CERA-TECH™

INSPECTED

General Catalog 2024–25



CERA-TECH
INSPECTED

COMPANY PROFILE

Ceratech India LTD. is a Trusted Supplier of Premium Cutting tool Imported from Leading manufacturers in China and distribution across India. with a Strong focus on precision durability and performance. we delivered advance cutting solution designed to meet the needs of Industrial manufacturing. Automotive and engineering sector with high performance product quality, Ceratech has successfully entered In India. In Comparison with other Companies especially in the milling series. It has developed Significant advantages. Every product is sourced from Certified factories and undergoes strict quality cheeky TO ensure Pricing Superior performance at Competitive prising

The company has always achieved to the quality. Policy of people oriented, technological Innovation customer first and excellent quality strengthened Internal management and provided customers with high quality carbide production and technical services.

Looking forward to the Future The company will continue to adhere to the principle of customer First mutual benefits and win-win cooperation & fully meets the need of customers. For different works pierce and different condition there are corresponding product Series OEM and nonstandard productions customization services can be provided.

CVD COATED

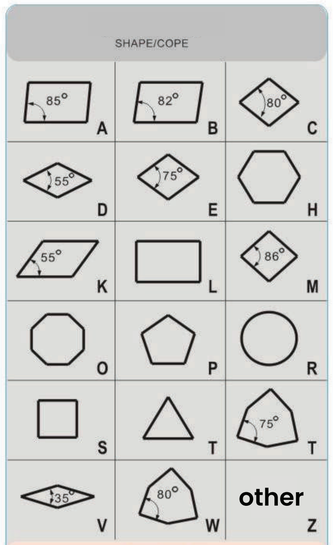
ISO	GRADE	Colour	Description
P	TC15P	Black/Yellow	Wear-resistance materials coated on the gradient sintered substrate which has both good hardness, toughness. Can bear high temperatures. For steel and steel castings finishing to roughing processing, Continue cutting to light interrupted cutting. Machining of gray and ductile iron at low to medium cutting speed.
	TC20P	Blace/Yellow	Universal grade, suitable for steel and cast steel continuous cutting and interrupted cutting finishing to roughing. Grades with a wide range of applications. Stainless steel continuous cutting and interrupted cutting.MT-CVD
	TC25P	Yellow	High-strength alloy substrate with thick wear-resistant coating. Machining steel and cast steel in bad conditions. Edge line security for interrupted cutting high metal removal rate.
	TC7020	Golden	High hardness cemented carbide substrate in combination with nano TiCN+Al2O3 coating, with high strength surface treatment technology significantly improves versatility, suitable for semi-finishing and roughing of steel materials.
	TC1015	Black	High quality carbide substrate in combination with TiCN+Al2O3 coating, with very good wearing resistance, and suitable for semi-finishing to finishing steel machining.
K	TC10K	Black/Yellow	Ultra-fine grained carbide substrate in combintaion with Multi-layer TiCN+Al2O3 coating, with wear resistance and can ensuring good performance under high-speed cutting conditions. Suitable for medium-to-heavy duty cutting ISO K materials.
	TC15K	Black/Yellow	MT-CVD coated, the substrate with excellent toughness in combination with Aluminum Oxide coating technology for roughing and finishing of cast iron. MT-CVD
	TC5255	Black	MT-CVD coated, perfect grade for castng iron, also workable for Nodular cast iron, gray cast iron, steel parts. MT-CVD

CERMET INSERTS

GRADE	Colour	Description
T15	Grey	Suitable for semi-finishing to finishing processing of steel parts, stainless steel, aluminum alloy and other materials with HRC<40.
TP10	Yellow	Cermet substrate, combined with PVD coating, has the characteristics of efficient processing and high wear resistance, and has strong versatility.

PVD COATED

ISO	GRADE	Colour	Description
P	TP6025	Colourful	Suitable for steel, harden steel, stainless steel, SS304, SKD11 etc. HRC<55
	TP5355	Yellow	Suitable for rough machining of steel parts and cast iron.Work well on HRC45°below materials.
	TP9508	Ash Black	Preferred for general processing, suitable for processing P/M/K/S material below. HRC52°—
	TP2052C	Colorful	Suitable for processing steel, stainless steel, cast iron and other materials.work well on HRC42° below, 45# steel, A3 and other soft steel processing performance.
	TP5353E	Ash Black	Not easy to stick blade, suitable for processing steel, stainless steel, cast iron and other materials, HRC45° below.
	TP1605	Blue	PVD Nano coated, general purpose grade substrate with excellent endurance in combination with blue Nano coating for stainless steel, steel and superalloy with hardness below HRC60PVD.
M	TP15M	Purple	PVD coated, High Co content and fine WC grain substrate, gives wonderful cutting edge strength, combines with good thermal stability silicon coating, it has very small coefficient of friction, and good nano hardness. PVD
	TP825M	Bronze	The fine-particle cemented carbide matrix, combined with the nano-scale AlTiSiN silicon-containing coating, has good wear resistance and high temperature resistance, and is suitable for continuous processing of stainless steel materials.
	TP10H	Dark Bronze	Fine grain cemented carbide substrate, in combination with Nano coating. Suitable for hard material and stainless steel, various steel and cast iron etc.
	TP30M	Colourful	PVD coated with strong versatility, suitable for Steel, 20cr, stainless steel, etc. HRC<38PVD
K	TP9108	Bronze	Suitable for processing steel, stainless steel, titanium alloy and other materials, work well on HRC50° below, manganese steel, spring steel etc materials.
S	TP9105	Bronze	Perfect grade for casting iron. also suitable for steel, stainless steel, titanium alloy.
	TP1530	Ash Black	Ultra-fine grained carbide matrix, combined with advanced ALcrTiN coating, has good cutting stress and is suitable for processing steel parts, stainless steel, cast iron and high-temperature alloys.
H	TP9502S	Golden Yellow	The carbide substrate with high wear resistance, combined with the Arc coating, has good wear resistance and is outstanding in processing in the fields of titanium alloys, nickel-based alloys, stainless steel and aluminum alloys.
	TP4351E	Bronze	The high-hardness cemented carbide substrate, combined with nanocomposite AlTiSiN coating technology, has strong oxidation resistance and red hardness, and is suitable for processing steel parts and stainless steel with an HRC60° or less.
	TP4351C	Colorful	Suitable for machining hardening steel, die steel, high temperature alloy steel and other high hardness machining and general processing, processing hardness HRC65° below, can also process stainless steel and high temperature alloy.
	TC15H	Colorful	High-strength cemented carbide substrate, combined with nano-level ALTIN coating, extends tool life and shows excellent processing performance in the field of quenched material processing, suitable for processing within HRC62°.



Shape Code

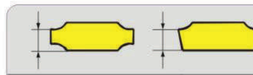
MATRIC SYSTEM

Code Name	Holes present	Chip Breaker Groove Present	Blade Profile	Code Name	Holes present	Chip Breaker Groove Present	Blade Profile
B	YES	None	>65°	N	None	None	
H	YES	Single Sided	>65°	R	None	Single Sided	
C	YES	None	>65°	F	None	Single Sided	
J	YES	Single Sided	>65°	A	YES	None	
W	YES	None	≤65°	M	YES	Single Sided	
T	YES	Single Sided	≤65°	G	YES	Single Sided	
Q	YES	None	≤65°	X	---	---	Special
U	YES	Single Sided	≤65°				

Chip breakers and clamping methods

Inscribed circle diameter (mm)	Blade Shape C	D	R	S	T	V	W	K
3.97					06			
5.0			05					
5.56					09			
6.0			06					
6.35	06	07			11	11		
8.0			08					
9.525	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.0		19	16					
19.05	19		19	19	33			
20.0			20					
25.0	25	25	25					
25.4			25	25				
31.75			31					
32			32					

Cutting Edge Length



The degree refers to the height between the bottom surface of the cutting blade and the highest point of the cutting edge.

Code Name	Blade thickness(mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.56
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

Blade Thickness

T N M G

Rake angle of main cutting edge

Code Name	Rear Corner	Code Name	Rear Corner
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Other back corners

Tolerance



CODE:	Tool tip height (m) Tolerance (mm)	Inscribed circle OI.C Tolerance (mm)	Thickness S Tolerance (mm)
A	±0.005	±0.025	±0.025
F	±0.005	±0.013	±0.025
C	±0.013	±0.025	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J	±0.005	±0.05-±0.13	±0.025
K	±0.013	±0.05-±0.13	±0.025
L	±0.025	±0.05-±0.13	±0.025
M	±0.08-±0.18	±0.05-±0.13	±0.13
N	±0.08-±0.18	±0.05-±0.13	±0.025
U	±0.13-±0.38	±0.08-±0.25	±0.13

(Reference) Detailed information on M-grade accuracy (categorized by shape and size)

● Tool tip height tolerance (mm)

Inscribed Circle	Equilateral Triangle	Inscribed Circle	80° Rhombus	55° Rhombus	35° Rhombus	Round
6.35	±0.08	±0.08	±0.08	±0.11	±0.16	---
9.525	±0.08	±0.08	±0.08	±0.11	±0.16	---
12.7	±0.13	±0.13	±0.13	±0.15	---	---
15.875	±0.15	±0.15	±0.15	±0.18	---	---
19.05	±0.15	±0.15	±0.15	±0.18	---	---
25.4	---	±0.18	---	---	---	---

● Inscribed circle OI.C tolerance (mm)

Inscribed Circle	Equilateral Triangle	Inscribed Circle	80° Rhombus	55° Rhombus	35° Rhombus	Round
6.35	±0.05	±0.05	±0.05	±0.05	±0.05	---
9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
12.7	±0.08	±0.08	±0.08	±0.08	---	±0.08
15.875	±0.10	±0.10	±0.10	±0.10	---	±0.10
19.05	±0.10	±0.10	±0.10	±0.10	---	±0.10
25.4	---	±0.13	---	---	---	±0.13

22 04 08 - DM (ISO)

4 3 2 (INCH)

Inscribed Circle

code name	(mm)
2	6.35
3	9.525
4	12.7
5	15.875
6	19.05
8	25.4

Thickness

code name	(mm)
2	3.18
3	4.76
4	6.35
5	7.94
6	9.52

Blade Tip Radius

code name	(mm)
0	0.2
1	0.4
2	0.8
3	1.2
4	1.6
5	2.0
6	2.4

Blade Tip Arc Code

code name	(mm)
00	无圆角
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	other
Blade diameter size Mo (metric)	Round blade

Chip Breaker Groove Type Code

DF	DM	DR
HF	HM	HR
EF	EM	ER
NF	NM	SF
PM	HR	WGF

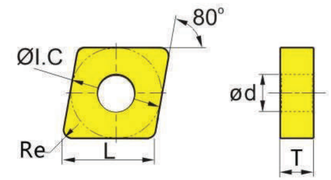
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TURNING INSERT



CN□□

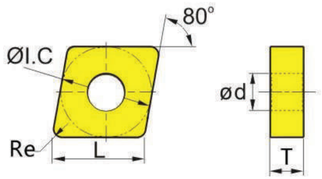
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CN**1204...	12.7	4.76	5.16
CN**1606...	15.875	6.35	6.35
CN**1906...	19.05	6.35	7.94
CN**2509...	25.4	9.52	9.2



Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S	H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Finishing		CNMG090304-PF	0.4																			
		090308-PF	0.8	●	●																	
		120404-PF	0.4																			
		120408-PF	0.8																			
		120412-PF	1.2																			
Semi-finishing		CNMG120404-MA	0.4																			
		120408-MA	0.8																			
		120412-MA	1.2			●			●	●	●	●	●	●					●			
Semi-finishing		CNMG120404-SM	0.4																			
		120408-SM	0.8																			
		120412-SM	1.2								●		●							●		●
Semi-finishing		CNMG120404-HA	0.4																			
		120408-HA	0.8																			
		120412-HA	1.2				●			●	●	●		●	●				●			
Semi-finishing		CNMG120404-TM	0.4																			
		120408-TM	0.8																			
		120412-TM	1.2	●	●		●	●	●				●	●					●			
Semi-finishing		CNMG120404-PM	0.4																			
		120408-PM	0.8																			
		120412-PM	1.2	●	●	●		●														
		160612-PM	1.2																			
		190612-PM	1.2																			
Semi-finishing		CNMG120404-HQ	0.4																			
		120408-HQ	0.8																			
		120412-HQ	1.2		●	●							●	●						●		

CN□□

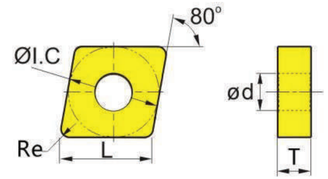
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CN**0903..	9.25	3.18	3.81
CN**1204...	12.7	4.76	5.16
CN**1606...	15.875	6.35	6.35
CN**1906...	19.05	6.35	7.94
CN**2509...	25.4	9.52	9.2

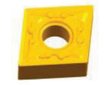


Applications	Shape	Code	Radius	Grade																		
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				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		CNMG120404-MS	0.4																			
		120408-MS	0.8																			
		160612-MS	1.2	●	●	●	●	●							●	●						
		190612-MS	1.2																			
Semi-finishing		CNMG120404-GH	0.4																			
		120408-GH	0.8																			
		120412-GH	1.2	●	●	●	●	●							●	●						
		120416-GH	1.6																			
Roughing		CNMG120408-CM	0.8																			
		160612-CM	1.2																			
		190612-CM	1.2	●	●										●	●						
Roughing		CNMA120404	0.4																			
		120408	0.8																			
		120412	1.2					●							●	●	●					
		160608	0.8																			
		160612	1.2																			
		160616	1.6																			
Semi-finishing		CNMG120404-YM	0.4																			
		120408-YM	0.8							●				●								
		120412-YM	1.2																			
Semi-finishing		CNMG120404-PR	0.4																			
		120408-PR	0.8			●											●					
		120412-PR	1.2																			
Roughing		CNMG120404R-S	0.4																			
		120408R-S	0.8																			
		120412R-S	1.2			●											●					

CN□□

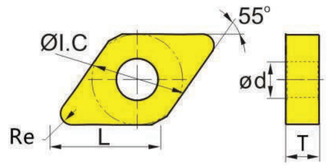
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CN**1606...	15.875	6.35	6.35
CN**1906...	19.05	6.35	7.94
CN**2509...	25.4	9.52	9.2

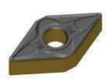
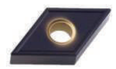


Applications	Shape	Code	Radius	Grade																		
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Semi-finishing		CNMG120404-ZMP	0.4																			
		120408-ZMP	0.8																			
		CNMG120402-ZLF	0.2								●											
		120404-ZLF	0.4																			
		120408-ZLF	0.2																			
Roughing		CNMG120404-TF2	0.4																			
		120408-TF2	0.8																			
								●												●		
Semi-finishing		CNMG120408-JMS	0.8																			
		120412-JMS	1.2							●		●	●		●							
Finishing		CNMG120404-MSF	0.4																			
		120408-MSF	0.8							●		●										
Semi-finishing		CNMG120404-43	0.4																			
		120408-43	0.8																			
		120412-43	1.2	●	●	●																
Semi-finishing		CNMG120404-CQ	0.4																			
		120402-CQ	0.8																			
				●	●	●																

DN□□

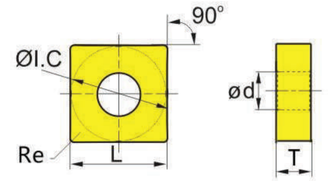
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DN**1504..	12.7	4.76	5.16
DN**1506..	12.7	6.35	5.16



Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		DNMG150404-HQ	0.4																			
		150408-HQ	0.8			●					●											
		150412-HQ	1.2																			
Semi-finishing		DNMG150404-PM	0.4																			
		150408-PM	0.8																			
		150412-PM	1.2	●	●	●	●	●														
Semi-finishing		DNMG150404-MA	0.4																			
		150408-MA	0.8																			
		150412-MA	1.2			●			●	●	●	●	●	●					●	●			
		150604-MA	0.4																			
		150608-MA	0.8																			
Semi-finishing		DNMG150404-TM	0.4																			
		150408-TM	0.8																			
		150412-TM	1.2	●	●	●	●	●														
		150604-TM	0.4																			
		150608-TM	0.8																			
		150612-TM	1.2																			
Finishing		DNMG150404-PF	0.4																			
		150408-PF	0.8	●	●																	
		150412-PF	1.2																			
Semi-finishing		DNMG150404-MS	0.4																			
		150408-MS	0.8																			
		150412-MS	1.2	●	●	●	●	●							●	●						
		150604-MS	0.4																			
		150608-MS	0.8																			
		150612-MS	1.2																			
Roughing		DNMA150404	0.4																			
		150408	0.8					●							●	●	●					
		150412	1.2																			

SN□□

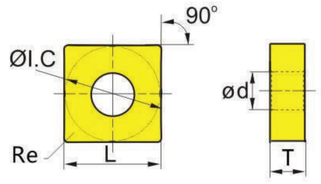
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SN**1506..	15.875	6.35	6.35
SN**1906..	19.05	6.35	7.94
SN**2507..	25.4	7.94	9.12



Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		SNMG120404-HQ	0.4																			
		120408-HQ	0.8			●					●											
		120412-HQ	1.2																			
Semi-finishing		SNMG120402-HA	0.2																			
		120404-HA	0.4				●		●	●	●		●	●				●				
		120408-HA	0.8																			
Semi-finishing		SNMG120404-TM	0.4																			
		120408-TM	0.8	●	●	●	●	●														
		120412-TM	1.2																			
Semi-finishing		SNMG120404-YM	0.4																			
		120408-YM	0.8							●			●									
		120412-YM	1.2																			
Semi-finishing		SNMG120404-MA	0.4																			
		120408-MA	0.8			●			●	●	●	●	●	●					●	●		
		120412-MA	1.2																			
Semi-finishing		SNMG120404-JMS	0.4																			
		120408-JMS	0.8						●		●	●		●								
		120412-JMS	1.2																			
Semi-finishing		SNMG120404-MS	0.4																			
		120408-MS	0.8	●	●	●	●	●														
		120412-MS	1.2												●	●						
Roughing		SNMA120404	0.4																			
		120408	0.8				●								●	●	●					
		120412	1.2																			

SN□□

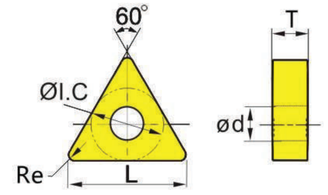
Code	L	T	⌀d
SN**1204..	12.7	4.76	5.16
SN**1506..	15.875	6.35	6.35
SN**1906..	19.05	6.35	7.94
SN**2507..	25.4	7.94	9.12



Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		SNMG120404-ZTM	0.4																			
		120408-ZTM	0.8						●		●											
		120412-ZTM	1.2																			
Roughing		SNMG120404L/R-S	0.4																			
		120408L/R-S	0.8	●				●	●		●											
		120412L/R-S	1.2																			

