

THE NEW VALUE FRONTIER



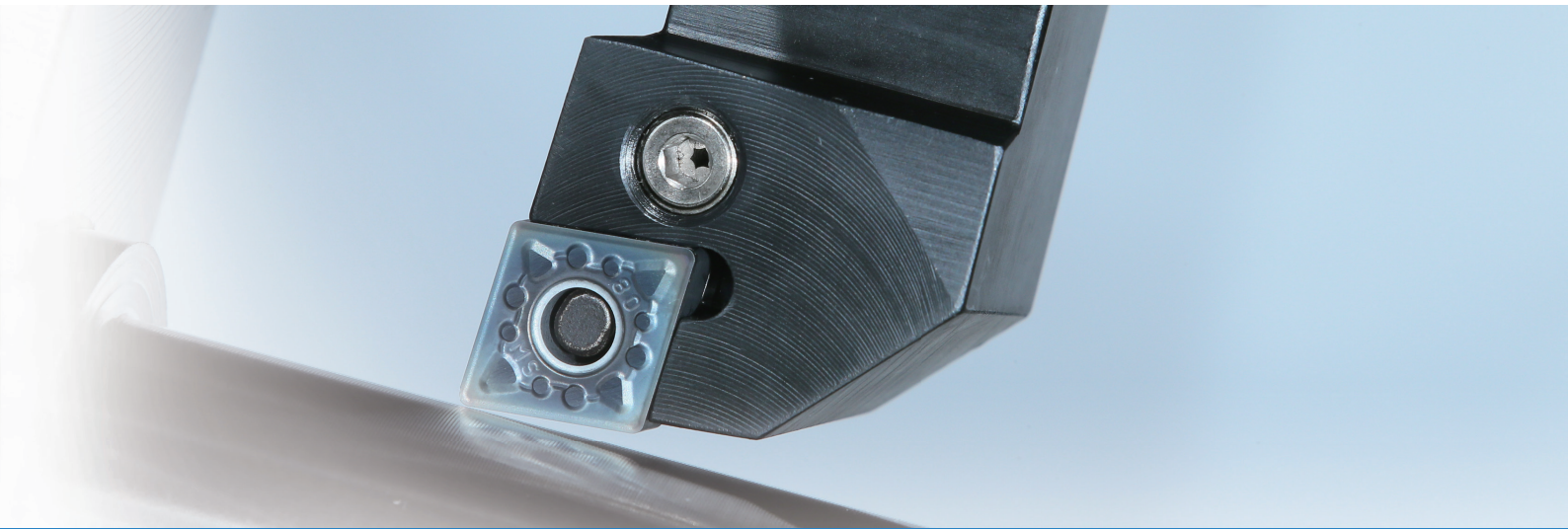
For Turning
MEGACOAT NANO

PR1535

For Turning

MEGACOAT NANO

PR1535

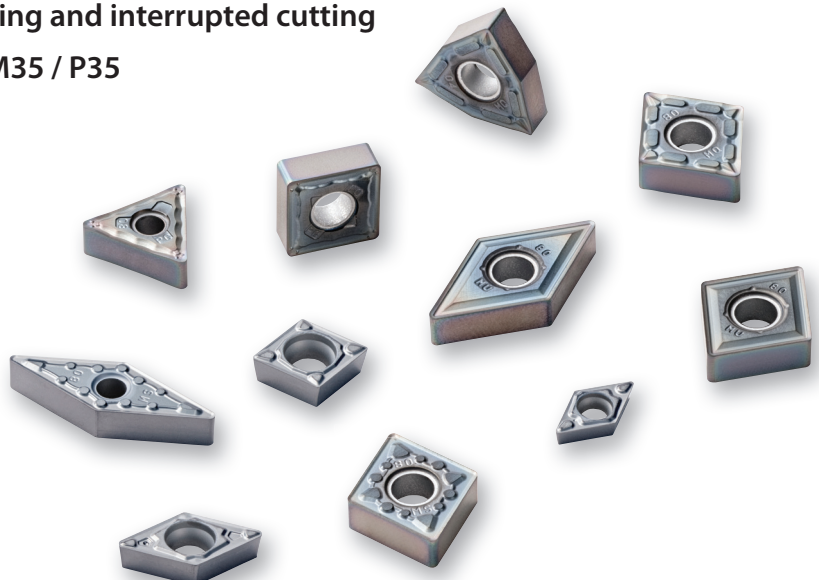


Widely applicable from steel to difficult-to-cut materials

Most suitable for heat resistant alloy, titanium alloy and stainless steel

Reduction of sudden fracture at scaling and interrupted cutting

Reliable new tough grade for S35 / M35 / P35

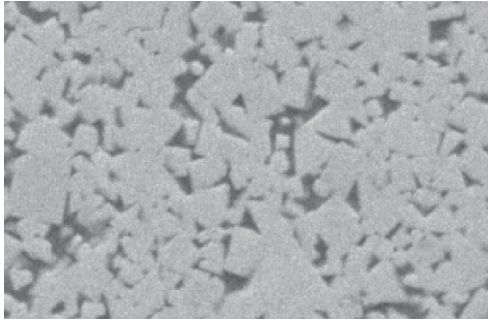


MEGACOAT NANO PR1535

Fracture resistant with a tough substrate and high heat-resistant coating
Stable machining of general steel, mold steel, and difficult-to-cut materials

1 Toughening by a New Cobalt Mixing Ratio *In-house Evaluation

High Toughness Carbide Base Material



