



株洲米斯优硬质合金有限公司

Zhuzhou MSU Cemented Carbide Co., Ltd.



Insert Material Overview



Cermet

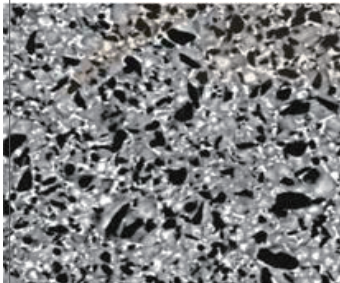
Cermet is a combination of ceramic and metal. The hard component is different from cemented carbide and belongs to the WC system. Cermet has Ti-based carbides and nitrides as its main components.

PVD Coated Cermet

By applying a PVD method on the surface of the cermet base material, a thin film coating with wear resistance and high adhesion resistance is coated. The unique low-temperature processing conditions have the characteristics of fewer degraded layers caused by the coating and no reduction in physical properties compared to CVD.

PVD Coat Cermet

Grade	Density(g/cm ³)	Hardness HV30(kgf/mm ²)	TRS(Mpa)	KIC(Mpa.m1/2)
MP20PLUS	6.80	1750	2100	10.2
MP30	6.74	1630	2200	10.8



MP20PLUS

Applicability:

- Continuous or intermittent cutting
- Medium or high speed cutting speed
- Perfect handling with a hardness below HRC45

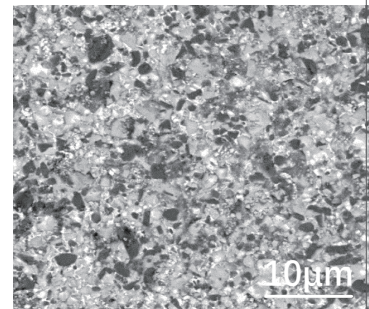
MP20PLUS It can easily handle a variety of materials, has ultra-high chip resistance, extremely high red hardness, and ultra-high surface finish, and can achieve deep cutting and strong intermittent working conditions.

MP30 It possesses high toughness and excellent cutting performance, significantly reduces cutting resistance, greatly improves surface finish, and is widely used in the field of milling and finishing.

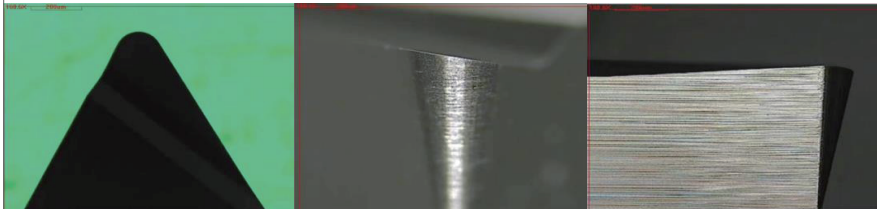
MP30

Applicability:

- Milling finishing
- Lightweight cut, low power consumption
- Wiper series options, high-efficiency mirror finish

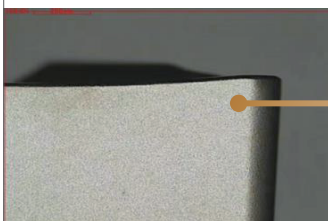


Excellent quality control details



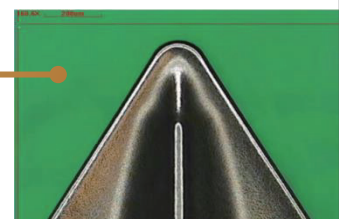
➤ The fully automatic CNC peripheral grinding machine provides precise control over the finished product dimensions and a smooth transition of the tool tip arc.

➤ After grinding, the finished insert is smooth, without serrations or chips.



➤ **Surface finish guarantee**

➤ **Ultra-high anti-collapse performance**



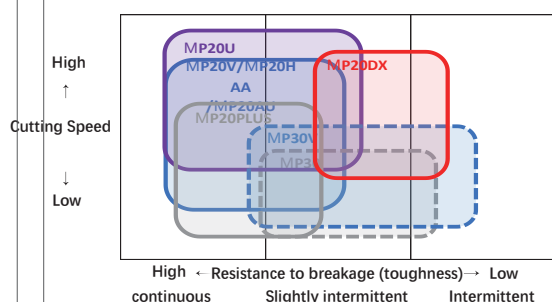
Insert Material Overview

Cermet Grade

Material to be cut		Steel (Carbon steel/Alloy Steel)					Stainless steel/Cast steel					Cast Iron (Gray cast iron/ductile cast iron)			
Cutting field		Finish		Rough			Finish		Rough			Finish		Rough	
Use categories		P01	P01	P01	P01	P01	P01	P01	P01	P01	P01	P01	P01	P01	P01
Cermet	Uncoat	MP20PLUS MP30					MP20PLUS MP30					MP20PLUS MP30			
	PVD	MP20V MP20HAA MP20U MP30V MP30HAA					MP20AU MP30AU					MP20DX MP20HAA MP30DX MP30HAA			

Use categories	Grade		Color	Coat Hardness	Coefficient friction	Coat Thickness (μm)	Antioxidant temperature (°C)	Usage of application
P 钢	金属陶瓷	MP20PLUS	Grey					Extremely versatile and highly wear-resistant. Applications: Recommended for cutting steel parts, high-speed continuous cutting.
		MP30	Grey					Highly versatile with a balanced resistance to chipping and wear. Recommended for use in steel cutting to achieve stable cutting.
	P V D 金属陶瓷	MP20V	Gold	3300	0.45	3-4	900	High wear-resistant coating with balanced wear resistance and anti-stick properties. Applications: High-speed, durable cutting of steel parts and alloy steel.
		MP30V	Gold	3300	0.45	3-4	900	Strong and durable PVD coating with balanced wear resistance and anti-stick properties for steel and alloy steel parts. Applications: Stable and durable cutting.
		MP20HAA	Black	3500	0.5	2-3	1000	High wear-resistant coat with superior micro-nano great next generation PVD coat. Applications: preferred of high-speed, durable cutting of steel and alloy steel.
		MP20U	Grey	3900	0.4	5-7	1000	Applications of high wear-resistant metal-ceramic ultra-thick PVD coating: high-speed cutting of steel parts and alloy steel, dimensional stability control.
M 不锈钢		MP20AU	Brozen	3800	0.35	4-5	1200	High wear-resistant metal-cermet coat with high red hardness, lubricity, and anti-adhesion PVD coat. Applications: continuous and intermittent finish of stainless steel.
K 铸铁		MP20DX	Black Grey	3900	0.4	4-5	800	Applications of high wear-resistant metal-cermet coat superhard K-series PVD coat: continuous and intermittent finishing of cast iron.