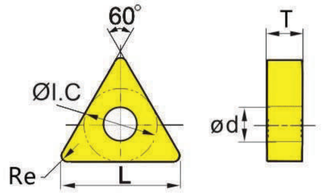
TN□□

Code	L	T	⌀d
TN**1604..	9.525	4.76	3.81
TN**2204..	12.7	4.76	5.16



Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Finishing		TNMG160404-PF	0.4																			
		160408-PF	0.8	●	●																	
Semi-finishing		TNMG160404-HQ	0.4																			
		160408-HQ	0.8			●					●											
		160412-HQ	1.2																			
Semi-finishing		TNMG160404-PM	0.4																			
		160408-PM	0.8	●	●																	
		160412-PM	1.2																			
Semi-finishing		TNMG160404-HA	0.4																			
		160408-HA	0.8				●		●	●	●		●	●				●				
Semi-finishing		TNMG160404-TM	0.4																			
		160408-TM	0.8	●	●	●	●	●														
Semi-finishing		TNMG160404-JMS	0.4																			
		160408-JMS	0.8						●		●	●		●								
		160412-JMS	1.2																			
Semi-finishing		TNMG160404-MA	0.4																			
		160408-MA	0.8			●			●	●	●	●	●	●					●	●		
		160412-MA	1.2																			

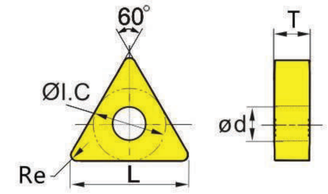
TN□□



Code	L	T	⌀d
TN**1604..	9.525	4.76	3.81
TN**2204..	12.7	4.76	5.16

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		TNMG160404-MS	0.4	●	●	●	●	●							●	●							
		160408-MS	0.8																				
		160412-MS	1.2																				
		220404-MS	0.4																				
		220408-MS	0.8																				
		220412-MS	1.2																				
Roughing		TNMG160404L/R-S	0.4	●				●	●			●											
		160408L/R-S	0.8						●														
		160412L/R-S	1.2																				
Roughing		TNMA160404	0.4																				
		160408	0.8					●							●	●	●						
		160412	1.2																				
Semi-finishing		TNMG160402-YM	0.2																				
		160404-YM	0.4							●					●								
		160408-YM	0.8																				
		160412-YM	1.2																				
Finishing		TNMG160404-MSF	0.4																				
		160408-MSF	0.8						●		●												
Semi-finishing		TNMG160404-CQ	0.4																				
		160408-CQ	0.8																				
		160412-CQ	1.2	●		●		●															
Semi-finishing		TNMG160404-43	0.4																				
		160408-43	0.8	●		●																	

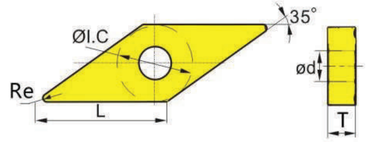
TN□□



Code	L	T	⌀d
TN**1604..	9.525	4.76	3.81
TN**2204..	12.7	4.76	5.16

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		TNMG160404-TF2	0.4																				
		160408-TF2	0.8								●										●		
Semi-finishing		TNMG160404-BF	0.4																				
		160408-BF	0.8								●		●										
Semi-finishing		TNMG160402-ZMS	0.2																				
		160404-ZMS	0.4								●												
		160408-ZMS	0.8																				
Semi-finishing		TNMG160404-ZMP	0.4																				
		160408-ZMP	0.8								●												

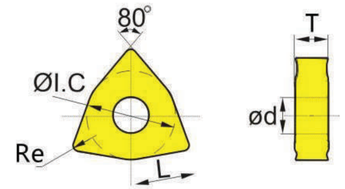
VN□□



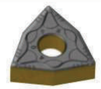
Code	L	T	⌀d
VN**1604..	9.525	4.76	3.81

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10M	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Finishing		VNMG160404-PF	0.4	●	●																	
Semi-finishing		VNMG160404-YM	0.4											●								
		160408-YM	0.8																			
Semi-finishing		VNMG160404-PM	0.4	●	●																	
		160408-PM	0.8																			
Semi-finishing		VNMG160404-TM	0.4	●	●	●	●	●														
		160408-TM	0.8																			
Semi-finishing		VNMG160404-MA	0.4																			
		160408-MA	0.8			●			●	●	●	●	●	●					●	●		
Semi-finishing		VNMG160404-JMS	0.4																			
		160408-JMS	0.8						●		●	●		●								
Semi-finishing		VNMG160404-MS	0.4	●	●	●	●	●														
		160408-MS	0.8												●	●						

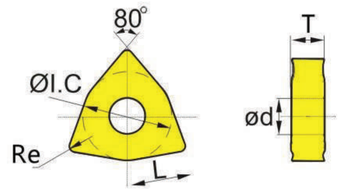
WN□□



Code	L	T	⌀d
WN**0604..	9.525	4.76	3.81
WN**0804..	9.525	4.76	5.16

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Finishing		WNMG080408-PF	0.8	●	●																●		
Semi-finishing		WNMG080404-HQ	0.4																				
		080408-HQ	0.8			●					●												
		080412-HQ	1.2																				
Semi-finishing		WNMG080404-PM	0.4																				
		080408-PM	0.8	●		●																	
		080412-PM	1.2																				
Semi-finishing		WNMG080404-TM	0.4																				
		080408-TM	0.8	●	●	●	●	●															
		080412-TM	1.2																				
Semi-finishing		WNMG080404-HA	0.4																				
		080408-HA	0.8			●			●	●	●		●	●				●					
Semi-finishing		WNMG080404-JMS	0.4																				
		080408-JMS	0.8						●		●	●		●									
		080412-JMS	1.2																				
Semi-finishing		WNMG06T312-MA	1.2																				
		080404-MA	0.4																				
		080408-MA	0.8			●			●	●	●	●	●	●							●	●	
		080412-MA	1.2																				
		100608-MA	0.8																				

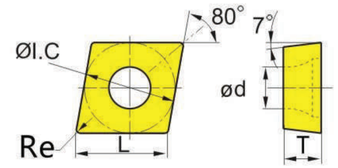
WN□□



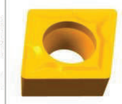
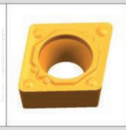
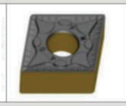
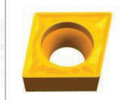
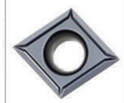
Code	L	T	⌀d
WN**0604..	9.525	4.76	3.81
WN**0804..	9.525	4.76	5.16

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10M	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		WNMG080404-MS	0.4																			
		080408-MS	0.8	●	●	●	●	●							●	●							
		080412-MS	1.2																				
Roughing		WNMG080404L/R-S	0.4																			
		080408L/R-S	0.8	●				●	●		●												
		080412L/R-S	1.2																				
Roughing		WNMA080404	0.4																			
		080408	0.8					●							●	●	●						
		080412	1.2																				
Semi-finishing		WNMG080404-YM	0.4																			
		080408-YM	0.8											●									
		080412-YM	1.2																				
Semi-finishing		WNMG080404-BF	0.4																			
		080408-BF	0.8									●	●										
Semi-finishing		WNMG080402-ZMS	0.2																			
		080404-ZMS	0.4									●											
		080408-ZMS	0.8																				
		WNMG080408-ZMP	0.8																				
Finishing		WNMG080404-MSF	0.4																			
		080408-MSF	0.8						●			●											

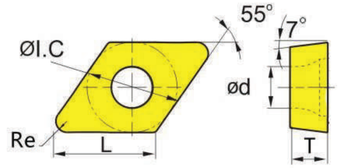
CC□□



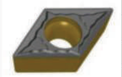
Code	L	T	⌀d
CC...0602..	6.35	2.38	2.8
CC..09T3..	9.525	3.97	4.4
CC..1204..	12.7	4.76	5.5

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		CCMT060204-TF	0.4																			
		060208-TF	0.8																			
		09T304-TF	0.4			●			●	●	●	●	●			●	●						
		09T308-TF	0.8																				
		120404-TF	0.4																				
		120408-TF	0.8																				
Semi-finishing		CCMT060202-HQ	0.2																			
		060204-HQ	0.4																				
		060208-HQ	0.8			●																	
		09T304-HQ	0.4																				
		9T308-HQ	0.8																				
Semi-finishing		CCMT060204-PM	0.4																			
		09T304-PM	0.4	●	●																		
		09T308-PM	0.8																				
Semi-finishing		CCMT060204-HMP	0.4																			
		060208-HMP	0.8																				
		09T304-HMP	0.4	●		●		●															
		09T308-HMP	0.8																				
		120404-HMP	0.4																				
		120408-HMP	0.8																				
Finishing		CCMT060202-PF	0.2																			
		060204-PF	0.4	●	●																		
		09T304-PF	0.4																				
Finishing		CCMT060202-ZLF	0.2																			
		060204-ZLF	0.4																				
		060208-ZLF	0.8																				
		09T304-ZLF	0.4								●									●	●		
		09T308-ZLF	0.8																				
		120404-ZLF	0.4																				
		120408-ZLF	0.8																				
Finishing		CCMT060204-ZTM	0.4																			
		060208-ZTM	0.8																				
		09T304-ZTM	0.4								●												
		09T308-ZTM	0.8																				

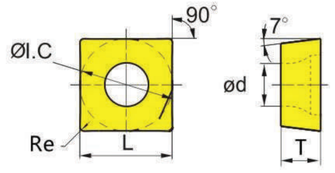
DC□□



Code	L	T	⌀d
DC**0702..	6.35	2.38	2.8
DC**11T3..	9.525	3.97	4.4

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10M	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		DCMT070202-HQ	0.2																			
		070204-HQ	0.4																			
		11T302-HQ	0.2			●																
		11T304-HQ	0.4																			
		11T308-HQ	0.8																			
Semi-finishing		DCMT11T304-PM	0.4	●	●																	
		11T308-PM	0.8																			
Semi-finishing		DCMT070204-HMP	0.4	●		●		●														
		070208-HMP	0.8																			
		11T304-HMP	0.4																			
		11T308-HMP	0.8																			
Semi-finishing		DCMT070204-TF	0.4			●			●	●	●	●	●			●	●					
		070208-TF	0.8																			
		11T304-TF	0.4																			
		11T308-TF	0.8																			
Semi-finishing		DCMT070202-MV	0.2																			
		070204-MV	0.4						●		●	●										
		11T304-MV	0.4																			
		11T308-MV	0.8																			
Finishing		DCMT070202-ZLF	0.2																			
		070204-ZLF	0.4									●										
		11T302-ZLF	0.2																●	●		
		11T304-ZLF	0.4																			
		11T308-ZLF	0.8																			

SC□□

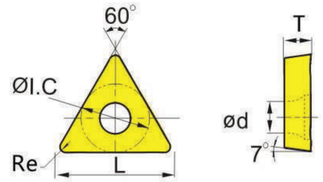


Code	L	T	⌀d
SC**09T3..	9.525	3.97	4.4
SC991204..	12.7	4.76	5.5

Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		SCMT09T304-HQ	0.4																			
		09T308-HQ	0.8			●																
Semi-finishing		SCMT09T304-HMP	0.4																			
		09T308-HMP	0.8																			
		120404-HMP	0.4	●		●	●	●														
		120408-HMP	0.8																			
		120412-HMP	1.2																			
Semi-finishing		SCMT09T304-TF	0.4																			
		09T308-TF	0.8			●			●	●	●	●	●			●	●					
		120404-TF	0.4																			
		120408-TF	0.8																			
Semi-finishing		SCMT09T304-ZTM	0.4																			
		09T308-ZTM	0.8																			
		120404-ZTM	0.4				●	●			●											
		120408-ZTM	0.8																			
		120412-ZTM	1.2																			

TC□□

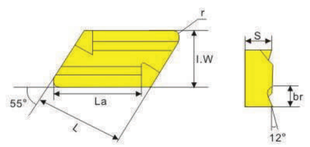
Code	L	T	⌀d
TC**0902..	5.56	2.38	2.5
TC**1102..	6.35	2.38	2.8
TC**16T3..	9.525	3.97	4.4



Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10M	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		TCMT090204-PM	0.4																			
		110304-PM	0.4	●	●																	
		110308-PM	0.8																			
Semi-finishing		TCMT090204-HMP	0.4																			
		090208-HMP	0.8																			
		110204-HMP	0.4	●		●	●	●														
		110208-HMP	0.8																			
		16T304-HMP	0.4																			
		16T308-HMP	0.8																			
Semi-finishing		TCMT110204-TF	0.4																			
		110208-TF	0.8			●			●	●	●	●	●			●	●						
		16T304-TF	0.4																			
		16T308-TF	0.8																			
Finishing		TPMT090202-ZLF	0.2																			
		090204-ZLF	0.4								●								●	●			
Finishing		TCMT110202-ZLF	0.2																			
		110204-ZLF	0.4								●								●	●			
		16T304-ZLF	0.4																				
		16T308-ZLF	0.8																				

KNUX

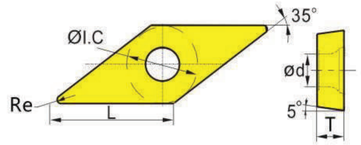
Code	L	T	⌀d
KN**1604..	16.2	9.525	4.76

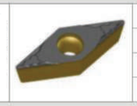


Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		KNUX160405-L11	0.5																			
		160405-R11	0.5	●		●			●													

VB□□

Code	L	T	⌀d
VB**1103..	6.35	3.18	2.8
VB**1604..	9.525	4.76	4.4
VC**1103..	6.35	3.18	2.8
VC**1604..	9.525	4.76	4.4



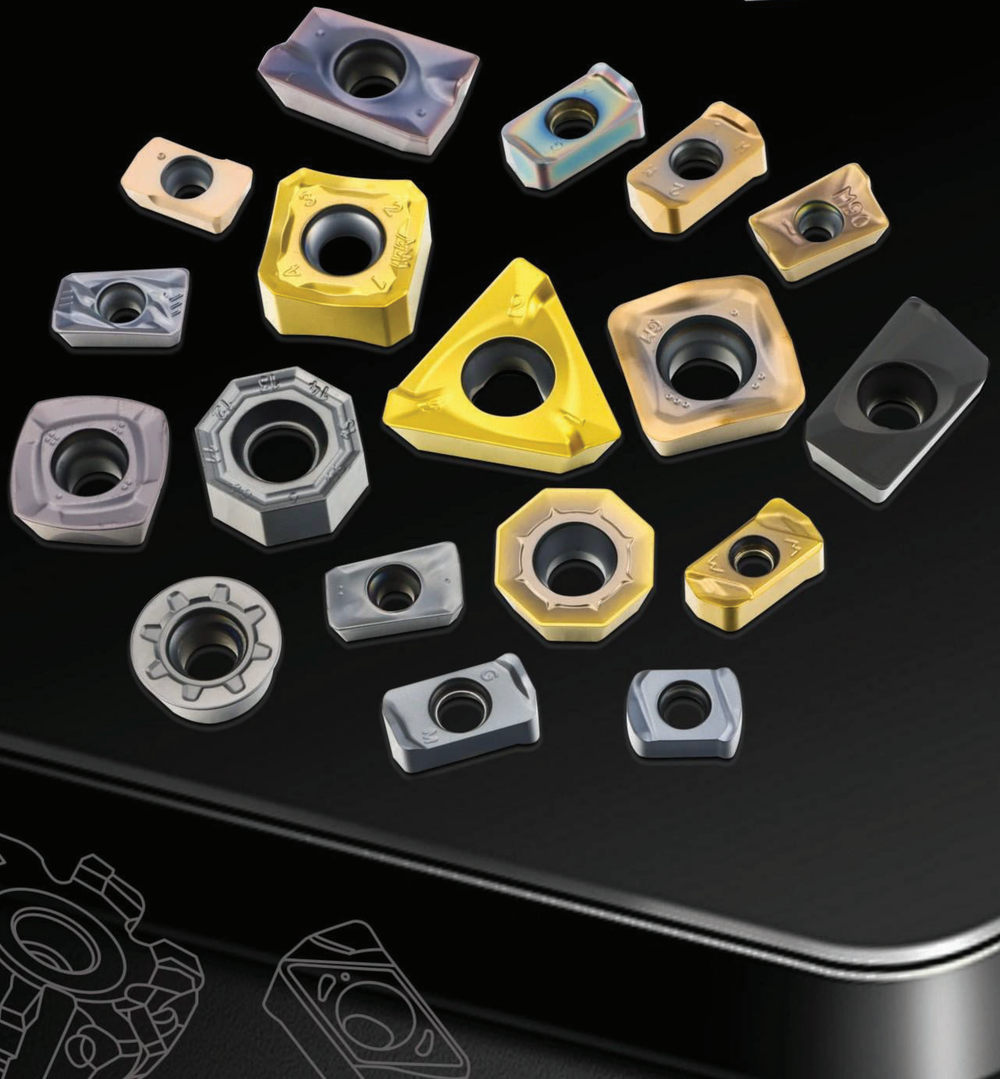
Applications	Shape	Code	Radius	Grade																		
				P					M						k			N	S		H		
				TC15P	TC20P	TC25P	TC7020	TC1015	TP15M	TP1605	TP1530	TP6530-3	TP10H	TP825M	TC10K	TC15K	TC5255	K10	TP9502S	TP1530	TC15H	TP4351E	TP4351C
Semi-finishing		VBMT110304-HQ	0.4																			
		110308-HQ	0.8			●																
		160404-HQ	0.4																			
		160408-HQ	0.8																			
Semi-finishing		VBMT160404-PM	0.4																			
		160408-PM	0.8	●	●																	
Semi-finishing		VBMT160404-MV	0.4																			
		160408-MV	0.8			●			●	●	●	●	●			●	●						
Semi-finishing		VBMT160404-TF	0.4																			
		160408-TF	0.8			●			●	●	●	●	●			●	●						
Semi-finishing		VBMT160404-JMS	0.4																			
		160408-JMS	0.8						●		●	●											
Semi-finishing		VBMT160404-HMP	0.4																			
		160408-HMP	0.8	●		●	●	●															
		160412-HMP	1.2																				
Finishing		VBMT110302-ZLF	0.2																			
		110304-ZLF	0.4																	●			
		160402-ZLF	0.2								●												
		160404-ZLF	0.4																				
		160408-ZLF	0.8																				

CERA-TECH
INSPECTED

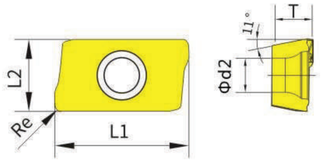
MILLING INSERT

Rapid feed universal type; convex cutting edge design to suppress impact during tool feed, improving the impact resistance of the insert; capable of planar machining, cavity machining, and helical milling.