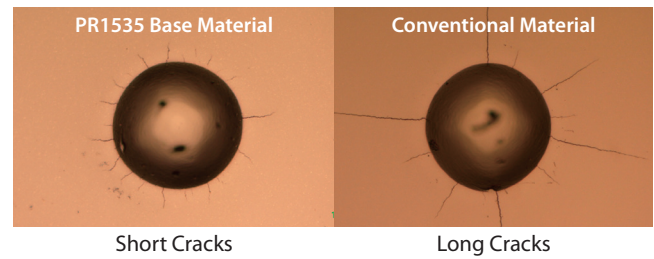
UP
23%
Fracture
Toughness*

2 Stability Improvement

The coarse grain structure and uniform particle size correspond to improved heat resistance, with conductivity values decreased by 11%. The uniform structure also reduces crack propagation.

Cracking Comparison by Diamond Indenter
(In-house Evaluation)

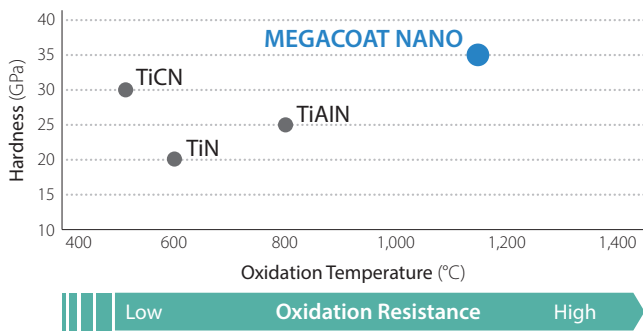
UP
Shock
Resistance



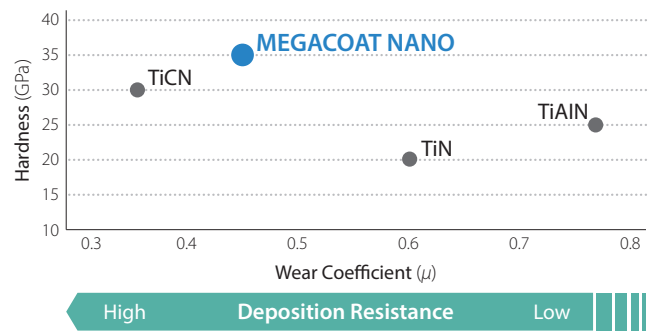
3 Stabilized turning operation and long tool life by special nano coating layer MEGACOAT NANO

Prevents wear and fracture with high hardness (35GPa) and superior oxidation resistance (oxidation temperature 1,150°C)

Coating Properties (Abrasion Resistance)