Grade application diagram



Basic Grades (Uncoated Cermet)

MP20PLUS: High Wear Resistance Cermet

MP30: Balances Chip Resistance and Wear Resistance

Coated Grades (PVD Coated Cermet)

MP20V/MP20HAA: High-Speed, Stable, and Long-Term Machining of Steel

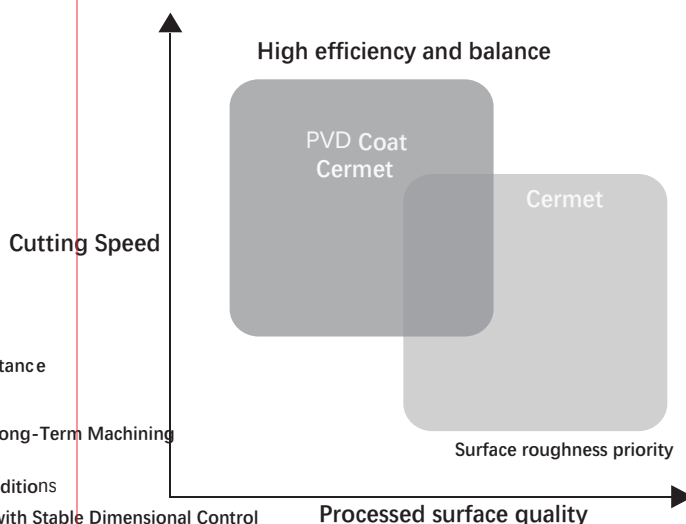
MP30V: Machining of Steel under Unstable Conditions

MP20U: Ultra-High-Speed Machining of Steel with Stable Dimensional Control

MP20AU: Stable Machining of Stainless Steel with High-Quality Machined Surfaces

MP20DX: High-Efficiency and Stable Finishing of Cast Iron

Application of grade



Insert Material Overview

Indexable inserts ISO/ANSI designation method

Code	Insert Shape
H	Regular hexagon
O	Regular octagon
P	Regular pentagon
S	Square
T	Equilateral triangle
C	Rhombus with 80° vertex angle
D	Rhombus with 55° vertex angle
E	Rhombus with 75° vertex angle
F	Rhombus with 50° vertex angle
M	Rhombus with 86° vertex angle
V	Rhombus with 35° vertex angle
W	Equilateral hexagon
L	Rectangle
A	Parallelogram with 85° vertex angle
B	Parallelogram with 82° vertex angle
K	Parallelogram with 55° vertex angle
R	Circle
X	Special irregular shapes
1 Shape code	

Code	Tolerance(mm)		
	Insert tip height difference	Thickness tolerance	Inscribed circle tolerance
A	±0.005	±0.025	±0.025
F			±0.13
C	±0.013		±0.025
H			±0.13
E	±0.025		±0.025
G			
J	±0.005	±0.025	±0.05~±0.15
K*	±0.013		
L*	±0.025		
M*	±0.08~±0.18	±0.13	
N*		±0.025	
U*	±0.13~±0.38	±0.13	±0.08~±0.25
* The marking indicates that it is an insert with un-sharpened sides.			
3 Tolerance Code			

C

N

M

G

2. Rear Angle Code		
Code	Rear Angle	Illustration
A	3°	
B	5°	
C	7°	
D	15°	
E	20°	
F	25°	
G	30°	
N	0°	
P	11°	
O	Others	

4. Groove and Hole Designations				
Code	Hole or not	Hole Shape	Chip Breaker	Instrument Section
N	No	No	No	
R			Single-side	
F			Double-side	
A	Yes	Cylindrical Hole	No	
M			Single-side	
G			Double-side	
W		Single-sided Chamfer 40°~60°	No	
T			Single-side	
Q		Double-sided Chamfer 40°~60°	No	
U			Double-side	
B		Single-sided Chamfer 70°~90°	No	
H			Single-side	
C		Double-sided Chamfer 70°~90°	No	
J			Double-side	
X	-	-	-	-

Insert Material Overview

							Inscribed circle diameter (mm)	IC Size (inch)	Code
03	04		03	06			3.97	5/32	12
04	05		04	08	08		4.76	3/16	15
		05					5		
05	06		05	09		03	5.56	7/32	18
		06					6		
06	07		06	11	11	04	6.35	1/4	2
08	09		07	13		05	7.94	5/16	25
		08					8		
09	11	09	09	16	16	06	9.525	3/8	3
	12	10					10		
		12					12		
12	15	12	12	22	22	08	12.7	1/2	4
16	19	15	15	27	27	10	15.875	5/8	5
		16					16		
19	23	19	19	33	33	13	19.05	3/4	6
		20					20		
22	27		22	38			22.225	7/8	7
		25					25		
25	31	25	25	44	44	17	25.4	1	8
32	38	31	31	54	54	21	31.75	1-1/4	10
		32					32		
5. Cutting edge length designation (ISO)							Inscribed circle diameter (ANSI)		

ISO		ANSI	
Code	Thickness (mm)	Code	Thickness (inch)
S1	1.39	-	-
01	1.59	1	1/16
T0	1.79	-	-
T1	1.98	12	5/64
02	2.38	15	3/32
T2	2.78	-	-
03	3.18	2	1/8
T3	3.97	25	5/32
04	4.76	3	3/16
05	5.56	35	7/32
06	6.35	4	1/4
07	7.94	5	5/16
09	9.52	6	3/8




* Thickness refers to the distance between the bottom surface of the insert and the highest point of the cutting edge.

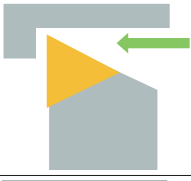
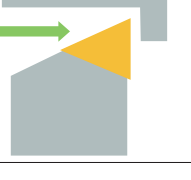
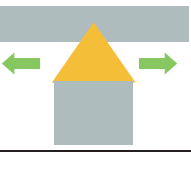
6. Insert thickness designation

12 04 08 (E) (N) - TM

7. Insert tip radius designation			
ISO		ANSI	
Code	Tip radius (mm)	Code	Tip radius (inch)
00		00	.000
V3	0.03	01	.001
V5	0.05	013	.002
01	0.1	02	.004
02	0.2	05	.008
04	0.4	1	1/64
08	0.8	2	1/32
12	1.2	3	3/64
16	1.6	4	1/16
20	2	5	5/64
24	2.4	6	3/32
28	2.8	7	7/64
32	3.2	8	1/8

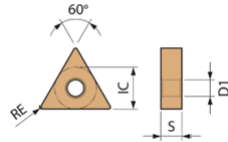
10. Chip Breaker Designation
Main Cutting Edge Chip Breaker Designation.
Other Custom Designations

Shape	Designation
	F
	E
	T
	S

9. Cutting Direction Designation		
Shape	Cutting Direction Designation	Code
	Right	R
	Left	L
	Right/Left	N

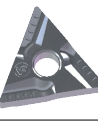
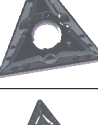
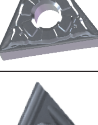
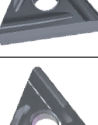
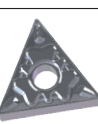
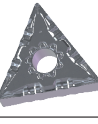
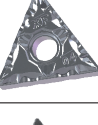
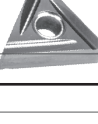
Cermet Turning Insert

TN



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

- : Continuous cutting
- : Slight intermittent cutting
- : Strong intermittent cutting

Shape	Type	Size (mm)				Cermet		PVD Cermet				Recommended parameters		
		RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)
	TNMG 160404 R/L VF	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.5	0.08-0.28
	160408 R/L VF	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-2.8	0.10-0.30
	TNMG 160404 R/L FS	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.5	0.10-0.25
	TNMG 160404 TM	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-3.0	0.12-0.35
	160408 TM	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	1.0-3.0	0.12-0.40
	TNMG 160404 PG	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-1.8	0.05-0.15
	160408 PG	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-2.0	0.08-0.20
	TNMG 160404 R/L P	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.5	0.12-0.4
	TNMG 160408 R/L S	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.0	0.10-0.20
	TNMG 160404 TS	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-1.8	0.05-0.15
	160408 TS	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.0	0.10-0.20
	TNMG 160404 R/L C	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.5	0.12-0.35
	TNMG 160404 PQ	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-1.8	0.10-0.25
	160408 PQ	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-2.0	0.12-0.28
	TNMG 160404 F3P	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.8	0.05-0.22
	TNMG 160404 XF	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.8	0.05-0.22
	TNMG 160402 R/L C	0.20	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-2.2	0.12-0.30
	160404 R/L C	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.5	0.12-0.35