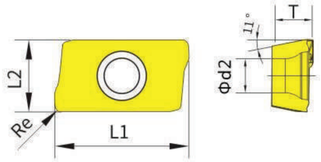


AP□□



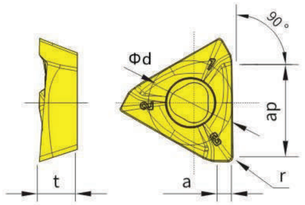
Shape	Code	Dimension					Grade														
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	APMT1135PDER-GM	11.25	6.2	3.5	2.8	0.8	●		●				●							
	APMT160404-GM	17.06	9.28	4.76	4.4	0.4	●		●				●							
	APMT1604PDER-GM	17.06	9.28	4.76	4.4	0.8			●				●							
	APMT1135PDER-H2	11.25	6.2	3.5	2.8	0.8	●	●	●	●		●	●	●	●	●				
	APMT1604PDER-H2	17.25	9.25	4.76	4.4	0.8	●	●	●	●		●	●	●	●	●				
	APMT1135PDER-M2	11.25	6.2	3.5	2.8	0.8	●	●	●	●		●	●	●	●	●				
	APMT1604PDER-M2	17.25	9.25	4.76	4.4	0.8	●	●	●	●		●	●	●	●	●				
	APMT1135PDER-KZ	11.1	6.2	3.5	2.8	0.8	●						●							
	APMT1604PDER-KZ	17.3	9.33	4.76	4.5	0.8	●						●							
	APMT1135PDER-DL	11.3	6.2	3.45	2.8	0.8	●	●		●		●	●	●	●		●	●	●	
	APMT1604PDER-DL	17.3	9.3	5.25	4.4	0.8	●	●		●		●	●	●	●		●	●	●	

AP□□



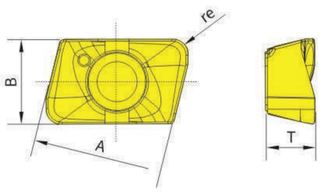
Shape	Code	Dimension					Grade														
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	APMT1604PDER-R2	17.14	9.46	4.95	4.4	4.4	●		●	●										●
	APMT1135RHF	11.3	6.15	3.74	2.8	2.8	●		●	●										●
	APMT1135PDER-R1.6	11.34	6.2	3.45	2.8	2.8	●		●	●										●
	APMT1135PDER-DP	11.3	6.2	3.45	2.8	2.8	●			●				●						
	APMT1604PDER-DP	17.3	9.3	5.25	4.4	4.4	●			●				●						
	AOMT123608PEER-M																			

3PKT□□



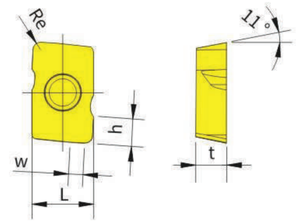
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	3PKT060304R-M	5.3	2.8	4.7	1	0.4	●		●	●										
	3PKT100408R-M	6.9	4	7	1.2	0.8	●		●	●						●				
	3PKT150508R-M	10.7	5	11	1.8	0.8	●		●	●						●				
	3PKT150508R-ML	10.7	5	11	1.8	0.8	●		●	●										
	3PKT190608R-M	13.5	6	15	2	0.8	●		●	●										

JD□□



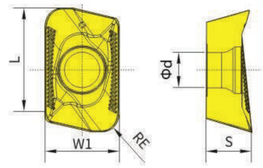
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	JDMT070204R	6.4	4.3	0.4	2.45	2.15	●			●	●			●					●	
	JDMT070208R	6.4	4.3	0.8	2.45	2.15	●			●	●			●					●	
	JDMT100308R	11	6.1	3.5		0.8	●			●	●			●					●	
	JDMT150508R	16	9.12			0.8	●			●	●			●					●	

MP□□



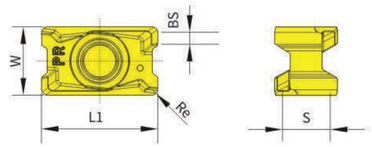
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	MPHW060304ZEL	6.35	–	3.18	3	0.4	●			●		●								
	MPHW060308ZEL	6.35	–	3.18	3	0.8	●			●		●								
	MPHW060304ZEL-0.5	6.35	0.5	3.18	3	0.4	●			●										
	MPHW060308ZEL-1.5	6.35	1.5	3.18	3	0.8	●			●										
	YPHW100308ZER-1.5	10.06	6	3.35	3	0.8	●			●										

XO□□



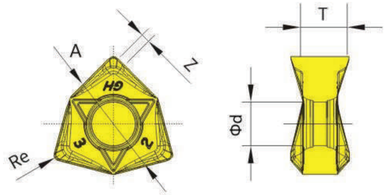
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	XOMX120408TR-ME	8.2	11.6	5.07	3.85	0.8	●			●	●			●						
	XOMX120412TR-ME	8.2	11.6	5.07	3.85	1.2	●			●	●			●						

LN□□



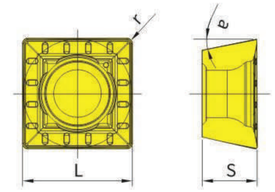
Shape	Code	Dimension					Grade													
							P			M			k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	LNGU110408-PR	12.16	4.83	6.6	1	0.8	●		●	●	●			●						
	LNGU15T608-PR	17.01	6.96	10	1.8	0.8	●		●	●	●			●						
	LNGU110408-PR	12.16	4.83	6.6	1	0.8	●		●	●	●			●						
	LNGU15T608-PR	17.01	6.96	10	1.8	0.8	●		●	●	●			●						
	LNMU110408SRGE	11.3	6.6	3.15	-	0.8	●		●	●	●			●			●			
	LNMU15T608SRGE	16.15	10	4.85		0.8	●		●	●	●			●						

WN□□



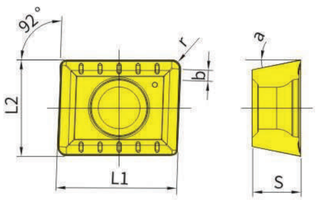
Shape	Code	Dimension					Grade													
							P			M			k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	WNMU040304EN-GM	6.75	3.18	3.18	0.6	0.4	●	●	●	●		●	●		●			●		●
	WNMU080608EN-GM	14.02	6.65	6.2	1.3	0.8	●	●	●	●		●	●		●	●		●		●
	WNMU080608EN-GH	14.02	6.65	6.2	1.3	0.8	●	●	●	●		●	●		●			●		●
	WNEU080608EN-GH	14.02	6.65	6.2	1.3	0.8	●	●	●	●		●	●		●			●		●
	WNEU080608EN-GL	14.02	6.65	6.2	1.3	0.8	●	●	●	●		●	●		●			●		●
	XNEX040304-TR	6.75	3.29	4	0.8	0.4	●	●	●	●		●	●		●			●		●
	XNEX040308-TR	6.75	6.45	4	0.8	0.8	●	●	●	●		●	●		●			●		●
	XNEX080608-TR	14.02	6.45	7.5	1.3	1.3	●	●	●	●		●	●		●			●		●

SP□□



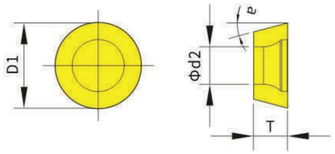
Shape	Code	Dimension					Grade													
							P			M			k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SPMT120408-D51	12.7	4.76	11	0.8		●		●	●			●							
	SPMT120606-D51	12.7	6.35	11	0.6		●		●	●			●							

LP□□



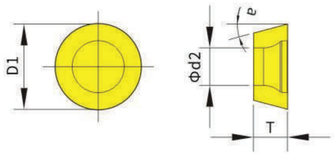
Shape	Code	Dimension					Grade													
							P			M			k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	LPMT150412R-D51	12.7	15.88	11	1.2	1.5	●			●			●	●						●
	LPMT150612R-D51	12.7	15.88	11	1.2	-	●			●			●	●						●

RP□□



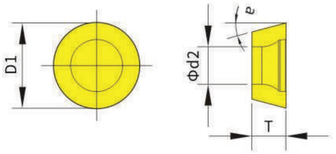
Shape	Code	Dimension					Grade												
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	RPGW1003MOE-CN	10	3.18	4.4	11	–	●		●	●	●			●						●
	RDGT10T3MOTN-CN	10	3.97	4.4	15	–	●		●	●	●			●						●
	RDGT1204MOTN-CN	12	4.76	4.4	15	–	●		●	●	●			●						
	RDGT1604MOTN-CN	16	4.76	5.5	15	–	●		●	●	●			●						
	RDMT0802MOTN	8	2.58	3.4	15	–	●		●	●	●			●						
	RDMT10T3MOTN	10	3.97	4.4	15	–	●		●	●	●			●						
	RDMT1204MOTN	12	4.76	4.4	15	–	●		●	●	●			●						
	RDMT1604MOTN	16	4.76	5.5	15	–	●		●	●	●			●						
	RPMT08T2MOE-JS	8	2.58	3.4	11	–	●		●	●	●			●						
	RPMT10T3MOE-JS	10	3.97	4.4	11	–	●		●	●	●			●						
	RPMT1204MOE-JS	12	4.76	4.4	11	–	●		●	●	●			●						
	RPMW1003MO-TT	10	3.18	4.4	11	–	●		●	●	●			●		●				
	RPMT1204MOE-TT	12	4.76	4.4	11	–	●		●	●	●			●		●				
	RDEW1003MO	10	3.18	4.4	11	–	●		●	●	●			●						
	RDEW1204MO	12	4.76	4.4	15	–	●		●	●	●			●						

RC□□



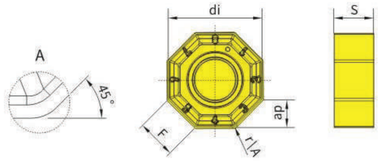
Shape	Code	Dimension					Grade												
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	RCKT10T3MO-XM	10	3.97	4.4	7	–	●		●	●				●						●
	RCKT1204MO-XM	12	4.76	4.4	7	–	●		●	●				●				●		●
	RCKT1606MO	16	6.35	5.5	7	–	●		●	●				●				●		●
	RCKT2006MO-XM	20	6.35	5.5	7	–	●		●	●				●				●		●

RP□□



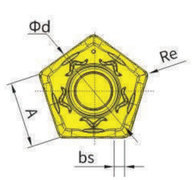
Shape	Code	Dimension					Grade												
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	RPMW1003MO-NTT	10	3.18	4.4	11	–	●	●	●	●	●									●
	RDMT1204MO-NTT	12	4.76	4.4	15	–	●	●	●	●	●									●
	RDMT1604MO-NTT	16	4.76	5.5	15	–	●													
	RDMT1204MOE-D57	12	4.76	4.4	15	–	●		●	●	●	●	●	●			●	●		
	RDMT1605MOE-D57	16	4.76	5.5	15	–	●		●	●	●	●	●	●			●	●		
	RPMW08T2MOE	8	2.78	3.4	11	–	●			●	●	●		●				●		
	RPMW1003MOE	10	3.18	4.4	11	–	●			●	●			●				●		
	RPMW10T3MOE	10	3.97	4.4	11	–	●			●	●	●		●				●		
	RDMW10T3MOE	10	3.97	4.4	15	–	●			●	●	●		●				●		
	RDMW1204MOE	12	4.76	4.4	15	–	●			●	●	●		●				●		
	RDMW1604MOE	16	4.76	5.5	15	–	●			●	●	●		●				●		
	RPMT1204MOE-CO	12	4.76	4.4	11	–	●			●	●	●		●				●		

ON□□



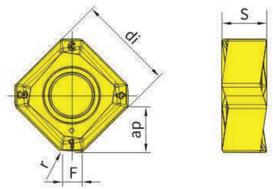
Shape	Code	Dimension					Grade												
							P			M				k		N	S		H	
		L1	L2	T	ap	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	ONMU050505-MT	13	5	5.08	3.5	0.5	●		●				●	▲		●		●		
	ONMU080608-TN																			
	ONMU090520ANTN-M13	22	7.7	6.80		2.0				●										

PN□□



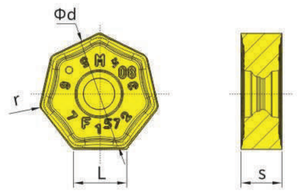
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	PNMU0905GNEN-MJ	8.9	6	12.2	1.4	0.8	●			●				●				●		●
	PNMU0905XNER-GM	8.9	6	14.6	2	0.8	●			●				●				●		●
	PNCU0905GNFR-AJ	8.9	6	12.2	1.4	0.8	●			●										

SN□□



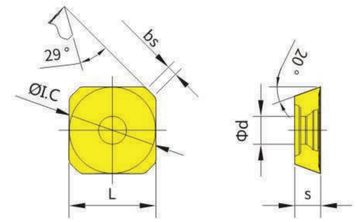
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L1	L2	T	Ød2	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SNMU1305ANR-MT	13	6	6.5	3	0.8	●			●			●	▲						
	SNMX1306ANEN-M	13.5	1.7	6.8	-	-		▲					▲							
	SNEU1206ANEN-GM	13.65	6.54	7.5	-	0.8	●			●										
	SNMU130508EN	13.6	-	6.9	-	0.8							▲							

XN□□



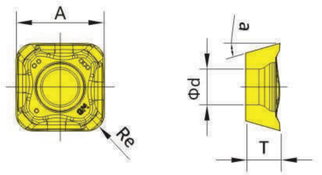
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		d	l	S	r	b	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	XNMU070508-F57	14.5	6.98	4.6	0.8	–	●		●	●	●		●							
	XNMU090612-F57	19.05	9.18	5.88	1.2	–	●		●	●	●		●							

SE□□



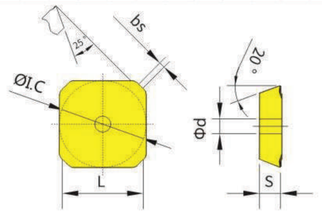
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L	ØLC	S	Ød	bs	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SEMT13T3AGSN-GM	13.4	13.4	3.97	4.3	2.45	●			●			●					▲		
	SEMT13T3AGSN-JM	13.4	13.4	3.97	4.3	2.45	●			●	▲		●	▲						
	SEKT1204AFTN	12.7	12.7	4.76	5.16	2	●			●	▲		●					●		

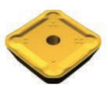
SO□□



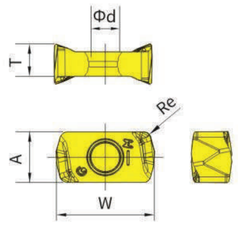
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		A	T	Ød	Re	a	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SOMT100420ER-GM	10.3	4.58	4.6	2	16	●			●			●			▲		●	▲	
	SOMT140520ER-GM	14.14	5.56	5.8	2	16	●			●			●			▲		●	▲	

SE□□



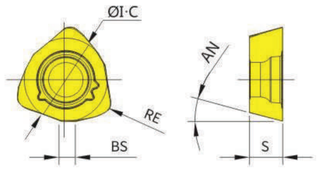
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L	ØI.C	S	Ød	bs	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SEER1203-AFS-D2	12.58	12.58	3.44	2.3	2	▲		▲	●			▲	●						
	SEER1203-AFS-G2	12.58	12.58	3.44	2.3	2	▲		▲	●			▲	●						
	SEER1504-AFS-D3	15.875	15.875	4.88	3.2	2.2	▲		▲	●			▲	●						
	SEKR1203AFTN-YM	12.58	12.58	3.44	2.3	2	▲		▲				▲	▲						

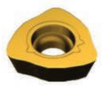
LN□□/LO□□



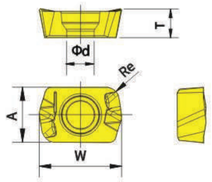
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L	ØI.C	S	Ød	bs	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	LNMU0303ZER-MJ	6	3.75	2.85	11.9	1.2	●	●	●	●	●	●		▲	▲	●		●		▲
	LNMU0303ZER-ML	6	3.75	2.85	11.9	1.2	●	●	●	●	●	●		▲	▲	●		●		▲
	LOGU030310ER-GM	6.2	3.96	3.45	11.9	1	●	●	●	●	●	●		▲	▲	●		●		▲
	LOGU030310ER-MM	6.2	3.96	3.45	11.9	1	●	●	●	●	●	●		▲	▲	●		●		▲

JD□□



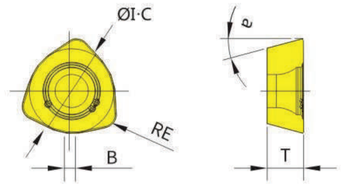
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		ØI.C	S	BS	Re	AN	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	JDMW09T320SR-FT	9.53	3.97	1.8	2	15	●		●	▲			▲	●						
	JDMW120420SR-FT	12	4.76	2.5	2	15	●		●	▲			▲	●						
	JDMW140520SR-FT	14	5.56	2.8	2	15	●		●	▲			▲	●						

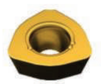
LP□□



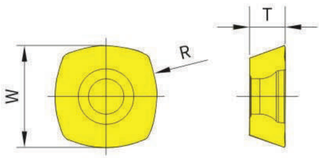
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L	ØI.C	S	Ød	bs	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	LPGT010210ER-GM	4.19	2.19	2.1	6.26	1	●			●		▲						●		

WD□□



Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		S	BS	Re	AN	–	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	WDMW06T320ZTR	10	3.97	1.2	2	–	●		●	▲			▲	●						
	WDMW080520ZTR	13	5.5	1.5	2	–	●		●	▲			▲	●						
	WDMW10X620ZTR	16	6	2	2		●		●	▲			▲	●						

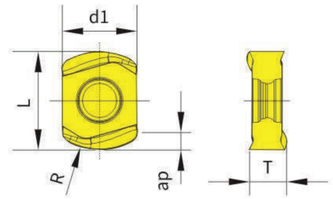
SD□□

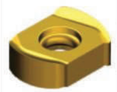


Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		R	T	W	Ød	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SDMT120512-GM	15°	5.56	12.7	4.4	1.2	●			●	▲	●		●		●		●		
	SDMT150512-GM	15°	5.56	15.875	5.5	1.2	●			●	▲	●		●		●		●		
	SDMT120512-RD	15°	5.56	12.7	4.4	1.2	●			●	●	●		●		●		●		
	SDMT150512-RD	15°	5.56	15.875	5.5	1.2	●			●	●	●		●		●		●		
	SDMT09T308-MF	15°	3.97	9.5		0.8	▲			▲	●									
	SDMT120408-MF	15°	4.76	12.7		0.8	▲			▲	●									

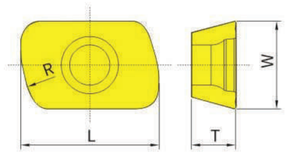
Turning
Turning
Drilling
Grooving
Threading
End Mill

BL□□



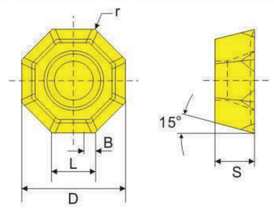
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		R	L	T	d1	AP	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	BLMP0603R-M	6	9	3.73	6.4	1	●	▲	▲	●	●		▲	▲	●			●		
	BLMP0904R-M	8	11.9	4.8	9.18	1.5	●	▲	▲	●	●		▲	▲	●			●		