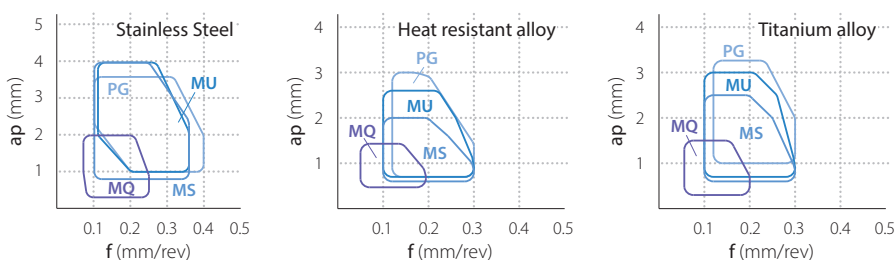
Coating Properties (Deposition Resistance)



Achieve long tool life with the combination of a tough substrate and a special Nano coating layer

Stable Machining with Excellent Wear Resistance

Cutting Condition (External)

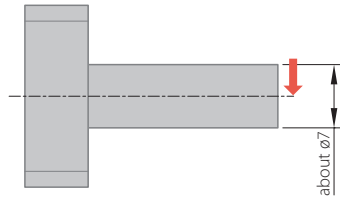


Workpiece Material	Cutting speed Vc (m/min) Min. - Recommendation - Max.
Stainless Steel	70 - 120 - 160
Heat resistant alloy	40 - 50 - 60
Titanium alloy	40 - 50 - 60

Case Studies

Bolt Ni-base heat resistant Alloy

Vc = 50 m/min
ap = 1.0 mm
f = 0.2 mm/rev
Wet
CNMG120408MS
PR1535



Machining Efficiency

PR1535
(MS Chip Breaker) **80 pcs/edge** **2.6 Times** Tool Life

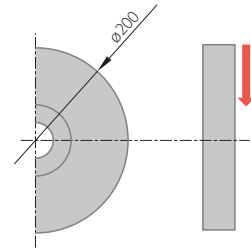
Competitor A **30 pcs/edge**

PR1535 (MS chipbreaker) shows 2.6times longer tool life compared to Competitor A

(User Evaluation)

Aircraft Parts Ni-base heat resistant Alloy

Vc = 50 m/min
ap = 0.5 mm
f = 0.1 mm/rev
Wet
CNMG120408MU
PR1535

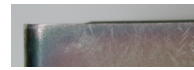


Machining Efficiency

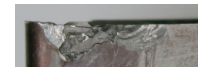
PR1535
(MU Chip Breaker) **1 pcs/edge**

Competitor B **1 pcs/edge**

PR1535-MU Chipbreaker realized the stable machining by preventing the fracture at scaling and interrupted cutting compared with Competitor B.



PR1535

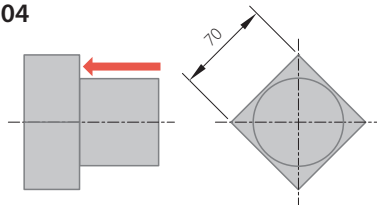


Competitor B

(User Evaluation)

Square bar SUS304

Vc = 100 m/min
ap = 2.0 mm
f = 0.2 mm/rev
Wet
CNMG120408MS
PR1535



Machining Efficiency

PR1535
(MS Chip Breaker) **50 pcs/edge** **5 Times** Tool Life

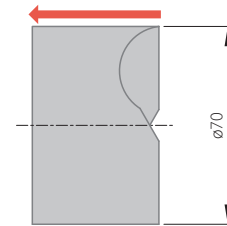
Competitor C **10 pcs/edge**

Competitor C fractured due to heavy interrupted machining. PR1535 (MS chipbreaker) shows 5times longer tool life compared to Competitor C (CVD Coated Carbide).

(User Evaluation)

Lenz tube SUS304

Vc = 120 m/min
ap = 1.0 mm
f = 0.15 mm/rev
Wet
CNMG120408MS
PR1535



Machining Efficiency

PR1535
(MS Chip Breaker) **80 pcs/edge** **2.6 Times** Tool Life

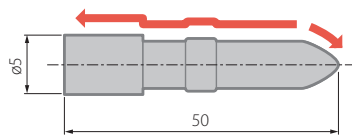
Competitor D **30 pcs/edge**

Heavy interrupted machining PR1535 (MS chipbreaker) shows 2.6times longer tool life compared to Competitor D.

