	6,9	0,2	3,6		
070204					1			1											0,4	3,2		
110301					1														0,1	5,4		
110302	1				1			1			1			m	6,35	2,8	3,18	11,1	0,2	4,6	3,0	
110304	1				1			1			1			m					0,4	3,9	3,0	
110308								1			1			m					0,8	3,3	3,0	
130302					1			1							7,94	3,4	3,18	13,3	0,2	5,9		
130304								1											0,4	5,5		
160401					1														0,1	6,0		
160402	1				1			1			1			m					0,2	5,9	3,0	
160404	1				1			1			1			m	9,52	4,4	4,76	16,6	0,4	5,5	3,0	
160408					1			1			1			m					0,8	5,0	3,0	
160412					1			1						m					1,2	4,5		

● = ex stock
○ = on short call