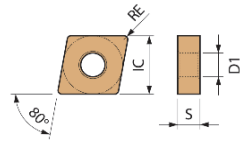
★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert																																																																				
TN <table><tr><td>P</td><td>●</td><td>◐</td><td></td><td>◐</td><td></td><td>◐</td><td></td><td>◐</td></tr><tr><td>M</td><td>●</td><td>●</td><td></td><td></td><td>◐</td><td></td><td></td><td>◐</td></tr><tr><td>K</td><td>●</td><td>◐</td><td></td><td></td><td></td><td></td><td>◐</td><td>◐</td></tr><tr><td>N</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>S</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>H</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> ● : Continuous cutting ◐ : Slight intermittent cutting ◑ : Strong intermittent cutting															P	●	◐		◐		◐		◐	M	●	●			◐			◐	K	●	◐					◐	◐	N									S									H								
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	160404 R/L S	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.8	0.08-0.18																																																						
	TNGG 160402 R/L F	0.20	9.525	4.76	3.81	★		☆		☆	☆	☆	0.1-0.3	0.02-0.12																																																						
	160404 R/L F	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.1-0.5	0.03-0.15																																																						
	TNGG 160402 R/L P	0.20	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-2.2	0.12-0.30																																																						
	160404 R/L P	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.5	0.12-0.35																																																						
	160408 R/L P	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.5	0.12-0.35																																																						
	TNGG 160402 MFN UL	0.20	9.525	4.76	3.81	★		☆		☆	☆	☆	0.1-1.5	0.01-0.10																																																						
	160404 MFN UL	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-2.0	0.03-0.12																																																						

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

CN



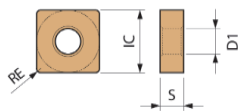
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M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

SN

P						
M						
K						
N						
S						
H						

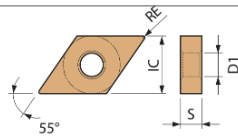
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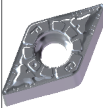
Cermet Turning Insert

DN



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

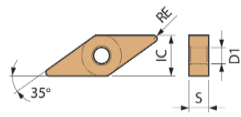
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Shape		Type			Size (mm)				Cermet		PVD Cermet				Recommended parameters			
					RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)		f (mm/rev)
		DNMG	110404	PG	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.2	0.05-0.18	
			110408	PG	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-1.5	0.08-0.22	
		DNMG	150404	R VF	0.40	12.7	4.76	5.16	★		☆		☆	☆	☆	0.5-4.0	0.08-0.30	
			150604	R VF	0.40	12.7	6.35	5.16	★		☆		☆	☆	☆	0.5-4.0	0.08-0.30	
		DNMG	150404	CQ	0.40	12.7	4.76	5.16	★		☆		☆	☆	☆	0.8-2.5	0.10-0.30	
			150408	CQ	0.80	12.7	4.76	5.16	★		☆		☆	☆	☆	0.8-3.0	0.15-0.35	
			150604	CQ	0.40	12.7	6.35	5.16	★		☆		☆	☆	☆	0.8-2.5	0.10-0.30	
			150608	CQ	0.80	12.7	6.35	5.16	★		☆		☆	☆	☆	0.8-3.0	0.15-0.35	

★ Mark: Regular Stock ☆ Mark: Customized

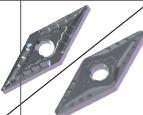
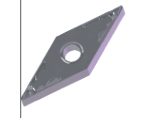
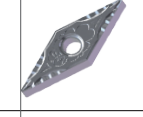
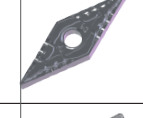
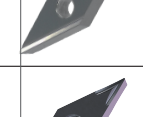
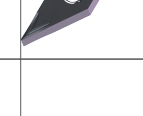
Cermet Turning Insert

VN



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

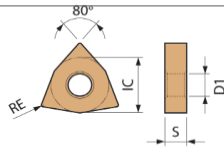
- : Continuous cutting
- : Slight intermittent cutting
- : Strong intermittent cutting

Shape	Type	Size (mm)				Cermet		PVD Cermet				Recommended parameters		
		RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)
	VNMG 160404 TM	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-2.0	0.10-0.30
	160408 TM	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-1.8	0.15-0.30
	VNMG 160404 PQ	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.5-1.2	0.08-0.20
	160408 PQ	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-1.5	0.10-0.25
	VNMG 160404 VF	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.8	0.05-0.18
	VNMG 160404 PF	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.4-1.8	0.05-0.18
	160808 PF	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-2.0	0.08-0.20
	VNMG 160808 41	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.8-2.0	0.08-0.20
	VNMG 160808 VL	0.80	9.525	4.76	3.81	★		☆		☆	☆	☆	0.2-1.5	0.10-0.25
	VNMG 160404 XS	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.8	0.05-0.15
	VNGG 160402 F	0.20	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.8	0.05-0.15
	160404 F	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-2.0	0.08-0.20
	VNGG 160402 R/L H	0.20	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-1.8	0.05-0.15
	160404 R/L H	0.40	9.525	4.76	3.81	★		☆		☆	☆	☆	0.3-2.0	0.08-0.20
	VNGG 160402 FN ZP	0.20	9.525	4.76	3.81	★		☆		☆	☆	☆	0.2-0.8	0.05-0.12

★ Mark: Regular Stock ☆ Mark: Customized

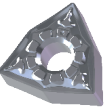
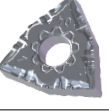
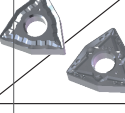
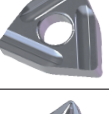
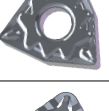
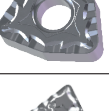
Cermet Turning Insert

WN



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

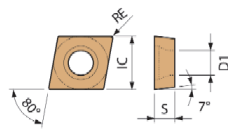
- : Continuous cutting
- : Slight intermittent cutting
- : Strong intermittent cutting

		Type	Size (mm)				Cermet		PVD Cermet					推荐加工参数		
			RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)	
		WNMG 060404 PG	0.40	9.525	4.76	3.81	★		☆		☆	☆	○	0.3-1.8	0.05-0.15	
		WNMG 080404 F3P	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	0.3-3.0	0.05-0.20	
	WNMG 080404 TM	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	0.8-3.0	0.10-0.35		
	080408 TM	0.80	12.7	4.76	5.16	★		☆		☆	☆	○	1.0-3.0	0.15-0.40		
	WNMG 080404 TS	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	0.5-1.8	0.05-0.15		
	080408 TS	0.80	12.7	4.76	5.16	★		☆		☆	☆	○	0.5-2.0	0.10-0.20		
	WNMG 080404 R S	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	0.5-2.0	0.12-0.30		
	080408 R S	0.80	12.7	4.76	5.16	★		☆		☆	☆	○	0.8-2.5	0.12-0.35		
	WNMG 080404 PQ	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	0.5-1.8	0.10-0.25		
	080408 PQ	0.80	12.7	4.76	5.16	★		☆		☆	☆	○	0.8-2.0	0.12-0.28		
	WNMG 080420 CQ	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	1.5-3.0	0.2-0.45		
	WNMG 080408 VL	0.80	12.7	4.76	5.16	★		☆		☆	☆	○	0.2-1.5	0.1-0.35		
	WNGG 080402 R/L C	0.20	12.7	4.76	5.16	★		☆		☆	☆	○	0.3-2.2	0.12-0.30		
	080404 R/L C	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	0.5-2.5	0.12-0.35		
	WNGG 080402 R/L F	0.20	12.7	4.76	5.16	★		☆		☆	☆	○	0.1-0.3	0.02-0.12		
	080404 R/L F	0.40	12.7	4.76	5.16	★		☆		☆	☆	○	0.1-0.5	0.03-0.15		