EP□□



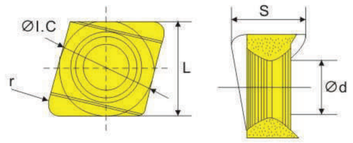
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		R	T	W	Ød	Re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	EPMT0603TN-8	8	8	3.18	6.35	2.8	●			●	●		●	▲				▲		
	EPNW0603TN-8	8	8	3.18	6.35	2.8	●			●	●		●	▲				▲		

ODMT



Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		A	B	C	r	-	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	ODMT040408	12.7	4.62	4.62	0.8		●			▲						▲		●		

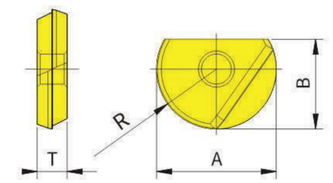
4NKT



Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L	ØI.C	S	Ød	r	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	4NKT060308R-M	6.6	6.35	4.6	3.34	0.8	●	●	▲	●	●	▲		●		▲		●		

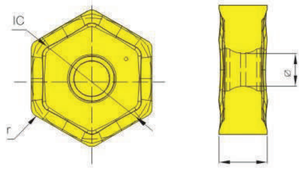
Precision Ball End Milling Insert

BN□□/DH□□



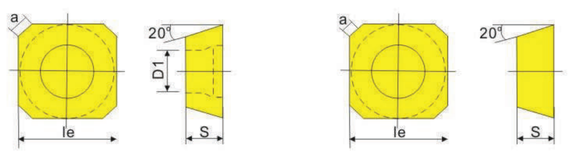
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		R	A	B	T	–	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	BNM160-M	8	16	12	4	–														
	BNM200-M	10	20	15	5	–														
	BNM250-M	12.5	25	18.5	6	–														
	DHB160-F	8	16	12	3	–														
	DHB200-F	10	20	15	3	–														
	DHB250-F	12.5	25	18.5	4	–														

HN□□



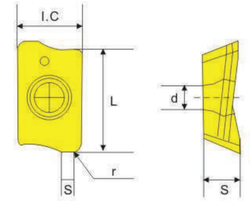
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		A	B	C	r	–	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	HNMG090608R	19.15	1.18	6.36	0.8	–	●		▲	●			▲					▲		
	HNPJ070412ANSN-HP	12.7	1.5	4.41	0.5	–	▲			▲	●		●							
	HNPJ0905ANSN-PM	15.88	1.9	5.46	1.0	–	▲			▲	●									

SE□□/SP□□



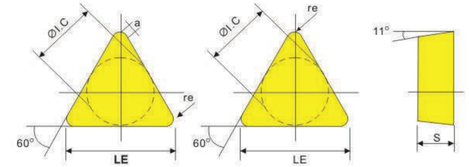
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		le	W	S	D1	a	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SEKT1204AFTN	12.7	12.7	4.76	5.5	2.66														
	SEKN1203AFTN	12.7	12.7	3.18		1.48														
	SEKN1204AFTN	12.7	12.7	4.76		1.48														
	SPKN1203EDR	12.7	12.7	3.18		1.48														
	SPKN1204EDR	12.7	12.7	4.76		1.48														

R390



Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		L	ØI.C	S	d	r	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	R390-11T308-PM	11.6	6.8	3.59	2.8	0.8	●		●	●				▲		▲				
	R390-11T308-PL	11.6	6.8	3.59	2.8	0.8	●		●	●				●						

TP□□



Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		LE	ØI.C	S	a	re	TP9508	TP1605	TP5355	TP9108	TP9105	TP6530-3	TP2052C	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	TPKN1603PDSR	16.5	9.525	3.18	1.7	–														
	TPKN2204PDSR	22	12.7	4.76	1.91	–														

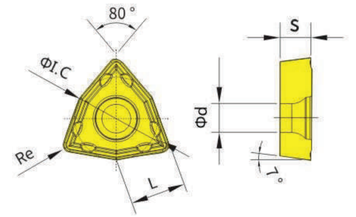
CERA-TECH
INSPECTED

DRILLING INSERT

Excellent heat resistance and wear resistance of the cemented carbide matrix, combined with high strength, enables stable machining under different working conditions.

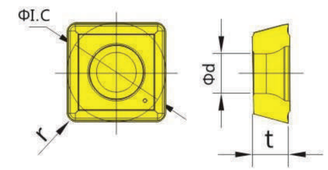


WC□□



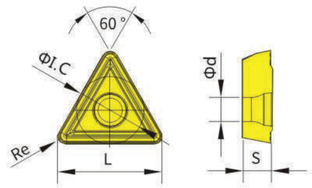
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		ØI.C	S	Ød	Re	–	TP5355	TP1605	TP6025	TP5302E	TP2052C	TP825M	TP10H	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	WCMX030208FN	5.56	2.38	2.8	0.8	–	▲	▲		●	●			●		▲		▲		
	WCMX040208FN	6.35	2.38	2.8	0.8	–	▲	▲		●	●			●		▲		▲		
	WCMT050308FN	7.94	3.18	3.4	0.8	–	▲	▲		●	●			●		▲		▲		
	WCMT06T308FN	9.53	3.97	3.8	0.8	–	▲	▲		●	●			●		▲		▲		
	WCMT080412FN	12.7	4.76	4.4	1.2	–	▲	▲		●	●			●		▲		▲		
	WCMX030208-DG	5.56	2.38	2.8	0.8	–		●		●	▲			●	●			▲		
	WCMX040208-DG	6.35	2.38	2.8	0.8	–		●		●	▲			●	●			▲		
	WCMX050308-DG	7.94	3.18	3.4	0.8	–		●		●	▲			●	●			▲		
	WCMT06T308-DG	9.53	3.97	3.8	0.8	–		●		●	▲			●	●			▲		
	WCMT080412-DG	12.7	4.76	4.4	1.2	–		●		●	▲			●	●			▲		
	WCMT030208-ZH	5.56	2.38	2.8	0.8	–														
	WCMT040208-ZH	6.35	2.38	2.8	0.8	–														
	WCMT050308-ZH	7.94	3.18	3.4	0.8	–														
	WCMT06T308-ZH	9.53	3.97	3.8	0.8	–														
	WCMT080412-ZH	12.7	4.76	4.4	1.2	–														

SP□□



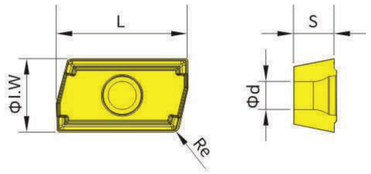
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		ØI.C	S	Ød	Re	–	TP5355	TP1605	TP6025	TP5302E	TP2052C	TP825M	TP10H	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	SPMG050204-DG	5	5	0.4	0.4	–		●	▲	●	●			●	●		▲	▲		
	SPMG060204-DG	6	6	0.4	0.4	–		●	▲	●	●			●	●		▲	▲		
	SPMG07T308-DG	7.94	7.94	0.8	0.8	–		●	▲	●	●			●	●		▲	▲		
	SPMG090408-DG	9.8	9.8	0.8	0.8	–		●	▲	●	●			●	●		▲	▲		
	SPMG110408-DG	11.5	11.5	0.8	0.8	–		●	▲	●	●			●	●		▲	▲		
	SPMG140512-DG	14.3	14.3	1.2	1.2	–		●	▲	●	●			●	●		▲	▲		
	SPMT050204-ZH	5	5	0.4	0.4	–				●		●								
	SPMT060204-ZH	6	6	0.4	0.4	–				●		●								
	SPMT07T308-ZH	7.94	7.94	0.8	0.8	–				●		●								
	SPMT090408-ZH	9.8	9.8	0.8	0.8	–				●		●								
	SPMT110408-ZH	11.5	11.5	0.8	0.8	–				●		●								
	SPMT140512-ZH	14.3	14.3	1.2	1.2	–				●		●								

TP□□



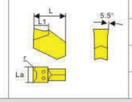
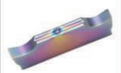
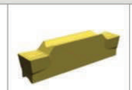
Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		ØI.C	L	S	Ød	Re	TP5355	TP1605	TP6025	TP5302E	TP2052C	TP825M	TP10H	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	TPMT16T312-PM	9.53	16.5	3.97	3.4	1.2		▲				●	●	●	▲					
	TPMT220612-PM	12.7	22	6.35	4.4	1.2		▲				●	●	●	▲					

LP□□

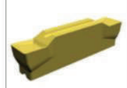
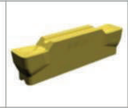


Shape	Code	Dimension					Grade													
							P			M				k		N	S		H	
		ØI.C	L	S	Ød	Re	TP5355	TP1605	TP6025	TP5302E	TP2052C	TP825M	TP10H	TP5353E	TC5255	K10	TP9502S	TP9502	TP4351E	TP4351C
	LPMT13T308-PM	10	14.7	3.97	3.4	0.8	▲			●	▲			●						
	LPMT180608-PM	11	14.7	3.97	3.4	0.8	▲			●	▲			●						

GROOVING

Brand	Shape	Dimension	Code	Dimension					Grade											
									P				M		S	H				
				L	S	T	B	R	TP9508	TP5355	TP1605	TP220	TP9108	TP825M	TP6530-3	TP5351C				
ZCC			SP200	9.3	3.9	–	2.2	0.2		▲		●	●							
			SP300	11.3	4.4	–	3.1	0.2		▲		●	●							
			SP400	11.3	4.95	–	4.1	0.3		▲		●	●							
			SP500	11.4	5	–	5.1	0.3		▲		●		●	●	▲				
			MGGN200	20	3.9	1.7	2	0.2	▲			●		●	●	▲					
			MGGN300	20	4	2.4	3	0.2	▲			●		●	●	▲					
			MGGN400	20	4.05	3	4	0.3	▲			●		●	●	▲					
			MGGN500	25	4.89	4	5	0.3	▲			●		●	●	▲					
TAEGUTEC			TDJ2	20	3.9	1.7	2	0.2													
			TDJ3	20	4	2.4	3	0.2													
			TDJ4	20	4.05	3	4	0.3													
			TDJ5	25	4.89	4	5	0.3													
TAEGUTEC			TDC2	20	3.9	1.7	2	0.2	●		▲	●	●	●		▲					
			TDC3	20	4	2.4	3	0.2	●		▲	●	●	●		▲					
			TDC4	20	4.05	3	4	0.3	●		▲	●	●	●		▲					
			TDC5	25	4.89	4	5	0.3	●		▲	●	●	●		▲					
TAEGUTEC			TDT3	20	4	2.4	3	0.2	●		▲	●	●	●		▲					
			TDT4	20	4.05	3	4	0.3	●		▲	●	●	●		▲					
			TDT5	25	4.89	4	5	0.3	●		▲	●	●	●		▲					

GROOVING

Brand	Shape	Dimension	Caode	Dimension					Grade							
									P				M		S	H
				L	S	T	B	R	TP9508	TP5355	TP1605	TP220	TP9108	TP825M	TP6530-3	TP5351C
KORLOY			MGMN200-G	16	3.5	1.6	2	0.2	●		▲	●	●	●		▲
			MGMN250-G	18.5	3.85	2	2.5	0.2	●		▲	●	●	●		▲
			MGMN300-G	21	4.8	2.35	3	0.3	●		▲	●	●	●		▲
			MGMN400-G	21	4.8	3.3	4	0.4	●		▲	●	●	●		▲
			MGMN500-G	26	5.8	4.12	5	0.8	●		▲	●	●	●		▲
KORLOY			MGMN200-M	16	3.5	1.6	2	0.2	●		▲	●	●	●		▲
			MGMN250-M	18.5	3.85	2	2.5	0.2	●		▲	●	●	●		▲
			MGMN300-M	21	4.8	2.35	3	0.3	●		▲	●	●	●		▲
			MGMN400-M	21	4.8	3.3	4	0.3	●		▲	●	●	●		▲
			MGMN500-M	26	5.8	4.12	5	0.8	●		▲	●	●	●		▲
			MGMN600-M				6	0.8	●		▲	●	●	●		▲
KORLOY			MGMN200-T	16	3.5	1.6	2	0.2	●		▲	●	●	●		▲
			MGMN300-T	21	4.8	2.35	3	0.3	●		▲	●	●	●		▲
			MGMN400-T	21	4.8	3.3	4	0.4	●		▲	●	●	●		▲
			MGMN500-T	26	5.8	4.12	5	0.8	●		▲	●	●	●		▲
KORLOY			MRMN200-M	16	3.5	1.6	2	1	●		▲	●	●	●		▲
			MRMN300-M	21	4.8	2.35	3	1.5	●		▲	●	●	●		▲
			MRMN400-M	21	4.8	3.3	4	2	●		▲	●	●	●		▲
			MRMN500-M	26	5.8	4.12	5	2.5	●		▲	●	●	●		▲
TAEGUTEC			TDXU3	21	4.8	2.35	3	0.3								
			TDXU4	21	4.8	3.3	4	0.4								

WITH CHIP-BREAKER



Caode
PENTA24N050
PENTA24N100
PENTA24N150
PENTA24N200
PENTA24N250
PENTA24N300
PENTA24N350
PENTA24N400

WITHOUT CHIP-BREAKER



Caode
PENTA24N050
PENTA24N100
PENTA24N150
PENTA24N200
PENTA24N250
PENTA24N300
PENTA24N350
PENTA24N400

TQS



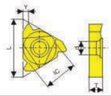
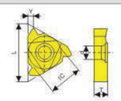
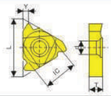
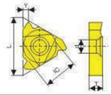
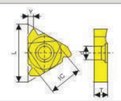
型号 Caode
TQS27-0.5.....3.98

FINISHING MILLING INSERT

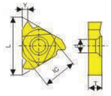
Shape	Code	Grade				
		TP6530-3	TP825M	TP10H	TP9508	TP15M
	DCGT070201-ZH	▲	●		●	▲
	070202-ZH					
	11T301-ZH					
	11T302-ZH					
	CCGT060201-ZH	▲	●		●	▲
	060202-ZH					
	09T301-ZH					
	09T302-ZH					
	VBGT110301-ZH	▲	●		●	▲
	110302-ZH					
	160401-ZH					
	160402-ZH					
	TNGG160401-ZH	▲	●		●	▲
	160402-ZH					
	DCGT070201-ML			●	▲	●
	070202-ML					
	070204-ML					
	11T301-ML					
	11T302-ML					
	11T304-ML					
	VCGT110301-ML			●	▲	●
	110302-ML					
	160401-ML					
	160402-ML					
	160404-ML					
	VCGT110302-VF				▲	●

Shape	Code	Grade				
		TP6530-3	TP825M	TP10H	TP9508	TP15M
	CCGT060201-ZL	●			▲	
	060202-ZL					
	060204-ZL					
	CCGT09T301-ZL					
	09T302-ZL					
	09T304-ZL					
	DCGT070201-ZL	●			▲	
	070202-ZL					
	070204-ZL					
	DCGT11T301-ZL					
	11T302-ZL					
	11T304-ZL					
	VCGT110301-ZL	●			▲	
	110302-ZL					
	110304-ZL					
	TNGG160401-YL	●			▲	
	160402-YL					
	160404-YL					
	VBGT110301R-Y	●			▲	●
	110302R-Y					
	160401R-Y					
	160402R-Y					
	160404R-Y					
	VBGT110301R/L-F	●			▲	●
	110302R/L-F					
	110304R/L-F					
	160402R/L-F					
	160404R/L-F					
	VBGT110301R/L-Y					
	110302R/L-Y					
	110304R/L-Y					
	160402R/L-Y					
	160404R/L-Y					

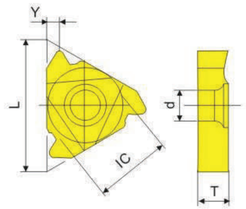
THREADING INSERTS

Applications	Shape	Dimension	Code		Pitch	PNA	IC	Y	T	Grade P TP9508	P TP5355	P TP1605	M TP9108	M TP825M	K TP220	N K10
Universal			16ER/IR	A55	0.5-1.5	60°	9.525	0.9	3.52	●	●			●		
				G55	1.75-3.0			1.7								
				AG55	0.5-3.0			1.7								
Whitworth			16ER/IR	11W	11	60°	9.525	1.5	3.52	●	●			●		
				12W	12			1.4								
				14W	14			1.2								
				19W	19			1.0								
UN-60°			16ER/IR	12UN	12	60°	9.525	1.4	3.52	●	●			●		
				16UN	16			1.1								
				18UN	18			1.1								
				20UN	20			1.1								
Pipe thread			16ER/IR	11BSPT	11	55°	9.525	1.5	3.52	●	●			●		
				14BSPT	14			1.2								
				19BSPT	19			0.9								
Pipe thread			16ER/IR	115NPT	11.5	60°	9.525	1.5	3.52	●	●			●		
				14NPT	14			1.2								
				18NPT	18			1.0								

MITSUBISHI SERIES THREADING INSERTS

Applications	Shape	Dimension	Code		Pitch	PNA	IC	Y	T	Grade P TP9508	P TP5355	P TP1605	M TP9108	M TP825M	K TP220	N K10
完全磨 Fully Grinding			MMTR 11IR	A60-S	0.5-1.5	0.6	1/4	0.8	–			●			●	
				A55-S	0.5-1.5	0.6	1/4	0.8	–			●			●	
			MMTR 16ER/IR	A55-S	0.5-1.5	0.8	3/8	0.9	–			●			●	
				A60-S	0.5-1.5	0.8	3/8	0.9	–			●			●	
				G55-S	1.75-3.0	1.5	3/8	1.7	–			●			●	
				G60-S	1.75-3.0	1.5	3/8	1.7	–			●			●	
				AG55-S	0.5-1.5	0.6	3/8	0.7	–			●			●	
				AG60-S	0.5-3.0	1.2	3/8	1.7	–			●			●	
				1.0ISO-S	1	0.6	3/8	0.7	–			●			●	
				1.25ISO-S	1.25	0.8	3/8	0.8	–			●			●	
				1.5ISO-S	1.5	0.8	3/8	1	–			●			●	
				1.75ISO-S	1.75	1.2	3/8	1.5	–			●			●	
				2.0ISO-S	2	1	3/8	1.3	–			●			●	
				2.5ISO-S	2.5	1.1	3/8	1.5	–			●			●	
				3.0ISO-S	3	1.1	3/8	1.5	–			●			●	
				11.5NPT-S	2.21	0.8	3/8	1	–			●			●	
				14NPT-S	1.81	0.8	3/8	1	–			●			●	
				11BSPT-S	2.31	1.1	3/8	1.5	–			●			●	
				14BSPT-S	1.81	1	3/8	1.2	–			●			●	
				11W-S	2.31	1.1	3/8	1.5	–			●			●	
				14W-S	1.81	1	3/8	1.2	–			●			●	

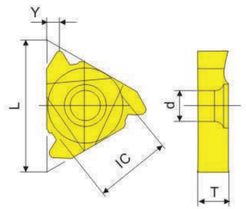
EXTERNAL PARTIAL PROFILE 60°



Model	L(mm)	IC(mm)	d(mm)
08..	8	4.76	2.1
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35

Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	16ERAG60-M		0.5-3.0	0.07	1.7	3.65	▲						
	16ERG60-M		1.75-3.0	0.25	1.7	3.65	▲						
	22ERN60-M		3.5-5.0	0.4	1.7	3.65	▲						
	11ERA60	11ELA60	0.5-1.5	0.07	0.9	3.18	▲					▲	▲
	16ERA60	16ELA60	0.5-1.5	0.07	0.9	3.65	▲					▲	▲
	16ERAG60	16ELAG60	0.5-3.0	0.07	1.7	3.65	▲					▲	▲
	16ERG60	16ELG60	1.75-3.0	0.25	1.7	3.65	▲					▲	▲
	22ERN60	22ELN60	3.5-5.0	0.4	2.5	4.9	▲					▲	▲
	27ERQ60	27ELQ60	5.5-6.0	0.79		6.4							
	16VERAG60	16VELAG60	0.5-3.0	0.07		3.65	▲						
	27VERV60	27VELV60	6.0-9.0	0.87		8.7							

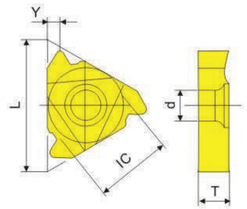
INTERNAL PARTIAL PROFILE 60°



Model	L(mm)	IC(mm)	d(mm)
08..	8	4.76	2.1
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35

Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	11NRA60-M		0.5-1.5	0.07	0.9	3.18	▲				▲		
	16NRAG60-M		0.5-3.0	0.07	1.7	3.65	▲				▲		
	16NRG60-M		1.75-3.0	0.2	1.7	3.65	▲				▲		
	22NRN60-M		3.5-5.0	0.4	1.7	3.65							
	06NRA60	06NLA60	0.5-1.5	0.07		1.9	▲					▲	▲
	08NRA60	08NLA60	0.5-1.5	0.07	0.9	2.38	▲					▲	▲
	11NRA60	11NLA60	0.5-1.5	0.07	0.9	3.18	▲					▲	▲
	16NRA60	16NLA60	0.5-1.5	0.07	0.9	3.65	▲					▲	▲
	16NRAG60	16NLAG60	0.5-3.0	0.07	1.7	3.65	▲					▲	▲
	16NRG60	16NLG60	1.75-3.0	0.2	1.7	3.65							
	22NRN60	22NLN60	3.5-5.0	0.4	2.5	4.9							
	27NRQ60	27NLQ60	5.5-6.0	0.4		6.4							
	16VNRAG60	16VNLAG60	0.5-3.0	0.07		3.65	▲						
	27VNRV60	27VNLV60	6.0-9.0	0.43		8.7							

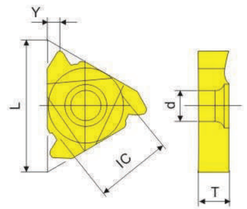
EXTERNAL PARTIAL PROFILE 55° THREADING INSERT



Model	L(mm)	IC(mm)	d(mm)
08..	8	4.76	2.1
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35

Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	16ERAG55-M		48-8	0.07	1.5	3.65	▲				▲		
	11ERA55	11ELA55	48-16	0.07	0.9	3.18	▲					▲	▲
	16ERA55	16ELA55	48-16	0.07	0.9	3.65	▲					▲	▲
	16ERAG55	16ELAG55	48-8	0.07	1.5	3.65	▲					▲	▲
	16ERG55	16ELG55	18-8	0.25	1.5	3.65	▲					▲	▲
	22ERN55	22ELN55	7-5	0.4	2.5	4.9	▲					▲	▲
	27ERQ55	27ELQ55	4.5-4	0.78		6.4							
	16VERAG55	16VELAG55	48-8	0.07		3.65							
	27VERV55	27VELV55	4-2.5	0.88		8.7							

INTERNAL PARTIAL PROFILE 55° THREADING INSERT

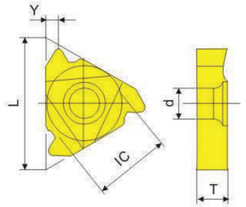


Model	L(mm)	IC(mm)	d(mm)
08..	8	4.76	2.1
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35

Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	16NRAG55-M		48-8	0.06	1.5	3.65	▲				▲		
	06NRA55	06NLA55	48-16	0.07		1.9	▲					▲	▲
	08NRA55	08NLA55	48-16	0.07	0.9	2.38	▲					▲	▲
	11NRA55	11NLA55	48-16	0.07	0.9	3.18	▲					▲	▲
	16NRA55	16NLA55	48-16	0.07	1.5	3.65	▲					▲	▲
	16NRAG55	16NLAG55	48-8	0.07	1.5	3.65	▲					▲	▲
	16NRG55	16NLG55	18-8	0.2	1.5	3.65							
	22NRN55	22NLN55	7-5	0.4	2.5	4.9							
	27NRQ55	27NLQ55	4.5-4	0.79		6.4							
	16VNRAG55	16VNLAG55	48-8	0.06		3.65							
	27VNRV55	27VNLV55	4-2.5	0.89		8.7							

EXTERNAL ISO METRIC THREADING INSERT-60°

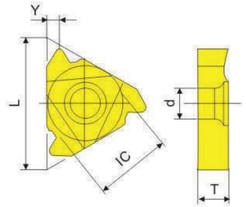
Model	L(mm)	IC(mm)	d(mm)
08..	8	4.76	2.1
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35



Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	16ER1.00ISO-M		1.0	0.14	0.7	3.65	▲	▲		▲	▲		
	16ER1.50ISO-M		1.5	0.22	1	3.65	▲	▲		▲	▲		
	16ER2.00ISO-M		2	0.29	1.3	3.65	▲	▲		▲	▲		
	16ER2.50ISO-M		2.5	0.36	1.5	3.65	▲	▲		▲	▲		
	16ER3.00ISO-M		3	0.43	1.6	3.65	▲	▲		▲	▲		
	22ER3.50ISO-M		3.5	0.51	2	4.9	▲	▲		▲	▲		
	22ER4.00ISO-M		4	0.58	2	4.9	▲	▲		▲	▲		
	22ER5.00ISO-M		5	0.72	2.4	4.9	▲	▲		▲	▲		
	22ER6.00ISO-M		6	0.87	2.7	4.9	▲	▲		▲	▲		
	11ER0.50ISO	11EL0.50ISO	0.5	0.07	0.6	3.18	▲	▲		▲	▲		▲
	11ER0.75ISO	11EL0.75ISO	0.75	0.11	0.6	3.18	▲	▲		▲	▲		▲
	11ER1.00ISO	11EL1.00ISO	1.00	0.14	0.7	3.18	▲	▲		▲	▲		▲
	11ER1.25ISO	11EL1.25ISO	1.25	0.18	0.9	3.18	▲	▲		▲	▲		▲
	11ER1.50ISO	11EL1.50ISO	1.50	0.22	1	3.18	▲	▲		▲	▲		▲
	11ER1.75ISO	11EL1.75ISO	1.75	0.25	1.1	3.18	▲	▲		▲	▲		▲
	11ER2.00ISO	11EL2.00ISO	2.00	0.29	1	3.18	▲	▲		▲	▲		▲
	16ER0.50ISO	16EL0.50ISO	0.50	0.07	0.6	3.65	▲	▲		▲	▲		▲
	16ER0.75ISO	16EL0.75ISO	0.75	0.11	0.6	3.65	▲	▲		▲	▲		▲
	16ER1.00ISO	16EL1.00ISO	1.00	0.14	0.7	3.65	▲	▲		▲	▲		▲
	16ER1.25ISO	16EL1.25ISO	1.25	0.18	0.9	3.65	▲	▲		▲	▲		▲
	16ER1.50ISO	16EL1.50ISO	1.50	0.22	1	3.65	▲	▲		▲	▲		▲
	16ER1.75ISO	16EL1.75ISO	1.75	0.25	1.2	3.65	▲	▲		▲	▲		▲
	16ER2.00ISO	16EL2.00ISO	2.00	0.29	1.3	3.65	▲	▲		▲	▲		▲
	16ER2.50ISO	16EL2.50ISO	2.50	0.36	1.5	3.65	▲	▲		▲	▲		▲
	16ER3.00ISO	16EL3.00ISO	3.00	0.43	1.6	3.65	▲	▲		▲	▲		▲
	16ER3.50ISO	16EL3.50ISO	3.50	0.51	1.6	3.65	▲	▲		▲	▲		▲
	22ER3.00ISO	22EL3.00ISO	3.00	0.43	2	4.9	▲	▲		▲	▲		▲
	22ER3.50ISO	22EL3.50ISO	3.50	0.51	2	4.9	▲	▲		▲	▲		▲
	22ER4.00ISO	22EL4.00ISO	4.00	0.58	2	4.9	▲	▲		▲	▲		▲
	22ER4.50ISO	22EL4.50ISO	4.50	0.65	2.2	4.9	▲	▲		▲	▲		▲
	22ER5.00ISO	22EL5.00ISO	5.00	0.72	2.4	4.9	▲	▲		▲	▲		▲
	22ER5.50ISO	22EL5.50ISO	5.50	0.79	2.5	4.9	▲	▲		▲	▲		▲
	22ER6.00ISO	22EL6.00ISO	6.00	0.87	2.7	4.9	▲	▲		▲	▲		▲
	27ER5.50ISO	27EL5.50ISO	5.50	0.79		6.4	▲	▲		▲	▲		▲
	27ER6.00ISO	27EL6.00ISO	6.00	0.87		6.4	▲	▲		▲	▲		▲
	16VER1.00ISO		1.0	0.07	0.7	3.65	▲						
	16VER1.50ISO		1.5	0.11	1	3.65	▲						
	16VER2.00ISO		2.0	0.14	1.3	3.65	▲						
	16VER2.50ISO		2.5	0.18	1.5	3.65	▲						
	16VER3.00ISO		3.0	0.22	1.6	3.65	▲						
	22VER4.00ISO		4.0	0.29	2	4.9	▲						
	22VER5.00ISO		5.0	0.36	2.4	4.9	▲						
	27VER6.00ISO		6.0	0.43	2.7	6.4	▲						
	27VER8.00ISO		8.0			8.7	▲						
	27VER10.0ISO		10.0			10	▲						

INTERNAL ISO METRIC THREADING INSERT-60°

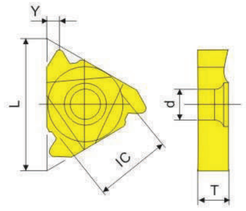
Model	L(mm)	IC(mm)	d(mm)
08..	8	4.76	2.1
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35



Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	11NR1.00ISO-M		1	0.07	0.7	3.18	▲				▲		
	11NR1.50ISO-M		1.5	0.11	1	3.18	▲				▲		
	11NR2.00ISO-M		2	0.14	1	3.18	▲				▲		
	16NR1.00ISO-M		1	0.07	0.7	3.65	▲				▲		
	16NR1.50ISO-M		1.5	0.11	1	3.65	▲				▲		
	16NR2.00ISO-M		2	0.14	1.3	3.65	▲				▲		
	16NR2.50ISO-M		2.5	0.18	1.5	3.65	▲				▲		
	16NR3.00ISO-M		3	0.22	1.6	3.65	▲				▲		
	22NR3.50ISO-M		3.5	0.25	2	4.9	▲				▲		
	22NR4.00ISO-M		4	0.29	2	4.9	▲				▲		
	22NR5.00ISO-M		5	0.36	2.4	4.9	▲				▲		
	22NR6.00ISO-M		6	0.43	2.7	4.9	▲				▲		
	08NR0.50ISO	08NL0.50ISO	0.5	0.04		2.38	▲	▲		▲	▲		▲
	08NR0.75ISO	08NL0.75ISO	0.75	0.05		2.38	▲	▲		▲	▲		▲
	08NR1.00ISO	08NL1.00ISO	1.0	0.07		2.38	▲	▲		▲	▲		▲
	08NR1.25ISO	08NL1.25ISO	1.25	0.09		2.38	▲	▲		▲	▲		▲
	08NR1.50ISO	08NL1.50ISO	1.5	0.11		2.38	▲	▲		▲	▲		▲
	08NR1.75ISO	08NL1.75ISO	1.75	0.13		2.38	▲	▲		▲	▲		▲
	11NR0.50ISO	11NL0.50ISO	0.5	0.04	0.6	3.18	▲	▲		▲	▲		▲
	11NR0.75ISO	11NL0.75ISO	0.75	0.05	0.6	3.18	▲	▲		▲	▲		▲
	11NR1.00ISO	11NL1.00ISO	1.0	0.07	0.7	3.18	▲	▲		▲	▲		▲
	11NR1.25ISO	11NL1.25ISO	1.25	0.09	0.9	3.18	▲	▲		▲	▲		▲
	11NR1.50ISO	11NL1.50ISO	1.5	0.11	1	3.18	▲	▲		▲	▲		▲
	11NR1.75ISO	11NL1.75ISO	1.75	0.13	1.1	3.18	▲	▲		▲	▲		▲
	11NR2.00ISO	11NL2.00ISO	2.0	0.14	1	3.18	▲	▲		▲	▲		▲
	11NR2.50ISO	11NL2.50ISO	2.5	0.18	1	3.18	▲	▲		▲	▲		▲
	16NR0.50ISO	16NL0.50ISO	0.5	0.04	0.6	3.65	▲	▲		▲	▲		▲
	16NR0.75ISO	16NL0.75ISO	0.75	0.05	0.6	3.65	▲	▲		▲	▲		▲
	16NR1.00ISO	16NL1.00ISO	1.0	0.07	0.7	3.65	▲	▲		▲	▲		▲
	16NR1.25ISO	16NL1.25ISO	1.25	0.09	0.9	3.65	▲	▲		▲	▲		▲
	16NR1.50ISO	16NL1.50ISO	1.5	0.11	1	3.65	▲	▲		▲	▲		▲
	16NR1.75ISO	16NL1.75ISO	1.75	0.13	1.2	3.65	▲	▲		▲	▲		▲
	16NR2.00ISO	16NL2.00ISO	2.0	0.14	1.3	3.65	▲	▲		▲	▲		▲
	16NR2.50ISO	16NL2.50ISO	2.5	0.18	1.5	3.65	▲	▲		▲	▲		▲
	16NR3.00ISO	16NL3.00ISO	3.0	0.22	1.6	3.65	▲	▲		▲	▲		▲
	16NR3.50ISO	16NL3.50ISO	3.5	0.25	1.6	3.65	▲	▲		▲	▲		▲
	22NR3.00ISO	22NL3.00ISO	3.0	0.22	2	4.9	▲	▲		▲	▲		▲
	22NR3.50ISO	22NL3.50ISO	3.5	0.25	2	4.9	▲	▲		▲	▲		▲
	22NR4.00ISO	22NL4.00ISO	4.0	0.29	2	4.9	▲	▲		▲	▲		▲
	22NR4.50ISO	22NL4.50ISO	4.5	0.32	2.2	4.9	▲	▲		▲	▲		▲
	22NR5.00ISO	22NL5.00ISO	5.0	0.36	2.4	4.9	▲	▲		▲	▲		▲
	22NR5.50ISO	22NL5.50ISO	5.5	0.4	2.5	4.9	▲	▲		▲	▲		▲
	22NR6.00ISO	22NL6.00ISO	6.0	0.43	2.7	4.9	▲	▲		▲	▲		▲
	27NR5.50ISO	27NL5.50ISO	5.5	0.4		6.4	▲	▲		▲	▲		▲
	27NR6.00ISO	27NL6.00ISO	6.0	0.43		6.4	▲	▲		▲	▲		▲
	16VNR1.00ISO		1.0	0.07		3.65	▲						
	16VNR1.50ISO		1.5	0.11		3.65	▲						
	16VNR2.00ISO		2.0	0.14		3.65	▲						
	16VNR2.50ISO		2.5	0.18		3.65	▲						
	16VNR3.00ISO		3.0	0.22		3.65	▲						
	22VNR4.00ISO		4.0	0.29		4.76	▲						
	22VNR5.00ISO		5.0	0.36		4.9	▲						
	27VNR6.00ISO		6.0	0.43		6.4	▲						
	27VNR8.00ISO		8.0			8.7	▲						
	27VNR10.0ISO		10.0			10	▲						

EXTERNAL 60° AMERICAN UN UNC UNF UNEF UNS

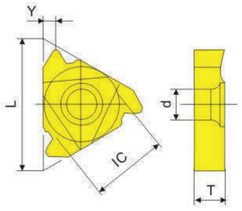
Code	L	T	⌀d
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35



Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	11ER32UN	11EL32UN	32	0.11	0.8	3.18							
	11ER28UN	11EL28UN	28	0.13	0.8	3.18							
	11ER24UN	11EL24UN	24	0.16	0.8	3.18							
	11ER20UN	11EL20UN	20	0.18	0.8	3.18							
	11ER18UN	11EL18UN	18	0.2	0.8	3.18							
	11ER16UN	11EL16UN	16	0.23	1	3.18							
	11ER14UN	11EL14UN	14	0.26	1	3.18							
	11ER12UN	11EL12UN	12	0.3	1.1	3.18							
	16ER32UN	16EL32UN	32	0.11	0.8	3.65	▲						
	16ER28UN	16EL28UN	28	0.13	0.8	3.65	▲						
	16ER24UN	16EL24UN	24	0.16	0.8	3.65	▲						
	16ER20UN	16EL20UN	20	0.18	0.8	3.65	▲						
	16ER18UN	16EL18UN	18	0.2	0.8	3.65	▲						
	16ER16UN	16EL16UN	16	0.23	1	3.65	▲						
	16ER14UN	16EL14UN	14	0.26	1.2	3.65	▲						
	16ER12UN	16EL12UN	12	0.3	1.2	3.65	▲						
	16ER11UN	16EL11UN	11	0.33	1.4	3.65							
	16ER10UN	16EL10UN	10	0.36	1.4	3.65	▲						
	16ER9UN	16EL9UN	9	0.41	1.6	3.65							
	16ER8UN	16EL8UN	8	0.46	1.6	3.65	▲						
	22ER7UN	22EL7UN	7	0.52	2.3	4.9							
	22ER6UN	22EL6UN	6	0.61	2.3	4.9							
	22ER5UN	22EL5UN	5	0.75	2.5	4.9							
	22ER4.5UN	22EL4.5UN	4.5	0.83	2.6	4.9							
	22ER4UN	22EL4UN	4	0.93	2.9	4.9							
	27ER4.5UN	27EL4.5UN	4.5		2.6	6.4							
	27ER4UN	27EL4UN	4		2.9	6.4							
	27VER4UN	27VEL4UN	4		4.35	8.7							
	27VER3UN	27VEL3UN	3		5	10							

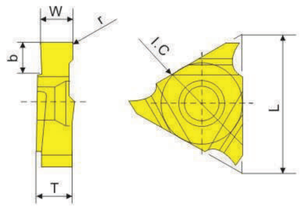
INTERNAL 60° AMERICAN UN UNC UNF UNEF UNS

Model	L(mm)	IC(mm)	d(mm)
11..	11	6.35	3
16..	16	9.525	4
22..	22	12.7	5.1
27..	27	15.875	6.35