(User Evaluation)

Pin SUS630

Vc = ~55 m/min
(n = 3,600 min⁻¹)
ap = 0.1~0.7 mm
f = 0.03 mm/rev
Wet (Oil-based)
DCGT11T302MFP-GQ
PR1535



Machining Efficiency

PR1535
(GQ Chip Breaker) **1,600 pcs/edge** **1.3 Times** Tool Life

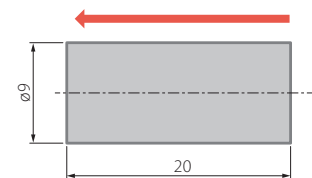
Competitor E **1,200 pcs/edge**

Unstable tool life due to sudden defects for competitor E. GQ chipbreaker (PR1535) is capable of stable machining without defects, with tool life improved to 1.3 times.

(User Evaluation)

Valve SUS440C

Vc = 100 m/min
(n = 3,600 min⁻¹)
ap = 0.1 mm
f = 0.06 mm/rev
Wet (Oil-based)
DCGT11T302MFP-SK
PR1535



Machining Efficiency

PR1535
(SK Chip Breaker) **600 pcs/edge** **1.3 Times** Tool Life















Competitor F **450 pcs/edge**














SK Chipbreaker (PR1535) Tool Life 1.3 times.

(User Evaluation)

Standard Stock Item Description

Negative Insert

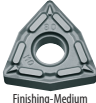




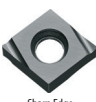
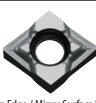
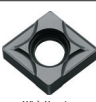

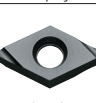




Shape	Description	Dimensions (mm)				PR1535
		I.C.	Thickness	Hole Diameter	Corner R (rε)	
 Finishing-Medium	CNMG 120404MQ	12.70	4.76	5.16	0.4	●
	120408MQ				0.8	●
 Medium-Roughing	CNMG 120404MS	12.70	4.76	5.16	0.4	●
	120408MS				0.8	●
	120412MS				1.2	●
 Medium-Roughing	CNMG 120404MU	12.70	4.76	5.16	0.4	●
	120408MU				0.8	●
	120412MU				1.2	●
 Medium-Roughing	CNMG 120404PG	12.70	4.76	5.16	0.4	●
	120408PG				0.8	●
	120412PG				1.2	●
 Sharp Edge / Mirror Surface Finish	CNGG 120404FP-TK	12.70	4.76	5.16	0.4	●
	120408FP-TK				0.8	●
 Sharp Edge / Mirror Surface Finish	CNGG 120402MFP-SK	12.70	4.76	5.16	<0.2	●
	120404MFP-SK				<0.4	●
 Finishing-Medium	DNMG 150404MQ	12.70	4.76	5.16	0.4	●
	150408MQ				0.8	●
	DNMG 150604MQ	12.70	4.76	5.16	0.4	●
	150608MQ				0.8	●
 Medium-Roughing	DNMG 150404MS	12.70	4.76	5.16	0.4	●
	150408MS				0.8	●
	150412MS				1.2	●
	DNMG 150604MS	12.70	4.76	5.16	0.4	●
	150608MS				0.8	●
	150612MS				1.2	●
 Medium-Roughing	DNMG 150604MU	12.70	4.76	5.16	0.4	●
	150608MU				0.8	●
 Medium-Roughing	DNMG 150404PG	12.70	4.76	5.16	0.4	●
	150408PG				0.8	●
	150412PG				1.2	●
 Medium-Roughing	DNMG 150604PG	12.70	4.76	5.16	0.4	●
	150608PG				0.8	●
	150612PG				1.2	●
 Large depths of cut	DNMG 150402R-LD	12.70	4.76	5.16	0.2	R
	150404R-LD				0.4	R
 Sharp Edge / Mirror Surface Finish	DNGG 150404FP-TK	12.70	4.76	5.16	0.4	●
	150408FP-TK				0.8	●
 Sharp Edge / Mirror Surface Finish	DNGG 150402MFP-SK	12.70	4.76	5.16	<0.2	●
	150404MFP-SK				<0.4	●