★ Mark: Regular Stock ☆

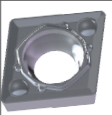
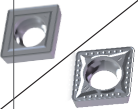
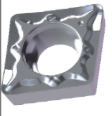
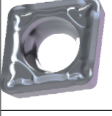
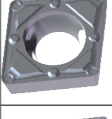
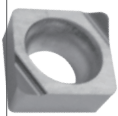
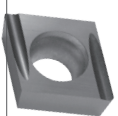
Cermet Turning Insert

CC



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

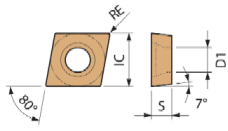
● : Continuous cutting
 ● : Slight intermittent cutting
 ○ : Strong intermittent cutting

Shape	Type	Size (mm)				Cermet		PVD Cermet				推荐加工参数		
		RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)
	CCMT 060202 FQ	0.20	6.35	2.38	2.8	★		☆		☆	☆	☆	0.3-1.2	0.05-0.15
	060204 FQ	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.4-1.8	0.05-0.20
	09T304 FQ	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.5-2.0	0.08-0.22
	CCMT 060204 TM	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.5-1.5	0.05-0.20
	09T304 TM	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.5-2.0	0.08-0.22
	09T308 TM	0.80	9.525	3.97	4.4	★		☆		☆	☆	☆	0.8-2.5	0.10-0.25
	CCMT 060204 PG	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.3-1.2	0.05-0.12
	09T304 PG	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.3-1.5	0.05-0.18
	09T308 PG	0.80	9.525	3.97	4.4	★		☆		☆	☆	☆	0.5-1.8	0.10-0.25
	CCMT 060208 PC	0.80	9.525	3.97	4.4	★		☆		☆	☆	☆	0.45-1.5	0.10-0.20
	CCMT 09T308 WF	0.80	9.525	3.97	4.4	★		☆		☆	☆	☆	0.3-2.5	0.12-0.25
	CCGT 09T304 EN CF	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.05-0.5	0.05-0.18
 ※Edge passivation	CCGT 030102 R/L F	0.20	3.5	1.4	1.9	★		☆		☆	☆	☆	0.03-0.2	0.01-0.05
	030104 R/L F	0.40	3.5	1.4	1.9	★		☆		☆	☆	☆	0.05-0.25	0.01-0.05
	040102 R/L F	0.20	4.3	1.8	2.3	★		☆		☆	☆	☆	0.03-0.3	0.01-0.06
	040104 R/L F	0.40	4.3	1.8	2.3	★		☆		☆	☆	☆	0.05-0.35	0.01-0.06
	060202 R/L F	0.20	6.35	2.38	2.8	★		☆		☆	☆	☆	0.05-0.4	0.03-0.08
	060204 R/L F	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.05-0.4	0.03-0.10
	09T302 R/L F	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.05-0.4	0.03-0.08
	09T304 R/L F	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.05-0.5	0.03-0.12
 ※E: Edge passivation ※F: Sharp blade	CCGT 060202 ER/EL U	0.20	6.35	2.38	2.8	★		☆		☆	☆	☆	0.2-1.8	0.03-0.08
	060204 ER/EL U	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.3-2.0	0.05-0.10
	060202 FR/FL U	0.20	6.35	2.38	2.8	★		☆		☆	☆	☆	0.1-1.2	0.01-0.05
	060204 FR/FL U	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.15-1.5	0.02-0.08
	09T302 ER/EL U	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.2-2.5	0.03-0.08
	09T304 ER/EL U	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.3-3.0	0.05-0.10
	09T302 FR/FL U	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.1-1.8	0.01-0.05
	09T304 FR/FL U	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.15-2.5	0.02-0.08

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

CC



P	●	◐		◐			◐
M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

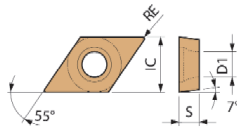
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

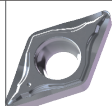
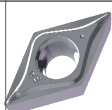
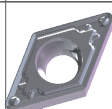
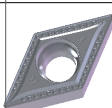
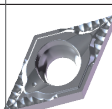
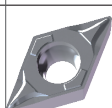
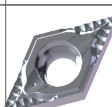
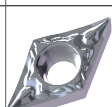
Cermet Turning Insert

DC



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

- : Continuous cutting
- : Slight intermittent cutting
- : Strong intermittent cutting

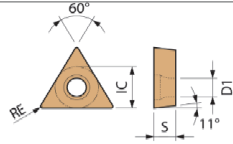
	Shape	Type			Size (mm)				Cermet		PVD Cermet					推荐加工参数		
					RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)	
		DCMT	070204	PG	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.3-1.2	0.05-0.15	
			11T304	PG	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.5-1.2	0.08-0.2	
			11T308	PG	0.80	9.525	3.97	4.4	★		☆		☆	☆	☆	0.7-1.2	0.08-0.25	
		DCMT	11T304	FA	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.3-1.0	0.05-0.12	
		DCMT	070204	FQ	0.40	6.35	2.38	2.8	★		☆		☆	☆	☆	0.4-1.5	0.05-0.15	
			11T304	FQ	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.6-1.8	0.08-0.20	
			11T308	FQ	0.80	9.525	3.97	4.4	★		☆		☆	☆	☆	0.8-1.8	0.08-0.25	
		DCMT	11T304	TM	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.5-2.5	0.08-0.22	
		DCMT	11T302	AMX	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.05-0.2	0.01-0.08	
		DCMT	11T304	PF	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.5-1.2	0.08-0.2	
		DCGT	070202	M AMX	0.20	6.35	2.38	2.8	★		☆		☆	☆	☆	0.05-0.2	0.01-0.08	
			11T302	M AMX	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.05-0.2	0.01-0.08	
		DCGT	11T302	FN JS	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.05-0.2	0.01-0.08	
			11T304	FN JS	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.2-1.8	0.02-0.10	
 ※E: Edge passivation ※F: Sharp blade		DCGT	11T302	ER/EL U	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.2-2.5	0.02-0.08	
			11T304	ER/EL U	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.3-3.0	0.03-0.10	
			11T302	FR/FL U	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.1-2.0	0.01-0.05	
			11T304	FR/FL U	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.2-2.2	0.02-0.08	
		DCGT	11T302	R/L F	0.20	9.525	3.97	4.4	★		☆		☆	☆	☆	0.1-0.3	0.02-0.12	
			11T304	R/L F	0.40	9.525	3.97	4.4	★		☆		☆	☆	☆	0.1-0.5	0.03-0.15	

*E: Edge passivation
*F: Sharp blade

★ Mark: Regular Stock ☆ Mark: Customized

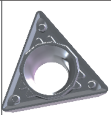
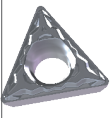
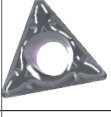
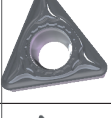
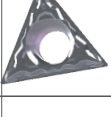
Cermet Turning Insert

TP



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

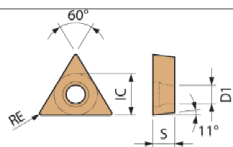
- : Continuous cutting
- : Slight intermittent cutting
- : Strong intermittent cutting