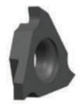


Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	11NR32UN	11NL32UN	32	0.05	0.8	3.18							
	11NR28UN	11NL28UN	28	0.07	0.8	3.18							
	11NR24UN	11NL24UN	24	0.08	0.8	3.18							
	11NR20UN	11NL20UN	20	0.09	0.8	3.18							
	11NR18UN	11NL18UN	18	0.1	0.8	3.18							
	11NR16UN	11NL16UN	16	0.11	1	3.18							
	11NR14UN	11NL14UN	14	0.13	1	3.18							
	11NR12UN	11NL12UN	12	0.15	1.1	3.18							
	16NR32UN	16NL32UN	32	0.05	0.8	3.65							
	16NR28UN	16NL28UN	28	0.07	0.8	3.65							
	16NR24UN	16NL24UN	24	0.08	0.8	3.65							
	16NR20UN	16NL20UN	20	0.09	0.8	3.65							
	16NR18UN	16NL18UN	18	0.1	0.8	3.65							
	16NR16UN	16NL16UN	16	0.11	1	3.65							
	16NR14UN	16NL14UN	14	0.13	1.2	3.65							
	16NR12UN	16NL12UN	12	0.15	1.2	3.65							
	16NR11UN	16NL11UN	11	0.16	1.4	3.65							
	16NR10UN	16NL10UN	10	0.18	1.4	3.65							
	16NR9UN	16NL9UN	9	0.2	1.4	3.65							
	16NR8UN	16NL8UN	8	0.23	1.4	3.65							
	22NR7UN	22NL7UN	7	0.26	2.3	4.9							
	22NR6UN	22NL6UN	6	0.32	2.3	4.9							
	22NR5UN	22NL5UN	5	0.38	2.5	4.9							
	22NR4.5UN	22NL4.5UN	4.5	0.41	2.5	4.9							
	22NR4UN	22NL4UN	4	0.46	2.5	4.9							
	27NR4.5UN	27NL4.5UN	4.5		2.5	6.4							
	27NR4UN	27NL4UN	4		2.5	6.4							
	27VNR4UN	27VNL4UN	4			8.7							
	27VNR3UN	27VNL3UN	3			10							

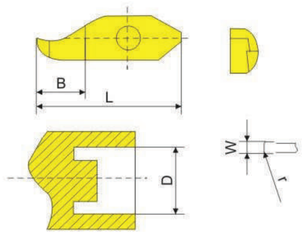
GROOVING MILLING INSERT -TT SERIES



Model	L(mm)	IC(mm)	T(mm)	d(mm)
TT32L	16	3/16''	3.18	4.5
TT43L	22	12.7	5	5.45

Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	–	TGF32L150	–	1.5	2.0	0.1	▲				▲		
	–	TGF32L200	–	2.0	2.8	0.15	▲				▲		
	–	TGF32L250	–	2.5	2.8	0.15	▲				▲		
	–	TGF32L300	–	3.0	2.8	0.15	▲				▲		
	–	TGF32L350	–	3.5	2.8	0.15	▲				▲		
	–	TT43L200	–	2.0	4.8	0.2	▲				▲		
	–	TT43L250	–	2.5	4.8	0.2	▲				▲		
	–	TT43L300	–	3.0	4.8	0.2	▲				▲		
	–	TT43L350	–	3.5	4.8	0.2	▲				▲		
	–	TT43L400	–	4.0	4.8	0.2	▲				▲		
	–	TT43L500	–	5.0	4.8	0.2	▲				▲		
	–	TT43L200-R1.0	–	2.0	4.8	1.0	▲				▲		
	–	TT43L250-R1.25	–	2.5	4.8	1.25	▲				▲		
	–	TT43L300-R1.5	–	3.0	4.8	1.5	▲				▲		
	–	TT43L350-R1.75	–	3.5	4.8	1.75	▲				▲		
	–	TT43L400-R2.0	–	4.0	4.8	2.0	▲				▲		
	–	TT43L500-R2.5	–	5.0	4.8	2.5	▲				▲		

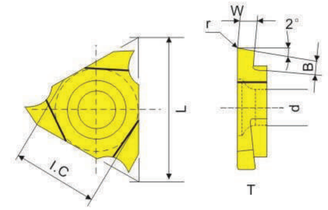
INTERNAL CIRCLIP GROOVING INSERT



Model	L(mm)
SPDR....DM06	13.6
SPDR....DM10	25.1

Shape	Right Hand	Left Hand	Pitch(mm)	Dimension			Grade						
							P			M		K	N
				R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	SPDR100DM06	6	27	1.0	5.8	0.2	▲			▲		▲	
	SPDR150DM06	6	27	1.5	5.8	0.2	▲			▲		▲	
	SPDR200DM06	6	∞	2.0	5.8	0.2	▲			▲		▲	
	SPDR250DM06	6	∞	2.5	5.8	0.2	▲			▲		▲	
	SPDR150DM10	10	32	1.5	6.8	0.2	▲			▲		▲	
	SPDR200DM10	10	∞	2.0	7.8	0.2	▲			▲		▲	
	SPDR250DM10	10	∞	2.5	9.9	0.2	▲			▲		▲	
	SPDR300DM10	10	∞	3.0	9.9	0.2	▲			▲		▲	

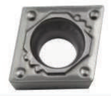
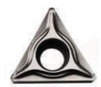
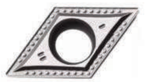
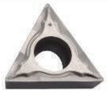
GROOVING MILLING INSERT -TT SERIES



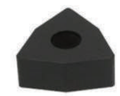
Model	L(mm)	IC(mm)
TGF32**	16	3/8''

Shape	Right Hand	Left Hand	Pitch(mm)	D	Dimension			Grade						
								P			M		K	N
					R	Y	T	TP9508	TP5355	TP1605	TP9108	TP825M	TP220	K10
	TGF32R030	TGF32L030	3.18	4.5	0.3	0.8	0.3							
	TGF32R033	TGF32L033	3.18	4.5	0.33	0.8	0.3							
	TGF32R045	TGF32L045	3.18	4.5	0.45	0.8	0.3							
	TGF32R050	TGF32L050	3.18	4.5	0.5	1	0.05							
	TGF32R060	TGF32L060	3.18	4.5	0.6	1	0.05							
	TGF32R065	TGF32L065	3.18	4.5	0.65	1.4	0.05							
	TGF32R070	TGF32L070	3.18	4.5	0.7	1.4	0.05							
	TGF32R075	TGF32L075	3.18	4.5	0.75	2	0.1							
	TGF32R080	TGF32L080	3.18	4.5	0.8	2	0.1							
	TGF32R085	TGF32L085	3.18	4.5	0.85	2	0.1							
	TGF32R090	TGF32L090	3.18	4.5	0.9	2	0.1							
	TGF32R095	TGF32L095	3.18	4.5	0.95	2	0.1							
	TGF32R100	TGF32L100	3.18	4.5	1	2.2	0.1							
	TGF32R110	TGF32L110	3.18	4.5	1.1	2.2	0.1							
	TGF32R115	TGF32L115	3.18	4.5	1.15	2.2	0.1							
	TGF32R120	TGF32L120	3.18	4.5	1.2	2.2	0.1							
	TGF32R125	TGF32L125	3.18	4.5	1.25	2.2	0.1							
	TGF32R130	TGF32L130	3.18	4.5	1.3	2.2	0.1							
	TGF32R135	TGF32L135	3.18	4.5	1.35	2.2	0.1							
	TGF32R140	TGF32L140	3.18	4.5	1.4	2.2	0.1							
	TGF32R145	TGF32L145	3.18	4.5	1.45	2.2	0.1							
	TGF32R150	TGF32L150	3.18	4.5	1.5	2.4	0.1							
	TGF32R155	TGF32L155	3.18	4.5	1.55	2.4	0.1							
	TGF32R160	TGF32L160	3.18	4.5	1.6	2.4	0.1							
	TGF32R165	TGF32L165	3.18	4.5	1.65	2.4	0.1							
	TGF32R170	TGF32L170	3.18	4.5	1.7	2.4	0.1							
	TGF32R175	TGF32L175	3.18	4.5	1.75	2.4	0.1							
	TGF32R180	TGF32L180	3.18	4.5	1.8	2.4	0.1							
	TGF32R185	TGF32L185	3.18	4.5	1.85	2.4	0.1							
	TGF32R190	TGF32L190	3.18	4.5	1.9	2.7	0.1							
	TGF32R200	TGF32L200	3.18	4.5	2	2.7	0.15							
	TGF32R210	TGF32L210	3.18	4.5	2.1	2.7	0.15							
	TGF32R215	TGF32L215	3.18	4.5	2.15	2.7	0.15							
	TGF32R220	TGF32L220	3.18	4.5	2.2	2.7	0.15							
	TGF32R225	TGF32L225	3.18	4.5	2.25	2.7	0.15							
	TGF32R230	TGF32L230	3.18	4.5	2.3	2.7	0.15							
	TGF32R240	TGF32L240	3.18	4.5	2.4	2.7	0.15							
	TGF32R250	TGF32L250	3.18	4.5	2.5	3.0	0.15							
	TGF32R260	TGF32L260	3.18	4.5	2.6	3.0	0.15							

CERMET INSERTS

					
RCKT RCKT1204MO-PM	**CCGT-H** CCGT060202R/L-H CCGT060204R/L-H CCGT09T300R/L-H CCGT09T302R/L-H CCGT09T304R/L-H	**CCGT-S** CCGT040101R/L-S CCGT040102R/L-S CCGT040104R/L-S CCGT060202R/L-S CCGT060203R/L-S CCGT09T302R/L-S CCGT09T304R/L-S	**CCGT-C** CCGT060202R/L-C CCGT060204R/L-C CCGT09T302R/L-C CCGT09T304R/L-C CCGT09T320R/L-C	**DCGT-C** DCGT070202R/L-C DCGT070204R/L-C DCGT11T301R/L-C DCGT11T302R/L-C DCGT11T304R/L-C	**TNMG-S** TNMG160404R-S TNMG160408R-S
					
TNMG-G TNMG160404R/L-G TNMG160408R/L-G	**TNMG-C** TNMG160402R/L-C TNMG160404R/L-C TNMG160408R/L-C	**TNMG-VF** TNMG160404R/L-VF TNMG160408R/L-VF	**SNMG-HQ** SNMG120404-HQ SNMG120408-HQ	**CNMG-HQ** CNMG120404-HQ CNMG120408-HQ	**TNMG-HQ** TNMG160404-HQ TNMG160408-HQ
					
WNMG-HQ WNMG080404-HQ WNMG080408-HQ WNMG080412-HQ	**CCMT-HQ** CCMT060202-HQ CCMT060204-HQ CCMT09T302-HQ CCMT09T304-HQ	**VNMG-HQ** VNMG160404-HQ VNMG160408-HQ	**TNMG-HQ** TPMT110304-HQ TPMT110308-HQ TCMT16T304-HQ	**CCMT-HQ** CCMT060202-HQ CCMT060204-HQ CCMT09T302-HQ CCMT09T304-HQ	**VBMT-HQ** VBMT110304-HQ VBMT160404-HQ
					
TCMT-FG TCMT110204-FG TCMT16T304-FG TPMT110304-FG	**CCMT-FG** CCMT060204-FG CCMT09T304-FG CCMT09T308-FG	**CCMT-MT** CCMT060204-MT CCMT09T304-MT CCMT09T308-MT	**DCMT-MT** DCMT11T304-MT DCMT11T308-MT	**SCMT-MT** SCMT09T304-MT SCMT09T308-MT	**TCMT-MT** TCMT110204-MT TCMT16T304-MT TCMT16T308-MT
					
SNMG-MT SNMG120404-MT SNMG120408-MT SNMG120408-MA	**TNMG-MT** TNMG160404-MT TNMG160404-MA TNMG160408-MA	**VNMG-MT** VNMG160404-MT VNMG160408-MA	**WNMG-MT** WNMG080404-MT WNMG080408-MT	**TNMG-FG** TNMG160404-FG TNMG160408-FG	**WNMG-FG** WNMG080404-FG WNMG080408-FG
					
DCMT-FG DCMT070204-FG DCMT11T304-FG DCMT11T308-FG	**TCMT-FG** TCMT110204-FG TCMT16T304-FG TPMT110304-FG	**DCMT-FG** DCMT070204-FG DCMT11T304-FG DCMT11T308-FG	**TGF32** TGF32R200-010		

SOLID PCBN SETIES

					
RNGN RNGN250700 RNGN201000 RNGN200700 RNGN150700 RNGN120700 RNGN120400 RNGN090400	**SNGN** SNGN250716 SNGN201012 SNGN200712 SNGN150716 SNGN120712 SNGN120408 SNGN090404	**WNGN** WNGN080404 WNGN080408 WNGN080412	**CNGN** CNGN120404 CNGN120408 CNGN120412	**TNGN** TNGN110404 TNGN160404 TNGN160408 TNGN220408	**WNGA** WNGA080404 WNGA080408 WNGA080412
RCMX-V RCMX060400V RCMX060600V RCMX090700V RCMX120700V RCMX151000V RCMX191000V RCMX201200V RCMX251200V	**RCMX-Y** RCMX060400Y RCMX060500Y RCMX060700Y RCMX090700Y RCMX120700Y	**RNGN** RNGN250700 RNGN201000 RNGN200700 RNGN150700 RNGN120700 RNGN120400 RNGN090400	**DNUN** DNUN110404 DNUN110408 DNUN110412 DNUN110604 DNUN110608 DNUN110612 DNUN150604 DNUN150608	**OPHN-WS** OPHN050418-WS	**OPHN-S** OPHN05054-S

WELDED COMPOUND/SOLID PCBN/CBN SERIES

SCGW SCGW120404 SCGW120408 SCGW120412	**TCGW** TCGW110202 TCGW110204 TCGW110208 TCGW110304 TCGW16T304 TCGW16T308	**VCGW** VCGW160404 VCGW160408 VCGW160412	**CNGA** CNGA120404 CNGA120408 CNGA120412	**DNGA** DNGA110404 DNGA110408 DNGA150408 DNGA150412 DNGA150612	**VNGA** VNGA160404 VNGA160408 VNGA160412
DCGW DCGW070202 DCGW070204 DCGW11T304 DCGW11T308	**CNGA** CNGA120404 CNGA120408 CNGA120412	**VCGW** VBGW160404 VBGW160408 VBGW160404 VBGW160408	**SNGA** SNGA120404 SNGA120408 SNGA120412	**WNGA** WNGA060404 WNGA060408 WNGA060412 WNGA080404 WNGA080408 WNGA080412	

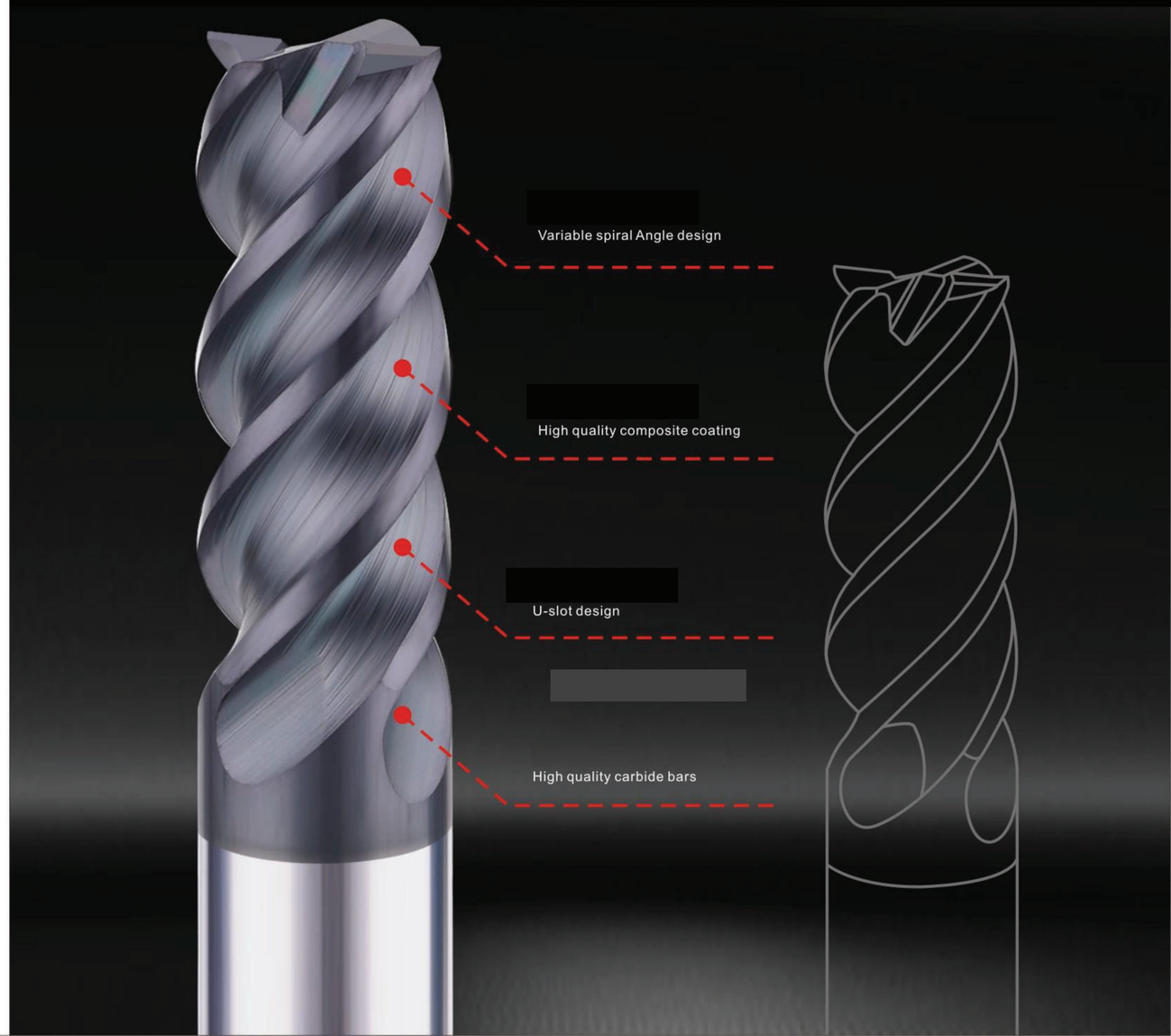
CERA-TECH
INSPECTED

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S400	Stainless Steel Special End Mill		61
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S460-C	Ultrafine Particle Titanium Alloy End Mill		62
S460-C	Ultrafine Particle Titanium Alloy End Mill		62
S650-C	Ultrafine Particle Aerospace Material End Mill		63
HRC55	2F/4F-HRC55 Carbide End mill		65
HRC55	2F-HRC55 Ball nose End Mill		65
HRC55	4F-HRC55 Corner Radius End Mill		65
HRC60	2F/4F-HRC60 Carbide End mill		66
HRC60	2F-HRC60 Ball nose End Mill		66
HRC60	4F-HRC60 Corner Radius End Mill		66
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HRC65	2F-HRC65 Ballnose End Mill		67
HRC65	4F-HRC65 Corner Radius End Mill		67
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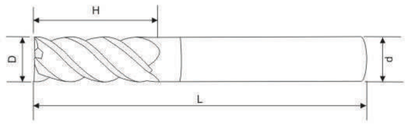
ECONOMICAL CARBIDE END MILLS