Shape	Description	Dimensions (mm)				PR1535
		I.C.	Thickness	Hole Diameter	Corner R (rε)	
 Medium-Roughing	SNMG 120408MS	12.70	4.76	5.16	0.8	●
	120412MS				1.2	●
 Medium-Roughing	SNMG 120408PG	12.70	4.76	5.16	0.8	●
	120412PG				1.2	●
 Finishing-Medium	TNMG 160404MQ	9.525	4.76	3.81	0.4	●
	160408MQ				0.8	●
 Medium-Roughing	TNMG 160404MS	9.525	4.76	3.81	0.4	●
	160408MS				0.8	●
	160412MS				1.2	●
 Medium-Roughing	TNMG 160404MU	9.525	4.76	3.81	0.4	●
	160408MU				0.8	●
 Medium-Roughing	TNMG 160404PG	9.525	4.76	3.81	0.4	●
	160408PG				0.8	●
	160412PG				1.2	●
 Large depths of cut	TNMG 160402R-LD	9.525	4.76	3.81	0.2	●
	160404R-LD				0.4	●
 Sharp Edge / Mirror Surface Finish	TNGG 160404FP-TK	9.525	4.76	3.81	0.4	●
	160408FP-TK				0.8	●
 Surface Roughness Oriented	TNGG 160402 R/L-S	9.525	4.76	3.81	0.2	●
	160404 R/L-S				0.4	●
	160408 R/L-S				0.8	●
 Sharp Edge / Mirror Surface Finish	TNGG 160401MFP-SK	9.525	4.76	3.81	<0.1	●
	160402MFP-SK				<0.2	●
	160404MFP-SK				<0.4	●
 Finishing-Medium	VNMG 160404MQ	9.525	4.76	3.81	0.4	●
	160408MQ				0.8	●
 Medium-Roughing	VNMG 160404MS	9.525	4.76	3.81	0.4	●
	160408MS				0.8	●
	160412MS				1.2	●
 Medium-Roughing	VNMG 160404MU	9.525	4.76	3.81	0.4	●
	160408MU				0.8	●
 Sharp Edge / Mirror Surface Finish	VNGG 160402MFP-SK	9.525	4.76	3.81	<0.2	●
	160404MFP-SK				<0.4	●

● : Standard Stock
R : Std. Item (Right-hand Only)

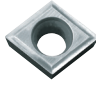

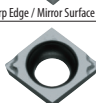






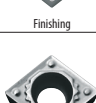





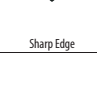

Standard Stock Item Description

Negative Insert

Shape	Description	Dimensions (mm)				PRI1535
		I.C.	Thickness	Hole Diameter	Corner R (rε)	
 Finishing-Medium	WNUMG 080404MQ	12.70	4.76	5.16	0.4	●
	080408MQ				0.8	●
 Medium-Roughing	WNUMG 080404MS	12.70	4.76	5.16	0.4	●
	080408MS				0.8	●
	080412MS				1.2	●
 Medium-Roughing	WNUMG 080404MU	12.70	4.76	5.16	0.4	●
	080408MU				0.8	●
 Medium-Roughing	WNUMG 080404PG	12.70	4.76	5.16	0.4	●
	080408PG				0.8	●
	080412PG				1.2	●
 Sharp Edge	CNGU 070301MFR-U	7.5	3.18	3.6	<0.1	R
	070302MFR-U				<0.2	R
	070304MFR-U				<0.4	R
 Sharp Edge	CNGU 070301MFR-F	7.5	3.18	3.6	<0.1	R
	070302MFR-F				<0.2	R
	070304MFR-F				<0.4	R
 Sharp Edge / Mirror Surface Finish	CNGU 070301MFP-SK	7.5	3.18	3.6	<0.1	●
	070302MFP-SK				<0.2	●
 With Horning	CNMU 070302E-GK	7.0	3.18	3.6	0.2	●
	070304E-GK				0.4	●
 Sharp Edge	DNGU 080301MFR-U	7.0	3.18	3.6	<0.1	R
	080302MFR-U				<0.2	R
	080304MFR-U				<0.4	R
 Sharp Edge	DNGU 080301MFR-F	7.0	3.18	3.6	<0.1	R
	080302MFR-F				<0.2	R
	080304MFR-F				<0.4	R
 Sharp Edge / Mirror Surface Finish	DNGU 080301MFP-SK	7.0	3.18	3.6	<0.1	●
	080302MFP-SK				<0.2	●
	080304MFP-SK				<0.4	●
 With Horning	DNMU 080302E-GK	7.0	3.18	3.6	0.2	●
	080304E-GK				0.4	●
 Sharp Edge	TNGU 090301MFR-U	5.56	3.18	3.0	<0.1	R
	090302MFR-U				<0.2	R
	090304MFR-U				<0.4	R
 Sharp Edge	TNGU 090301MFR-F	5.56	3.18	3.0	<0.1	R
	090302MFR-F				<0.2	R
	090304MFR-F				<0.4	R