Shape	Type	Size (mm)				Cermet		PVD Cermet					推荐加工参数		
		RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)	
	TPMT 110304 FQ	0.40	6.35	3.18	3.3	★		☆		☆	☆	☆	0.5-1.5	0.10-0.20	
	TPMT 110304 PP	0.40	6.35	3.18	3.3	★		☆		☆	☆	☆	0.3-1.2	0.05-0.15	
	TPMT 090204 XP	0.40	5.56	2.38	2.8	★		☆		☆	☆	☆	0.2-1.0	0.03-0.15	
	TPMT 110308 PM	0.80	6.35	3.18	3.3	★		☆		☆	☆	☆	0.6-1.8	0.1-0.25	
	TPGT 090202 PP	0.20	5.56	2.38	2.8	★		☆		☆	☆	☆	0.1-0.3	0.05-0.10	
	110302 PP	0.20	6.35	3.18	3.3	★		☆		☆	☆	☆	0.12-0.45	0.05-0.10	
	TPGT 080202 R/L (无)	0.20	4.76	2.38	2.3	★		☆		☆	☆	☆	0.1-0.4	0.01-0.05	
	080204 R/L (无)	0.40	4.76	2.38	2.3	★		☆		☆	☆	☆	0.2-0.6	0.02-0.08	
	090202 R/L (无)	0.20	5.56	2.38	2.8	★		☆		☆	☆	☆	0.1-0.4	0.01-0.05	
	090204 R/L (无)	0.40	5.56	2.38	2.8	★		☆		☆	☆	☆	0.2-0.6	0.02-0.08	
	110302 R/L (无)	0.20	6.35	3.18	3.3	★		☆		☆	☆	☆	0.1-0.5	0.03-0.08	
	110304 R/L (无)	0.40	6.35	3.18	3.3	★		☆		☆	☆	☆	0.2-0.8	0.03-0.12	
	TPGH 080202 R/L (无)	0.20	4.76	2.38	2.3	★		☆		☆	☆	☆	0.1-0.4	0.01-0.05	
	080204 R/L (无)	0.40	4.76	2.38	2.3	★		☆		☆	☆	☆	0.2-0.6	0.02-0.08	
	090202 R/L (无)	0.20	5.56	2.38	2.8	★		☆		☆	☆	☆	0.1-0.4	0.01-0.05	
	090204 R/L (无)	0.40	5.56	2.38	2.8	★		☆		☆	☆	☆	0.2-0.6	0.02-0.08	
	110202 R/L (无)	0.20	6.35	2.38	3.7	★		☆		☆	☆	☆	0.1-0.4	0.02-0.08	
	110204 R/L (无)	0.40	6.35	2.38	3.7	★		☆		☆	☆	☆	0.2-0.6	0.02-0.10	
	110302 R/L (无)	0.20	6.35	3.18	3.3	★		☆		☆	☆	☆	0.1-0.5	0.03-0.08	
	110304 R/L (无)	0.40	6.35	3.18	3.3	★		☆		☆	☆	☆	0.2-0.8	0.03-0.12	
	TPGT 080202 R/L W	0.20	4.76	2.38	2.3	★		☆		☆	☆	☆	0.2-0.8	0.03-0.10	
	080204 R/L W	0.40	4.76	2.38	2.3	★		☆		☆	☆	☆	0.3-1.0	0.03-0.12	
	090202 R/L W	0.20	5.56	2.38	2.8	★		☆		☆	☆	☆	0.3-1.0	0.03-0.12	
	090204 R/L W	0.40	5.56	2.38	2.8	★		☆		☆	☆	☆	0.5-1.5	0.03-0.15	
	110302 R/L W	0.20	6.35	3.18	3.3	★		☆		☆	☆	☆	0.3-1.2	0.04-0.12	
	110304 R/L W	0.40	6.35	3.18	3.3	★		☆		☆	☆	☆	0.5-1.5	0.04-0.18	

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

TP



P	●	◐		◐		◐
M	●	●			◐	◐
K	●	◐				◐
N						
S						
H						

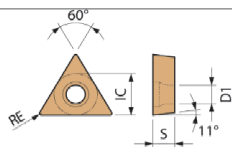
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

TC



P						
M						
K						
N						
S						
H						

- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

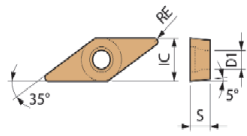
TB	<table border="1"> <tr> <td>P</td><td>●</td><td>◐</td><td></td><td>◐</td><td></td><td></td><td>◐</td></tr> <tr> <td>M</td><td>●</td><td>●</td><td></td><td></td><td>◐</td><td></td><td>◐</td></tr> <tr> <td>K</td><td>●</td><td>◐</td><td></td><td></td><td></td><td>◐</td><td>◐</td></tr> <tr> <td>N</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>S</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>H</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	P	●	◐		◐			◐	M	●	●			◐		◐	K	●	◐				◐	◐	N								S								H								● : Continuous cutting ◐ : Slight intermittent cutting ◑ : Strong intermittent cutting					
	P	●	◐		◐			◐																																															
	M	●	●			◐		◐																																															
	K	●	◐				◐	◐																																															
	N																																																						
	S																																																						
H																																																							
<table border="1"> <tr> <th rowspan="2">Shape</th> <th rowspan="2">Type</th> <th rowspan="2"></th> <th colspan="4">Size (mm)</th> <th colspan="2">Cermet</th> <th colspan="4">PVD Cermet</th> <th colspan="2">推荐加工参数</th> </tr> <tr> <th>RE</th> <th>IC</th> <th>S</th> <th>D1</th> <th>MP20PLUS MP30</th> <th>MP20V MP30V</th> <th>MP20AU MP20DX</th> <th>MP20HAA</th> <th>ap (mm)</th> <th>f (mm/rev)</th> </tr> </table>	Shape	Type		Size (mm)				Cermet		PVD Cermet				推荐加工参数		RE	IC	S	D1	MP20PLUS MP30	MP20V MP30V	MP20AU MP20DX	MP20HAA	ap (mm)	f (mm/rev)	<table border="1"> <tr> <td rowspan="2"> </td> <td>TBGT</td> <td>060102</td> <td>W</td> <td>0.20</td> <td>3.97</td> <td>1.59</td> <td>2.3</td> <td>★</td> <td>☆</td> <td>☆</td> <td>☆</td> <td>☆</td> <td>0.1-0.5</td> <td>0.03-0.08</td> </tr> <tr> <td></td> <td>060104</td> <td>W</td> <td>0.40</td> <td>3.97</td> <td>1.59</td> <td>2.3</td> <td>★</td> <td>☆</td> <td>☆</td> <td>☆</td> <td>☆</td> <td>0.2-0.8</td> <td>0.03-0.10</td> </tr> </table>		TBGT	060102	W	0.20	3.97	1.59	2.3	★	☆	☆	☆	☆	0.1-0.5	0.03-0.08		060104	W	0.40	3.97	1.59	2.3	★	☆	☆	☆	☆	0.2-0.8	0.03-0.10
Shape				Type		Size (mm)				Cermet		PVD Cermet				推荐加工参数																																							
	RE	IC	S			D1	MP20PLUS MP30	MP20V MP30V	MP20AU MP20DX	MP20HAA	ap (mm)	f (mm/rev)																																											
	TBGT	060102	W	0.20	3.97	1.59	2.3	★	☆	☆	☆	☆	0.1-0.5	0.03-0.08																																									
		060104	W	0.40	3.97	1.59	2.3	★	☆	☆	☆	☆	0.2-0.8	0.03-0.10																																									