Wear-resistant and durable, for the milling cutter service life to make a strong guarantee of longer service life



KNA700





MG Carbide | AlTiN Coating | 40°-41° Helix Angel | HRC ≤ 42

CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D1*D4*50L*4F	1	3	4	50
D1.5*D4*50L*4F	1.5	5	4	50
D2*D4*50L*4F	2	6	4	50
D2.5*D4*50L*4F	2.5	8	4	50
D3*D3*50L*4F	3	9	3	50
D3*D4*50L*4F	3	9	4	50
D3.5*D4*50L*4F	3.5	10	4	50
D4*D4*50L*4F	4	12	4	50
D5*D5*50L*4F	5	13	5	50
D5*D6*50L*4F	5	13	6	50
D6*D6*50L*4F	6	15	6	50
D6*D6*50L*4F	6	18	6	50
D8*D8*60L*4F	8	20	8	60
D8*D8*60L*4F	8	24	8	60
D10*D10*75L*4F	10	25	10	75
D10*D10*75L*4F	10	30	10	75
D12*D12*75L*4F	12	30	12	75
D12*D12*75L*4F	12	35	12	75
D14*D14*100L*4F	14	45	14	100
D16*D16*100L*4F	16	45	16	100
D18*D18*100L*4F	18	45	18	100
D20*D20*100L*4F	20	45	20	100

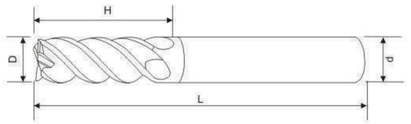
CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D3*D3*75L*4F	3	12	3	75
D3*D3*100L*4F	3	12	3	100
D4*D4*75L*4F	4	16	4	75
D4*D4*100L*4F	4	20	4	100
D5*D5*75L*4F	5	18	5	75
D5*D5*100L*4F	5	30	5	100
D6*D6*75L*4F	6	24	6	75
D6*D6*100L*4F	6	30	6	100
D8*D8*75L*4F	8	25	8	75
D8*D8*100L*4F	8	35	8	100
D10*D10*100L*4F	10	40	10	100
D12*D12*100L*4F	12	45	12	100
D6*D6*150L*4F	6	45	6	150
D8*D8*150L*4F	8	50	8	150
D10*D10*150L*4F	10	55	10	150
D12*D12*150L*4F	12	55	12	150
D14*D14*150L*4F	14	70	14	150
D16*D16*150L*4F	16	80	16	150
D18*D18*150L*4F	18	80	18	150
D20*D20*150L*4F	20	80	20	150

The material to be processed fits the tabl (Most Suitable) (suitable)

Processing material							
P	M	K	H		N		S
Carbon steel Alloy stee	Stainless steel	Cast iron Nodular cast iron	Harden steel (45-55HRC)	Harden steel (55-65HRC)	Copper alloy	Aluminium alloy	Titanium alloy heat-resistant alloy
◎	○	○					

KNA750





UMG Carbide | AlTiN Coating | 45° Helix Angel | HRC ≤ 48

CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D1*D4*50L*4F	1	3	4	50
D1.5*D4*50L*4F	1.5	5	4	50
D2*D4*50L*4F	2	6	4	50
D2.5*D4*50L*4F	2.5	8	4	50
D3*D3*50L*4F	3	9	3	50
D3*D4*50L*4F	3	9	4	50
D3.5*D4*50L*4F	3.5	10	4	50
D4*D4*50L*4F	4	12	4	50
D5*D5*50L*4F	5	13	5	50
D5*D6*50L*4F	5	13	6	50
D6*D6*50L*4F	6	15	6	50
D6*D6*50L*4F	6	18	6	50
D8*D8*60L*4F	8	20	8	60
D8*D8*60L*4F	8	24	8	60
D10*D10*75L*4F	10	25	10	75
D10*D10*75L*4F	10	30	10	75
D12*D12*75L*4F	12	30	12	75
D12*D12*75L*4F	12	35	12	75
D14*D14*100L*4F	14	45	14	100
D16*D16*100L*4F	16	45	16	100
D18*D18*100L*4F	18	45	18	100
D20*D20*100L*4F	20	45	20	100

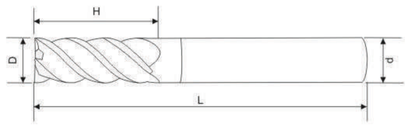
CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D3*D3*75L*4F	3	12	3	75
D3*D3*100L*4F	3	12	3	100
D4*D4*75L*4F	4	16	4	75
D4*D4*100L*4F	4	20	4	100
D5*D5*75L*4F	5	18	5	75
D5*D5*100L*4F	5	30	5	100
D6*D6*75L*4F	6	24	6	75
D6*D6*100L*4F	6	30	6	100
D8*D8*75L*4F	8	25	8	75
D8*D8*100L*4F	8	35	8	100
D10*D10*100L*4F	10	40	10	100
D12*D12*100L*4F	12	45	12	100
D6*D6*150L*4F	6	45	6	150
D8*D8*150L*4F	8	50	8	150
D10*D10*150L*4F	10	55	10	150
D12*D12*150L*4F	12	55	12	150
D14*D14*150L*4F	14	70	14	150
D16*D16*150L*4F	16	80	16	150
D18*D18*150L*4F	18	80	18	150
D20*D20*150L*4F	20	80	20	150

The material to be processed fits the tabl (Most Suitable) (suitable)

Processing material							
P	M	K	H		N		S
Carbon steel Alloy stee	Stainless steel	Cast iron Nodular cast iron	Harden steel (45-55HRC)	Harden steel (55-65HRC)	Copper alloy	Aluminium alloy	Titanium alloy heat-resistant alloy
◎	◎	◎			○		○

KNA800





UMG Carbide | AlCrN Coating | 45° Helix Angel | HRC ≤62

CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D1*D4*50L*4F	1	3	4	4
D1.5*D4*50L*4F	1.5	5	4	4
D2*D4*50L*4F	2	6	4	4
D2.5*D4*50L*4F	2.5	8	4	4
D3*D3*50L*4F	3	9	3	3
D3*D4*50L*4F	3	9	4	4
D4*D4*50L*4F	4	12	4	4
D5*D5*50L*4F	5	13	5	5
D5*D6*50L*4F	5	13	6	6
D6*D6*50L*4F	6	15	6	6
D8*D8*60L*4F	8	20	8	8
D10*D10*75L*4F	10	25	10	10
D12*D12*75L*4F	12	30	12	12
D14*D14*100L*4F	14	45	14	14
D16*D16*100L*4F	16	45	16	16
D20*D20*100L*4F	20	45	20	20

CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D4*D4*75L*4F	4	16	16	4
D4*D4*100L*4F	4	20	20	4
D6*D6*75L*4F	6	24	24	6
D6*D6*100L*4F	6	30	30	6
D8*D8*75L*4F	8	25	25	8
D8*D8*100L*4F	8	35	35	8
D10*D10*100L*4F	10	40	40	10
D12*D12*100L*4F	12	45	45	12
D10*D10*150L*4F	10	55	55	10
D12*D12*150L*4F	12	55	55	12
D14*D14*150L*4F	14	70	70	14
D16*D16*150L*4F	16	80	80	16
D20*D20*150L*4F	20	80	80	20

▶ The material to be processed fits the tabl

(Most Suitable) (suitable)

Processing material							
P	M	K	H		N		S
Carbon steel Alloy stee	Stainless steel	Cast iron Nodular cast iron	Harden steel (45-55HRC)	Harden steel (55-65HRC)	Copper alloy	Aluminium alloy	Titanium alloy heat-resistant alloy
			◎	◎			

S-SERIES
DIFFICULT-TO-MACHINE END MILLS

CARBIDE END MILL FOR MACHINING DIFFICULT-TO-CUT MATERIALS

S400: SUITABLE FOR STAINLESS STEEL

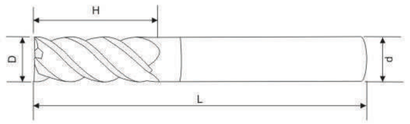
S460-C: SUITABLE FOR HARDENED STAINLESS STEEL AND TITANIUM ALLOY

S650-C: SUITABLE FOR AEROSPACE MATERIALS



S400





UMG Carbide | AlCrN Coating | 39°-41° Helix Angel | HRC ≤48

CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D1*D4*50L*4F	1	3	4	50
D1.5*D4*50L*4F	1.5	5	4	50
D2*D4*50L*4F	2	6	4	50
D2.5*D4*50L*4F	2.5	8	4	50
D3*D4*50L*4F	3	9	4	50
D4*D4*50L*4F	4	12	4	50
D5*D6*50L*4F	5	13	6	50
D6*D6*50L*4F	6	15	6	50
D8*D8*60L*4F	8	20	8	60
D10*D10*75L*4F	10	25	10	75
D12*D12*75L*4F	12	30	12	75
D14*D14*100L*4F	14	35	14	100
D16*D16*100L*4F	16	45	16	100

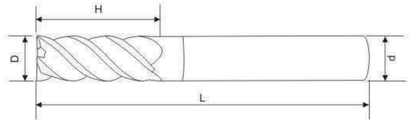
CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D4*D4*75L*4F	4	12	4	75
D6*D6*75L*4F	6	18	6	75
D6*D6*100L*4F	6	18	6	100
D8*D8*75L*4F	8	24	8	75
D8*D8*100L*4F	8	24	8	100
D10*D10*100L*4F	10	30	10	100
D12*D12*100L*4F	12	36	12	100
D16*D16*150L*4F	16	48	16	150

▶ The material to be processed fits the tabl (Most Suitable) (suitable)

Processing material							
P	M	K	H		N		S
Carbon steel Alloy stee	Stainless steel	Cast iron Nodular cast iron	Harden steel (45~55HRC)	Harden steel (55~65HRC)	Copper alloy	Aluminium alloy	Titanium alloy heat-resistant alloy
○	◎	○					○

S460-C





SMG Carbide | TiXN Coating | 40°-41° Helix Angel | HRC ≤48

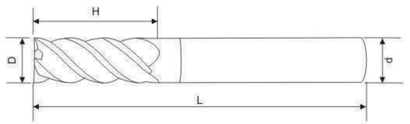
CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/	C45°
D3*D4*50L*4F	3	9	4	50	0.05
D4*D4*50L*4F	4	12	4	50	0.06
D5*D6*50L*4F	5	13	6	50	0.08
D6*D6*50L*4F	6	15	6	50	0.09
D8*D8*60L*4F	8	20	8	60	0.12
D10*D10*75L*4F	10	25	10	75	0.15
D12*D12*75L*4F	12	30	12	75	0.18
D16*D16*100L*4F	16	45	16	100	0.24
D20*D20*100L*4F	20	45	20	100	0.3

▶ The material to be processed fits the tabl (Most Suitable) (suitable)

Processing material							
P	M	K	H		N		S
Carbon steel Alloy stee	Stainless steel	Cast iron Nodular cast iron	Harden steel (45~55HRC)	Harden steel (55~65HRC)	Copper alloy	Aluminium alloy	Titanium alloy heat-resistant alloy
◎	◎	◎			○		○

S650-C





SMG Carbide | ALTiXN Coating | 35°-38° Helix Angel | HRC ≤ 58

CODE	Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/	C45°
D3*D4*50L*4F	3	9	4	50	0.05
D4*D4*50L*4F	4	12	4	50	0.06
D5*D6*50L*4F	5	13	6	50	0.08
D6*D6*50L*4F	6	15	6	50	0.09
D8*D8*60L*4F	8	20	8	60	0.12
D10*D10*75L*4F	10	25	10	75	0.15
D12*D12*75L*4F	12	30	12	75	0.18
D16*D16*100L*4F	16	45	16	100	0.24
D20*D20*100L*4F	20	45	16	100	0.3

▶ The material to be processed fits the tabl

(Most Suitable) (suitable)

Processing material							
P	M	K	H		N		S
Carbon steel Alloy stee	Stainless steel	Cast iron Nodular cast iron	Harden steel (45-55HRC)	Harden steel (55-65HRC)	Copper alloy	Aluminium alloy	Titanium alloy heat-resistant alloy
○	○	○					◎

S-SERIES
DIFFICULT-TO-MACHINE END MILLS

CARBIDE END MILL FOR MACHINING DIFFICULT-TO-CUT MATERIALS

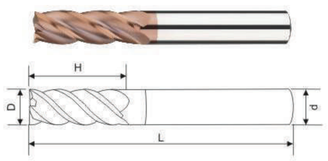
S400: SUITABLE FOR STAINLESS STEEL

S460-C: SUITABLE FOR HARDENED STAINLESS STEEL AND TITANIUM ALLOY

S650-C: SUITABLE FOR AEROSPACE MATERIALS

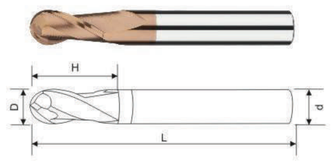


2F/4F-HRC55 CARBIDE END MILL



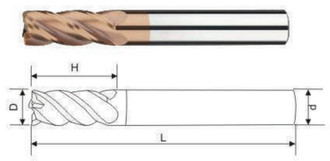
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
1	3	4	50
1	4	4	75
1	5	4	100
1.5	4.5	4	50
1.5	6	4	75
1.5	7	4	100
2	6	4	50
2	8	4	75
2	10	4	100
2.5	7.5	4	50
2.5	10	4	75
3	9	3	50
3	12	3	75
3	15	3	100
3	9	4	50
3	12	4	75
3	15	4	100
3.5	10	4	50
4	12	4	50
4	16	4	75
4	20	4	100
5	15	5	50
5	20	5	75
5	25	5	100
5	15	6	50
6	18	6	50
6	24	6	75
6	30	6	100
6	45	6	150
8	24	8	60
8	30	8	75
8	35	8	100
8	50	8	150
8	70	8	200
10	30	10	75
10	40	10	100
10	60	10	150
10	70	10	200
12	35	12	75
12	45	12	100
12	60	12	150
12	70	12	200
14	45	14	100
14	70	14	150
16	45	16	100
16	70	16	150
16	100	16	200
18	45	18	100
18	70	18	150
20	45	20	100
20	70	20	150
20	100	20	200

2F-HRC55 BALL NOSE END MILL



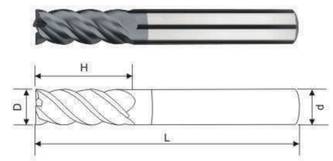
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
R0.5	2	4	50
R0.75	3	4	50
R1	4	4	50
R1.25	5	4	50
R1.5	6	4	50
R1.5	6	3	75
R1.5	6	3	100
R2	8	4	50
R2	8	4	75
R2	8	4	100
R2.5	10	5	50
R2.5	10	5	75
R2.5	10	5	100
R2.5	10	6	50
R3	12	6	75
R3	12	6	100
R3	12	6	150
R4	16	8	60
R4	16	8	75
R4	16	8	100
R4	16	8	150
R5	20	10	75
R5	20	10	100
R5	20	10	150
R6	24	12	75
R6	24	12	100
R6	24	12	150
R7	28	14	100
R7	28	14	150
R8	32	16	100
R8	32	16	150
R9	36	18	100
R9	36	18	150
R10	40	20	100
R10	40	20	150

4F-HRC55 CORNER RADIUS END MILL



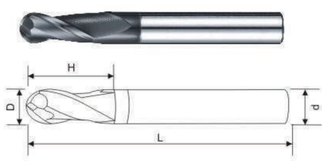
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D1R0.2	3	4	50
D1.5R0.2	4.5	4	50
D2R0.2	6	4	50
D2R0.5	6	4	50
D3R0.2	8	4	50
D3R0.5	8	4	50
D3R1	8	4	50
D4R0.2	10	4	50
D4R0.5	10	4	50
D4R0.5	10	4	75
D4R0.5	10	4	100
D4R1	10	6	50
D4R1	10	6	75
D4R1	10	6	100
D6R0.2	15	6	50
D6R0.5	15	6	50
D6R0.5	15	6	75
D6R0.5	15	6	100
D6R1	15	6	50
D6R1	15	6	75
D6R1	15	6	100
D8R0.5	20	8	60
D8R0.5	20	8	75
D8R0.5	20	8	100
D8R1	20	8	60
D8R1	20	8	75
D8R1	20	8	100
D10R0.5	25	10	75
D10R0.5	25	10	100
D10R1	25	10	75
D10R1	25	10	100
D12R0.5	30	12	75
D12R0.5	30	12	100
D12R1	30	12	75
D12R1	30	12	100

2F/4F-HRC60 CARBIDE END MILL



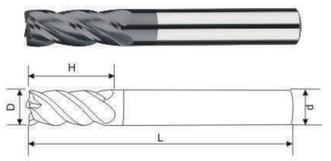
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
1	3	4	50
1.5	4.5	4	50
2	6	4	50
2.5	7.5	4	50
3	9	3	50
3	12	3	75
3	15	3	100
3	9	4	50
3.5	9	4	50
4	10	4	50
4	16	4	75
4	20	4	100
5	13	5	50
5	20	5	75
5	25	5	100
5	13	6	50
6	15	6	50
6	24	6	75
6	30	6	100
6	40	6	150
8	20	8	60
8	30	8	75
8	35	8	100
8	50	8	150
8	70	8	200
10	25	10	75
10	40	10	100
10	50	10	150
10	70	10	200
12	30	12	75
12	45	12	100
12	55	12	150
12	70	12	200
14	40	14	100
14	70	14	150
16	45	16	100
16	75	16	150
16	100	16	200
18	45	18	100
18	75	18	150
20	45	20	100
20	75	20	150
20	100	20	200

2F-HRC60 BALL NOSE END MILL



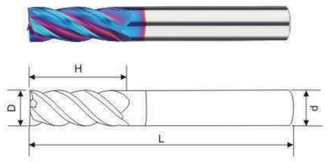
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
R0.5	2	4	50
R0.75	3	4	50
R1	4	4	50
R1.25	5	4	50
R1.5	6	4	50
R1.5	6	3	75
R1.5	6	3	100
R2	8	4	50
R2	8	4	75
R2	8	4	100
R2.5	10	5	50
R2.5	10	5	75
R2.5	10	5	100
R2.5	10	6	50
R3	12	6	75
R3	12	6	100
R3	12	6	150
R4	16	8	60
R4	16	8	75
R4	16	8	100
R4	16	8	150
R5	20	10	75
R5	20	10	100
R5	20	10	150
R6	24	12	75
R6	24	12	100
R6	24	12	150
R7	28	14	100
R7	28	14	150
R8	32	16	100
R8	32	16	150
R9	36	18	100
R9	36	18	150
R10	40	20	100
R10	40	20	150