★ Mark: Regular Stock

☆ Mark: Customized

Cermet Turning Insert

VC



P							
M							
K							
N							
S							
H							

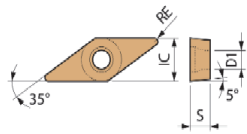
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

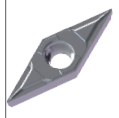
Cermet Turning Insert

VB



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

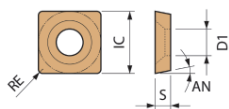
● : Continuous cutting
 ● : Slight intermittent cutting
 ● : Strong intermittent cutting

Shape		Type			Size (mm)				Cermet		PVD Cermet					推荐加工参数		
					RE	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)	
	VBMT	110304	FQ	0.40	6.35	3.18	2.8	★		☆		☆	☆	☆	0.5-1.2	0.05-0.20		
		160404	FQ	0.40	9.525	4.76	4.4	★		☆		☆	☆	☆	0.5-1.5	0.05-0.20		
		160408	FQ	0.80	9.525	4.76	4.4	★		☆		☆	☆	☆	0.5-1.8	0.08-0.22		
	VBMT	110304	VF	0.40	6.35	3.18	2.8	★		☆		☆	☆	☆	0.15-0.8	0.02-0.12		
		160404	VF	0.40	9.525	4.76	4.4	★		☆		☆	☆	☆	0.3-1.0	0.03-0.15		
	VBMT	160404	PS	0.40	9.525	4.76	4.4	★		☆		☆	☆	☆	0.3-1.2	0.05-0.20		
		160408	PS	0.80	9.525	4.76	4.4	★		☆		☆	☆	☆	0.5-1.5	0.08-0.22		
	VBMT	160404	TM	0.40	9.525	4.76	4.4	★		☆		☆	☆	☆	0.5-2.5	0.08-0.22		
		160408	TM	0.80	9.525	4.76	4.4	★		☆		☆	☆	☆	0.8-2.5	0.10-0.25		
	VBMT	110304	PF	0.40	6.35	3.18	2.8	★		☆		☆	☆	☆	0.3-1.2	0.05-0.20		
		110308	PF	0.80	6.35	3.18	2.8	★		☆		☆	☆	☆	0.5-1.2	0.1-0.25		
		160404	PF	0.40	9.525	4.76	4.4	★		☆		☆	☆	☆	0.3-1.5	0.05-0.22		
		160408	PF	0.80	9.525	4.76	4.4	★		☆		☆	☆	☆	0.4-1.8	0.12-0.30		
	VBGT	110302	PF	0.20	6.35	3.18	2.8	★		☆		☆	☆	☆	0.2-1.0	0.05-0.20		
		160402	PF	0.20	9.525	4.76	4.4	★		☆		☆	☆	☆	0.3-1.2	0.05-0.20		
	VBGT	110302	R/L F	0.20	6.35	3.18	2.8	★		☆		☆	☆	☆	0.1-0.3	0.02-0.12		
		110304	R/L F	0.40	6.35	3.18	2.8	★		☆		☆	☆	☆	0.1-0.5	0.03-0.15		
		160402	R/L F	0.20	9.525	4.76	4.4	★		☆		☆	☆	☆	0.1-0.3	0.02-0.12		
		160404	R/L F	0.40	9.525	4.76	4.4	★		☆		☆	☆	☆	0.1-0.5	0.03-0.15		
	VBGT	110302	R/L Y	0.20	6.35	3.18	2.8	★		☆		☆	☆	☆	0.2-1.0	0.03-0.15		
		110304	R/L Y	0.40	6.35	3.18	2.8	★		☆		☆	☆	☆	0.3-1.2	0.05-0.20		
		160402	R/L Y	0.20	9.525	4.76	4.4	★		☆		☆	☆	☆	0.2-1.0	0.03-0.15		
		160404	R/L Y	0.40	9.525	4.76	4.4	★		☆		☆	☆	☆	0.3-1.2	0.05-0.20		

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

SC



P	●	◐		◐			◐
M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

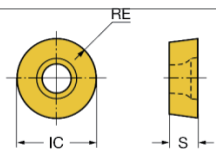
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★ Mark: Regular Stock ☆ Mark: Customized

[illegible]

Cermet Turning Insert

RC



P							
M							
K							
N							
S							
H							

- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Technical drawing of a right-hand screw thread. The top view shows a cylindrical part with a diameter of 2" and a length of 10 INSL. The side view shows the thread profile with a pitch of 1/2" and a length of 10 CDX. The end view shows the thread profile with a pitch of 1/2" and a length of 10 BW. The drawing is labeled "Right hand shown".

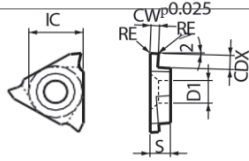
P	●	◐		◐			◐
M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

TGF



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

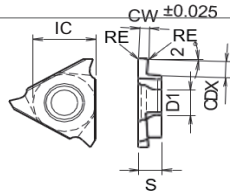
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

Shape	Type	Size (mm)								Cermet		PVD Cermet					Recommended parameters		
																	横向车削		切槽
		RE	CW	CDX	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)	f (mm/rev)		
	TGF 32 R 033	0.05	0.33	0.8	9.525	3.18	4.6	☆		☆		☆	☆	☆	X	X	0.01-0.05		
	TGF 32 R 050	0.05	0.50	1.2	9.525	3.18	4.6	☆		☆					X	X	0.01-0.05		
	TGF 32 R 075	0.10	0.75	2.0	9.525	3.18	4.6	★		☆					X	X	0.02-0.07		
	TGF 32 R 095	0.10	0.95	2.0	9.525	3.18	4.6	☆		☆					X	X	0.02-0.07		
	TGF 32 R 100	0.10	1.00	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 R 120	0.10	1.20	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 R 125	0.10	1.25	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 R 145	0.10	1.45	2.0	9.525	3.18	4.6	☆		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 R 150	0.10	1.50	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 R 175	0.10	1.75	2.0	9.525	3.18	4.6	☆		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 R 200	0.10	2.00	2.5	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 R 250	0.10	2.50	2.5	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 050	0.05	0.50	1.2	9.525	3.18	4.6	☆		☆					X	X	0.01-0.05		
	TGF 32 L 075	0.10	0.75	2.0	9.525	3.18	4.6	★		☆					X	X	0.02-0.07		
	TGF 32 L 095	0.10	0.95	2.0	9.525	3.18	4.6	☆		☆					X	X	0.02-0.07		
	TGF 32 L 100	0.10	1.00	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 120	0.10	1.20	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 125	0.10	1.25	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 145	0.10	1.45	2.0	9.525	3.18	4.6	☆		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 150	0.10	1.50	2.0	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 175	0.10	1.75	2.0	9.525	3.18	4.6	☆		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 200	0.10	2.00	2.5	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		
	TGF 32 L 250	0.10	2.50	2.5	9.525	3.18	4.6	★		☆					Max.0.2	0.03-0.06	0.03-0.08		

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

GBA



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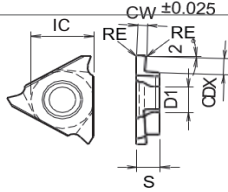
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

Shape		Type				Size (mm)						Cermet		PVD Cermet					Recommended parameters			
						RE	CW	CDX	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	横向车削		切槽	
																			ap (mm)	f (mm/rev)	f (mm/rev)	
		GBA	32	R	033	0.05	0.33	1.0	9.525	3.18	4.4	☆		☆				X	X	0.03-0.08		
		GBA	32	R	050	0.05	0.50	1.0	9.525	3.18	4.4	★		☆				X	X	0.03-0.08		
		GBA	32	R	075	0.05	0.75	2.0	9.525	3.18	4.4	☆		☆				X	X	0.03-0.08		
		GBA	32	R	095	0.05	0.95	2.0	9.525	3.18	4.4	☆		☆				X	X	0.03-0.08		
		GBA	32	R	100	0.05	1.00	2.0	9.525	3.18	4.4	★		☆				X	X	0.03-0.08		
		GBA	32	R	120	0.05	1.20	2.0	9.525	3.18	4.4	★		☆				X	X	0.03-0.08		
		GBA	32	R	125	0.20	1.25	2.0	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	R	145	0.20	1.45	2.0	9.525	3.18	4.4	☆		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	R	150	0.20	1.50	2.0	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	R	175	0.20	1.75	2.0	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	R	200	0.20	2.00	2.5	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	R	225	0.20	2.25	2.5	9.525	3.18	4.4	☆		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	R	250	0.20	2.50	2.5	9.525	3.18	4.4	★		☆				Max.0.5	0.05-0.1	0.05-0.1		
		GBA	32	R	300	0.20	3.00	2.5	9.525	3.18	4.4	☆		☆				Max.0.5	0.05-0.1	0.05-0.1		
		GBA	32	L	033	0.05	0.33	1.0	9.525	3.18	4.4	☆		☆				X	X	0.03-0.08		
		GBA	32	L	050	0.05	0.50	1.0	9.525	3.18	4.4	☆		☆				X	X	0.03-0.08		
		GBA	32	L	075	0.05	0.75	2.0	9.525	3.18	4.4	☆		☆				X	X	0.03-0.08		
		GBA	32	L	095	0.05	0.95	2.0	9.525	3.18	4.4	☆		☆				X	X	0.03-0.08		
		GBA	32	L	100	0.05	1.00	2.0	9.525	3.18	4.4	★		☆				X	X	0.03-0.08		
		GBA	32	L	120	0.05	1.20	2.0	9.525	3.18	4.4	★		☆				X	X	0.03-0.08		
		GBA	32	L	125	0.20	1.25	2.0	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	L	145	0.20	1.45	2.0	9.525	3.18	4.4	☆		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	L	150	0.20	1.50	2.0	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	L	175	0.20	1.75	2.0	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	L	200	0.20	2.00	2.5	9.525	3.18	4.4	★		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	L	225	0.20	2.25	2.5	9.525	3.18	4.4	☆		☆				Max.0.3	0.04-0.09	0.04-0.09		
		GBA	32	L	250	0.20	2.50	2.5	9.525	3.18	4.4	☆		☆				Max.0.5	0.05-0.1	0.05-0.1		
		GBA	32	L	300	0.20	3.00	2.5	9.525	3.18	4.4	☆		☆				Max.0.5	0.05-0.1	0.05-0.1		

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

GBA



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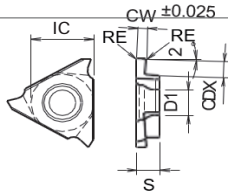
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

Shape	Type	Size (mm)								Cermet		PVD Cermet						Recommended parameters			
																		横向车削		切槽	
		RE	CW	CDX	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)	f (mm/rev)				
	GBA 43 R 125	0.10	1.25	2.0	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 125	0.20	1.28	2.0	12.70	4.76	5.5	★		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 140	0.20	1.40	2.0	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 145	0.20	1.45	2.0	12.70	4.76	5.5	★		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 150	0.10	1.50	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 150	0.20	1.50	3.5	12.70	4.76	5.5	★		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 170	0.20	1.70	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 175	0.20	1.75	3.5	12.70	4.76	5.5	★		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 185	0.20	1.85	3.5	12.70	4.76	5.5	★		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 195	0.20	1.95	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 200	0.10	2.00	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 200	0.20	2.00	3.5	12.70	4.76	5.5	★		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 225	0.20	2.25	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09				
	GBA 43 R 230	0.20	2.30	3.5	12.70	4.76	5.5	★		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 250	0.10	2.50	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 250	0.30	2.50	4.0	12.70	4.76	5.5	★		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 265	0.30	2.65	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 280	0.30	2.80	4.0	12.70	4.76	5.5	★		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 300	0.10	3.00	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 300	0.30	3.00	4.0	12.70	4.76	5.5	★		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 325	0.30	3.25	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1				
	GBA 43 R 330	0.30	3.30	4.0	12.70	4.76	5.5	★		☆					Max.0.5	0.05-0.1	0.05-0.12				
	GBA 43 R 350	0.10	3.50	5.0	12.70	4.76	5.5	★		☆					Max.0.5	0.05-0.1	0.05-0.12				
	GBA 43 R 350	0.30	3.50	5.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.12				
	GBA 43 R 400	0.10	4.00	5.0	12.70	4.76	5.5	☆		☆					Max.0.8	0.05-0.1	0.05-0.12				
	GBA 43 R 400	0.40	4.00	5.0	12.70	4.76	5.5	★		☆					Max.0.8	0.05-0.1	0.05-0.12				
	GBA 43 R 430	0.40	4.30	5.0	12.70	4.76	5.5	★		☆					Max.0.8	0.05-0.1	0.05-0.12				
	GBA 43 R 450	0.40	4.50	5.0	12.70	4.76	5.5	★		☆					Max.0.8	0.05-0.1	0.05-0.12				
	GBA 43 R 480	0.40	4.80	5.0	12.70	4.76	5.5	★		☆					Max.0.8	0.05-0.1	0.05-0.12				

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

GBA



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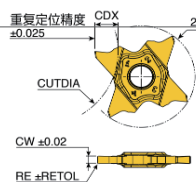
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

Shape	Type				Size (mm)					Cermet		PVD Cermet					Recommended parameters			
																	横向车削		切槽	
					RE	CW	CDX	IC	S	D1	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)	f (mm/rev)
	GBA	43	L	125	0.10	1.25	2.0	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	125	0.20	1.28	2.0	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	140	0.20	1.40	2.0	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	145	0.20	1.45	2.0	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	150	0.10	1.50	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	150	0.20	1.50	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	170	0.20	1.70	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	175	0.20	1.75	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	185	0.20	1.85	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	195	0.20	1.95	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	200	0.10	2.00	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	200	0.20	2.00	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	225	0.20	2.25	3.5	12.70	4.76	5.5	☆		☆					Max.0.3	0.04-0.09	0.04-0.09
	GBA	43	L	230	0.20	2.30	3.5	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	250	0.10	2.50	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	250	0.30	2.50	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	265	0.30	2.65	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	280	0.30	2.80	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	300	0.10	3.00	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	300	0.30	3.00	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	325	0.30	3.25	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.1
	GBA	43	L	330	0.30	3.30	4.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.12
	GBA	43	L	350	0.10	3.50	5.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.12
	GBA	43	L	350	0.30	3.50	5.0	12.70	4.76	5.5	☆		☆					Max.0.5	0.05-0.1	0.05-0.12
	GBA	43	L	400	0.10	4.00	5.0	12.70	4.76	5.5	☆		☆					Max.0.8	0.05-0.1	0.05-0.12
	GBA	43	L	400	0.40	4.00	5.0	12.70	4.76	5.5	☆		☆					Max.0.8	0.05-0.1	0.05-0.12
	GBA	43	L	430	0.40	4.30	5.0	12.70	4.76	5.5	☆		☆					Max.0.8	0.05-0.1	0.05-0.12
	GBA	43	L	450	0.40	4.50	5.0	12.70	4.76	5.5	☆		☆					Max.0.8	0.05-0.1	0.05-0.12
	GBA	43	L	480	0.40	4.80	5.0	12.70	4.76	5.5	☆		☆					Max.0.8	0.05-0.1	0.05-0.12