4F-HRC60 CORNER RADIUS



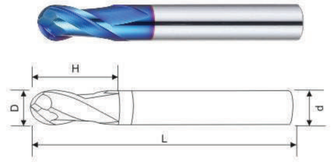
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D1R0.2	3	4	50
D1.5R0.2	4.5	4	50
D2R0.2	6	4	50
D2R0.5	6	4	50
D3R0.2	8	4	50
D3R0.5	8	4	50
D3R1	8	4	50
D4R0.2	10	4	50
D4R0.5	10	4	50
D4R0.5	10	4	75
D4R0.5	10	4	100
D4R1	10	4	50
D4R1	10	4	75
D4R1	10	4	100
D6R0.2	15	6	50
D6R0.5	15	6	50
D6R0.5	15	6	75
D6R0.5	15	6	100
D6R1	15	6	50
D6R1	15	6	75
D6R1	15	6	100
D8R0.5	20	8	60
D8R0.5	20	8	75
D8R0.5	20	8	100
D8R1	20	8	60
D8R1	20	8	75
D8R1	20	8	100
D10R0.5	25	10	75
D10R0.5	25	10	100
D10R1	25	10	75
D10R1	25	10	100
D12R0.5	30	12	75
D12R0.5	30	12	100
D12R1	30	12	75
D12R1	30	12	100

2F/4F-HRC65 CARBIDE END MILL



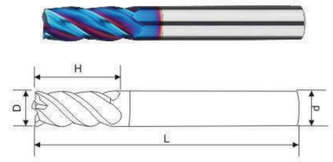
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
1	3	4	50
1.5	4.5	4	50
2	6	4	50
2.5	7.5	4	50
3	9	3	50
3	12	3	75
3	15	3	100
3	9	4	50
3.5	9	4	50
4	10	4	50
4	16	4	75
4	20	4	100
5	13	5	50
5	20	5	75
5	25	5	100
6	13	6	50
6	15	6	50
6	24	6	75
6	30	6	100
6	40	6	150
8	20	8	60
8	30	8	75
8	35	8	100
8	50	8	150
10	25	10	75
10	40	10	100
10	60	10	150
12	30	12	75
12	45	12	100
12	60	12	150
14	40	14	100
14	70	14	150
16	45	16	100
16	75	16	150
18	45	18	100
18	75	18	150
20	45	20	100
20	75	20	150

2F-HRC65 BALL NOSE END MILL



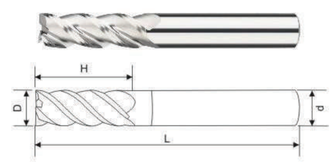
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
R0.5	2	4	50
R0.75	3	4	50
R1	4	4	50
R1.25	5	4	50
R1.5	6	4	50
R1.5	6	3	75
R1.5	6	3	100
R2	8	4	50
R2	8	4	75
R2	8	4	100
R2.5	10	5	50
R2.5	10	5	75
R2.5	10	5	100
R2.5	10	6	50
R3	12	6	50
R3	12	6	75
R3	12	6	100
R3	12	6	150
R4	16	8	60
R4	16	8	75
R4	16	8	100
R4	16	8	150
R5	20	10	75
R5	20	10	100
R5	20	10	150
R6	24	12	75
R6	24	12	100
R6	24	12	150
R7	28	14	100
R7	28	14	150
R8	32	16	100
R8	32	16	150
R9	36	18	100
R9	36	18	150
R10	40	20	100
R10	40	20	150

4F-HRC65 CORNER RADIUS END MILL



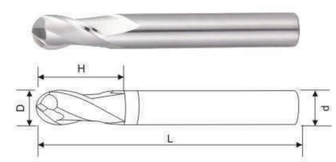
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
D1R0.2	3	4	50
D1.5R0.2	4.5	4	50
D2R0.2	6	4	50
D2R0.5	6	4	50
D3R0.2	8	4	50
D3R0.5	8	4	50
D3R1	8	4	50
D4R0.2	10	4	50
D4R0.5	10	4	50
D4R0.5	10	4	75
D4R0.5	10	4	100
D4R1	10	4	50
D4R1	10	4	75
D4R1	10	4	100
D6R0.2	15	6	50
D6R0.5	15	6	50
D6R0.5	15	6	75
D6R0.5	15	6	100
D6R1	15	6	50
D6R1	15	6	75
D6R1	15	6	100
D8R0.5	20	8	60
D8R0.5	20	8	75
D8R0.5	20	8	100
D8R1	20	8	60
D8R1	20	8	75
D8R1	20	8	100
D10R0.5	25	10	75
D10R0.5	25	10	100
D10R1	25	10	75
D10R1	25	10	100
D12R0.5	30	12	75
D12R0.5	30	12	100
D12R1	30	12	75
D12R1	30	12	100

2F/3F-ALUMINUM END MILL



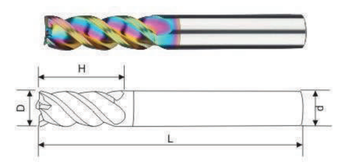
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
1	3	4	50
1	4	4	75
1	5	4	100
1.5	4.5	4	50
1.5	6	4	75
1.5	7	4	100
2	6	4	50
2	8	4	75
2	10	4	100
2.5	7.5	4	50
2.5	10	4	75
3	9	3	50
3	12	3	75
3	15	3	100
3	9	4	50
3	12	4	75
3	15	4	100
3.5	10	4	50
4	12	4	50
4	16	4	75
4	20	4	100
5	15	5	50
5	20	5	75
5	25	5	100
5	15	5	50
6	18	6	50
6	24	6	75
6	30	6	100
6	45	6	150
8	24	8	60
8	30	8	75
8	35	8	100
8	50	8	150
8	70	8	200
10	30	10	75
10	40	10	100
10	60	10	150
10	70	10	200
12	35	12	75
12	45	12	100
12	60	12	150
12	70	12	200
14	45	14	100
14	70	14	150
16	45	16	100
16	70	16	150
16	100	16	200
18	45	18	100
18	70	18	150
20	45	20	100
20	70	.20	150
20	100	20	200

2F-ALUMINUM BALL NOSE END MILL



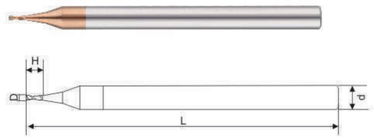
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
R0.5	2	4	50
R0.75	3	4	50
R1	4	4	50
R1.25	5	4	50
R1.5	6	4	50
R1.5	6	4	75
R1.5	6	4	100
R2	8	4	50
R2	8	4	75
R2	8	4	100
R2.5	10	5	50
R2.5	10	5	75
R2.5	10	5	100
R2.5	10	6	50
R3	12	6	50
R3	12	6	75
R3	12	6	100
R3	12	6	150
R4	16	8	60
R4	16	8	75
R4	16	8	100
R4	16	8	150
R5	20	10	75
R5	20	10	100
R5	20	10	150
R6	24	12	75
R6	24	12	100
R6	24	12	150
R7	28	14	100
R7	28	14	150
R8	32	16	100
R8	32	16	150
R9	36	18	100
R9	36	18	150
R10	40	20	100
R10	40	20	150

DLC-U ALUMINUM END MILLS



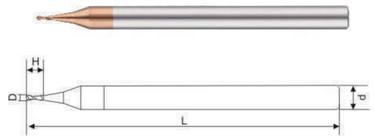
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
1	3	4	50
1.5	5	4	50
2	6	4	50
2.5	8	4	50
3	9	3	50
3	12	3	75
3	15	3	100
3	9	4	50
3.5	10	4	50
4	12	4	50
4	16	4	75
4	20	4	100
5	15	5	50
5	20	5	75
5	25	5	100
5	15	6	50
6	18	6	50
6	24	6	75
6	30	6	100
6	45	6	150
8	24	8	60
8	30	8	75
8	35	8	100
8	50	8	150
10	30	10	75
10	40	10	100
10	55	10	150
12	35	12	75
12	45	12	100
12	55	12	150
14	45	14	100
14	70	14	150
16	45	16	100
16	80	16	150
18	45	18	100
18	80	18	150
20	45	20	100
20	80	20	150

2F-HRC60 MICRO END MILL-NANO COATING



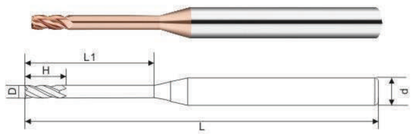
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
0.1	0.2	4	50
0.2	0.4	4	50
0.3	0.6	4	50
0.4	0.8	4	50
0.5	1	4	50
0.6	1.2	4	50
0.7	1.4	4	50
0.8	1.6	4	50
0.9	1.8	4	50

2F-HRC60 MICRO BALL NOSE -NANO COATING



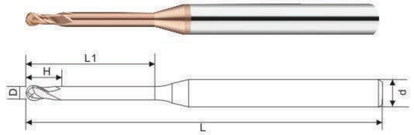
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
R0.05	0.2	4	50
R0.1	0.4	4	50
R0.15	0.6	4	50
R0.2	0.8	4	50
R0.25	1	4	50
R0.3	1.2	4	50
R0.35	1.4	4	50
R0.4	1.6	4	50
R0.45	1.8	4	50

2F-HRC60 LONGNECK END MILL



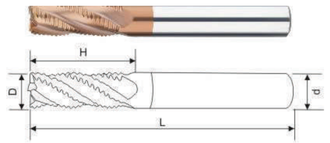
Blade Diameter/D	Blade length /H Neck	length/L1 Shank	Diameter/d Overall	Length/L
0.5	1	2	4	50
0.5	1	4	4	50
0.5	1	6	4	50
0.5	1	8	4	50
0.5	1	10	4	50
1	3	6	4	50
1	3	8	4	50
1	3	10	4	50
1	3	12	4	50
1	3	15	4	50
1	3	20	4	50
1.5	4.5	6	4	50
1.5	4.5	8	4	50
1.5	4.5	10	4	50
1.5	4.5	12	4	50
1.5	4.5	15	4	50
1.5	4.5	20	4	50
2	6	8	4	50
2	6	10	4	50
2	6	12	4	50
2	6	15	4	50
2	6	20	4	50
2.5	7.5	10	4	50
2.5	7.5	12	4	50
2.5	7.5	15	4	50
2.5	7.5	20	4	50
3	9	12	4	50
3	9	15	4	50
3	9	20	4	50

2F-HRC60 LONG NECK BALLNOSE



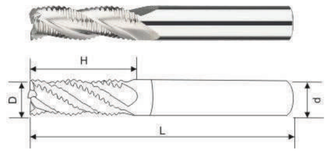
Blade Diameter/D	Blade length /H Neck	length/L1 Shank	Diameter/d Overall	Length/L
R0.25	1	2	4	50
R0.25	1	4	4	50
R0.25	1	6	4	50
R0.25	1	8	4	50
R0.25	1	10	4	50
R0.5	2	6	4	50
R0.5	2	8	4	50
R0.5	2	10	4	50
R0.5	2	12	4	50
R0.5	2	15	4	50
R0.5	2	20	4	50
R0.75	3	6	4	50
R0.75	3	8	4	50
R0.75	3	10	4	50
R0.75	3	12	4	50
R0.75	3	15	4	50
R0.75	3	20	4	50
R1	4	8	4	50
R1	4	10	4	50
R1	4	12	4	50
R1	4	15	4	50
R1	4	20	4	50
R1.25	5	10	4	50
R1.25	5	12	4	50
R1.25	5	15	4	50
R1.25	5	20	4	50
R1.5	6	12	4	50
R1.5	6	15	4	50
R1.5	6	20	4	50

4F-COATED ROUGH END MILL



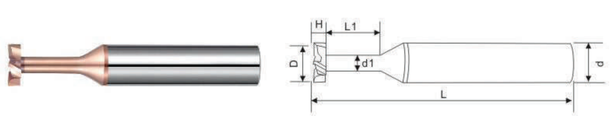
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
4	10	4	50
5	13	5	50
6	15	6	50
6	30	6	100
8	20	8	60
8	35	8	100
10	25	10	75
10	40	10	100
10	60	10	150
12	30	12	75
12	45	12	100
12	60	12	150
14	45	14	100
14	70	14	150
16	45	16	100
16	75	16	150
18	45	18	100
18	75	18	150
20	45	20	100
20	75	20	150

3F-ALUMINUM ROUGH ENDMILL



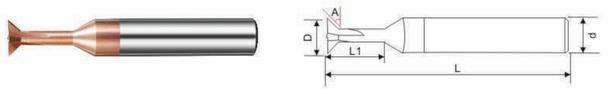
Blade Diameter/D	Blade length/H	Shank Diameter/d	Overall Length/
4	10	4	50
5	13	5	50
6	15	6	50
6	30	6	100
8	20	8	60
8	35	8	100
10	25	10	75
10	40	10	100
10	60	10	150
12	30	12	75
12	45	12	100
12	60	12	150
14	45	14	100
14	70	14	150
16	45	16	100
16	75	16	150
18	45	18	100
18	75	18	150
20	45	20	100
20	75	20	150

T-TYPE ENDMILL



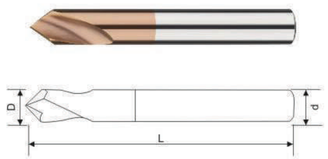
Blade Diameter/D	Blade length /H Neck	Clearance path/d1	Azure Sky / L1	Diameter/d Overall	
4	0.5	1.5	6	4	50
4	1	1.5	6	4	50
4	1.5	1.5	6	4	50
4	2	1.5	6	4	50
4	3	1.5	6	4	50
6	0.5	2.5	10	6	50
6	1	2.5	10	6	50
6	1.5	2.5	10	6	50
6	2	2.5	10	6	50
6	3	2.5	10	6	50
6	4	2.5	10	6	50
8	0.5	3.5	12	8	60
8	1	3.5	12	8	60
8	1.5	3.5	12	8	60
8	2	3.5	12	8	60
8	3	3.5	12	8	60
8	4	3.5	12	8	60
10	0.5	4	15	10	75
10	1	4	15	10	75
10	1.5	4	15	10	75
10	2	4	15	10	75
10	3	4	15	10	75
10	4	4	15	10	75
10	5	4	15	10	75
12	0.5	5	15	12	75
12	1	5	15	12	75
12	1.5	5	15	12	75
12	2	5	15	12	75
12	3	5	15	12	75
12	4	5	15	12	75
12	5	5	15	12	75

CARBIDE DOVETAIL CUITTER



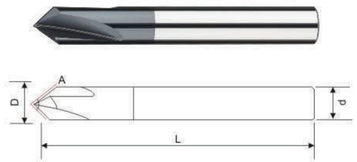
Blade Diameter/D	Angle/A	Avoid length /L1	Handle diameter/d	
3	60°/90°/120°	6	4	50
4	60°/90°/120°	8	4	50
6	60°/90°/120°	10	6	50
8	60°/90°/120°	12	8	60
10	60°/90°/120°	15	10	75
12	60°/90°/120°	18	12	75

2F-SPOT DRILL



Cutting Diameter/D	Angle/A	Shan shank Diameter/d	Overall Length/L
1	60°/90°/120°	4	50
1.5	60°/90°/120°	4	50
2	60°/90°/120°	4	50
2.5	60°/90°/120°	4	50
3	60°/90°/120°	4	50
3	60°/90°/120°	3	50
4	60°/90°/120°	4	50
4	90°	4	100
5	90°	5	50
6	60°/90°/120°	6	50
6	90°	6	100
8	60°/90°/120°	8	60
8	90°	8	100
10	60°/90°/120°	10	75
10	90°	10	100
12	60°/90°/120°	12	75
12	90°	12	100
14	90°	14	100
16	90°	16	100
18	90°	18	100
20	90°	20	100

3F-CARBIDE CHAMFER DRILL

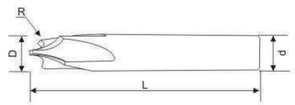


Cutting Diameter/D	Angle/A	Shan shank Diameter/d	Overall Length/L
1	60°/90°/120°	4	50
1.5	60°/90°/120°	4	50
2	60°/90°/120°	4	50
2.5	60°/90°/120°	4	50
3	60°/90°/120°	4	50
3	60°/90°/120°	3	50
4	60°/90°/120°	4	50
4	90°	4	100
5	90°	5	50
6	60°/90°/120°	6	50
6	90°	6	100
8	60°/90°/120°	8	60
8	90°	8	100
10	60°/90°/120°	10	75
10	90°	10	100
12	60°/90°/120°	12	75
12	90°	12	100
14	90°	14	100
16	90°	16	100
18	90°	18	100
20	90°	20	100

INNER R CUTTER

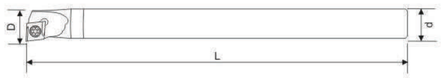






Cutting diameter/D	R angle/R	Shan shank diameter/d	Overall length/L
4	0.5	4	50
4	0.75	4	50
4	1	4	50
6	1	6	50
6	1.5	6	50
6	2	6	50
6	2.5	6	50
8	2.5	8	60
8	3	8	60
10	4	10	75
12	5	12	75

CARBIDE TOOL HOLDER





Code	Matching blade type	Minimum machining Diameter	Length	Shank diameter
C04H-SCLCR03	CCGT030102L	5	100	4
C05H-SCLCR03	CCGT030104L	6	100	5
C06K-SCLCR06	CCGT060204 CCMT060204	8.5	125	6
C07K-SCLCR06		9	125	7
C08K-SCLCR06		10	125	8
C10K-SCLCR06		12.5	125	10
C12M-SCLCR06		14.5	150	12
C12M-SCLCR09	CCGT09T304 CCMT09T304	15	150	12
C14N-SCLCR09		17	160	14
C14Q-SCLCR09		17	180	14
C16Q-SCLCRO9		19	180	16
C18Q-SCLCRO9		21	180	18
C20Q-SCLCR09		23	180	20
C20R-SCLCR09		23	200	20
C25R-SCLCR09		28	200	25
C25S-SCLCR09		28	250	25
C32T-SCLCR09		36	300	32
C08K-SDUCR/L07	DC□□0702□□	13	125	8
C10K-SDUCR/L07		15	125	10
C12M-SDUCR/L07		17	150	12
C14N-SDUCR/L07		17	160	14
C16Q-SDUCR/L07		21	180	16
C16Q-SDUCR/L11	DC□□11T3□□	21	180	16
C18Q-SDUCR/L11		24	180	18
C20R-SDUCR/L11		28	200	20
C25S-SDUCR/L11		35	250	25
C32T-SDUCR/L11		42	300	32
CO8K-STUCR/L09	TC□□0902□□	10.5	125	8
C10K-STUCR/LO9		13.5	125	10
C10K-STUCR/L11	TC□□1102□□	13.5	125	10
C12M-STUCR/L11		16	150	12
C16Q-STUCR/L11		20	180	16
C08K-STUPR/LO9	TP□□0902□□	11	125	8
C10K-STUPR/LO9		13	125	10
C10K-STUPR/L1103	TC□□1103□□	13	125	10
C12M-STUPR/L1103		16	150	12
C16N-STUPR/L1103		20	160	16

We accept custom designs and samples!
Non-standard size can be done according to your drawing

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