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Turning Insert

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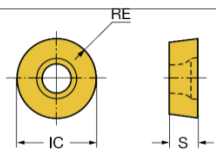
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

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★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

RC



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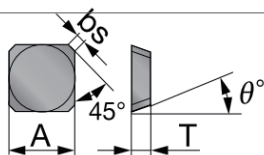
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

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★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

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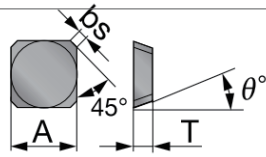
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

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★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

SD



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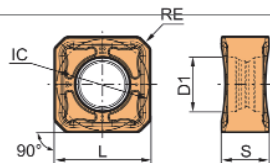
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

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★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

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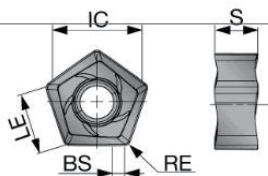
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

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★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

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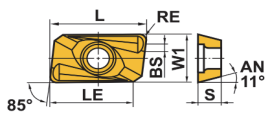
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

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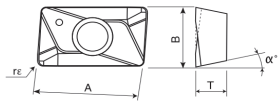
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

ZPMT



P	●	◐		◑		◑
M	●	●			◑	◑
K	●	◐			◐	◑
N						
S						
H						

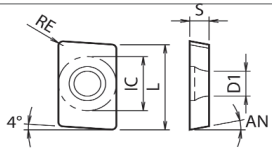
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

ND



P						
M						
K						
N						
S						
H						

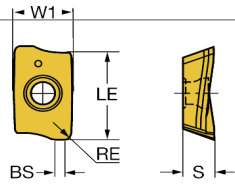
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

R390



P	●	◐		◐			◐
M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

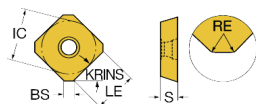
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

R245



P						
M						
K						
N						
S						
H						

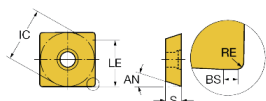
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Milling Insert

R290



P	●	◐		◐			◐
M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

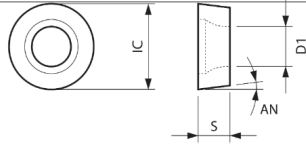
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Bearing Insert

RP



P	●	◐		◐			◐
M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

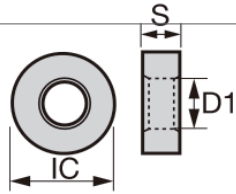
[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Bearing Insert

RN

圆形.负角.有孔



P	●	◐		◑			◑
M	●	●			◑		◑
K	●	◐				◐	◐
N							
S							
H							

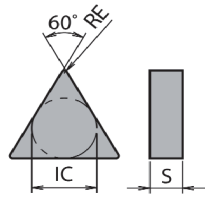
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Bearing Insert

TN



P	●	◐		◐			◐
M	●	●			◐		◐
K	●	◐				◐	◐
N							
S							
H							

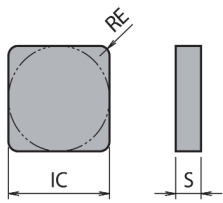
- : Continuous cutting
- ◐ : Slight intermittent cutting
- ◑ : Strong intermittent cutting

[illegible]

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Bearing Insert

SN



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

- : Continuous cutting
- : Slight intermittent cutting
- : Strong intermittent cutting

Shape	Type	Size (mm)				Cermet		PVD Cermet				Recommended parameters	
		RE	IC	S		MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)
	SNMN 090304	0.40	9.525	3.97		★	★						
	120308	0.80	12.7	3.97		★	★						
	120408	0.80	12.7	4.76		★	★						
	150408	0.80	15.875	4.76		★	★						

★ Mark: Regular Stock ☆ Mark: Customized

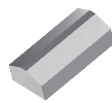
Cermet Bearing Insert

F Type

(无图片)

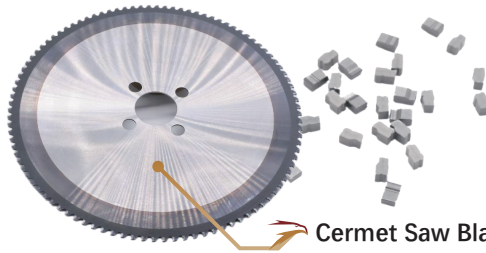
P	●	●	●	●	●	●
M	●	●	●	●	●	●
K	●	●	●	●	●	●
N	●	●	●	●	●	●
S	●	●	●	●	●	●
H	●	●	●	●	●	●

- : Continuous cutting
- : Slight intermittent cutting
- : Strong intermittent cutting

Shape	Type		(mm)				Cermet							Recommended parameters	
			DEG	L	B	S	MP20PLUS	MP30	MP20V	MP30V	MP20AU	MP20DX	MP20HAA	ap (mm)	f (mm/rev)
	F	8	90°	20.6	8.6	8.65	★	★							
		10	90°	20.6	10.6	8.65	★	★							
		12B	120°	26.6	12.6	8.6	★	★							
		12	120°	26.6	12.6	9.8	★	★							
	*	15	120°	32	15.2	10.2	☆	★							
	*	16	120°	32	16.2	10.2	☆	★							
	*	20	120°	36.5	20.2	11.1	☆	★							

★ Mark: Regular Stock ☆ Mark: Customized

Cermet Saw Tips



Grade	Density (g/cm ³)	HardnessHV30 (kgf/mm ²)	TRS (Mpa)	KIC (Mpa.m ^{1/2})
MP99	7.25	1490	2300	11.5

MP99 It combines wear resistance and high toughness, is highly versatile, has excellent red hardness, low coefficient of friction with steel materials, and good chemical stability, making it suitable for automatic circular saws and handheld power tools.

Cermet Saw Blade

Type	Size								Cermet	Regular Stock
	L	T	W	L1	α°	β°	θ°	F		
DG-451824-A	4.5	1.8	2.4	1	80	17	-	0.5*45°	MP99	★
DG-602025-A	6	2	2.5	1	80	17	-	0.5*45°	MP99	★

Type	Size								Cermet	Regular Stock
	L	T	W	L1	α°	β°	θ°	F		
DG-471922-B	4.7	1.9	2.2	-	75	-	-	0.5*45°	MP99	★
DG-471925-B	4.7	1.9	2.5	-	75	-	-	0.5*45°	MP99	★
DG-471935-B	4.7	1.9	3.5	-	75	-	-	0.5*45°	MP99	★

Type	Size								Cermet	Regular Stock
	L	T	W	L1	α°	β°	θ°	F		
LJ-452623-A	4.5	2.6	3.3	2.1	8	32	9	0.5*45°	MP99	★

Type	Size								Cermet	Regular Stock
	L	T	W	L1	α°	β°	θ°	F		
LJ-452623-B	4.5	2.6	2.3	2.2	8	-	5	0.5*45°	MP99	★

Type	Size								Cermet	Regular Stock
	L	T	W	L1	α°	β°	θ°	F		
LJ-422323	4.2	2.3	2.3	2.1	12	23	-	R0.5	MP99	★

★ Mark: Regular Stock ☆ Mark: Customized