Insert whose corner-R(rε) dimension expressed with less than sign (e.g. < 0.1, < 0.2 etc.) indicate models with minus tolerance for corner-R(rε).















Positive Insert

Shape Left-hand (L) is shown for inserts with angles	Description	Dimensions (mm)				Relief Angle	PRI1535	
		I.C.	Thickness	Hole Diameter	Corner R (rε)			
 Sharp Edge	CCGT 0602005MF	6.35	2.38	2.8	<0.05	7°	●	
	060201MF				<0.1		●	
	060202MF				<0.2		●	
	060204MF				<0.4		●	
 Sharp Edge	CCGT 09T3005MF	9.525	3.97	4.4	<0.05	7°	●	
	09T301MF				<0.1		●	
	09T302MF				<0.2		●	
	09T304MF				<0.4		●	
 Sharp Edge / Mirror Surface Finish	CCGT 060201MP-CK	6.35	2.38	2.8	<0.1	7°	●	
	060202MP-CK				<0.2		●	
 Sharp Edge / Mirror Surface Finish	CCGT 09T301MP-CK	9.525	3.97	4.4	<0.1	7°	●	
	09T302MP-CK				<0.2		●	
 Sharp Edge / Mirror Surface Finish	CCGT 030101MP-CF	3.5	1.4	1.9	<0.1	7°	●	
	030102MP-CF				<0.2		●	
 Sharp Edge / Mirror Surface Finish	CCGT 040101MP-CF	4.3	1.8	2.3	<0.1	7°	●	
	040102MP-CF				<0.2		●	
 Sharp Edge / Mirror Surface Finish	CCGT 060201MFP-GQ	6.35	2.38	2.8	<0.1	7°	●	
	060202MFP-GQ				<0.2		●	
	060204MFP-GQ				<0.4		●	
	CCGT 09T301MFP-GQ				<0.1		7°	●
09T302MFP-GQ	<0.2	●						
 Sharp Edge / Mirror Surface Finish	CCGT 09T304MFP-GQ	9.525	3.97	4.4	<0.1	7°	●	
	09T302MFP-GQ				<0.2		●	
	09T304MFP-GQ				<0.4		●	
	CCGT 060201MFP-GF				<0.1		7°	●
060202MFP-GF	<0.2	●						
 Sharp Edge / Mirror Surface Finish	CCGT 060204MFP-GF	6.35	2.38	2.8	<0.4	7°	●	
	CCGT 09T301MFP-GF				<0.1		7°	●
 Sharp Edge / Mirror Surface Finish	CCGT 09T302MFP-GF	9.525	3.97	4.4	<0.2	7°		●
	09T304MFP-GF				<0.4		●	
	CCGT 060201MFP-SK				<0.1		7°	●
060202MFP-SK	<0.2	●						
 Sharp Edge / Mirror Surface Finish	CCGT 060204MFP-SK	6.35	2.38	2.8	<0.4	7°	●	
	CCGT 09T301MFP-SK				<0.1		7°	●
 Sharp Edge / Mirror Surface Finish	CCGT 09T302MFP-SK	9.525	3.97	4.4	<0.2	7°		●
	09T304MFP-SK				<0.4		●	
	CCGT 060201MFP-SK				<0.1		7°	●
060202MFP-SK	<0.2	●						
 Sharp Edge / Mirror Surface Finish	CCGT 060204MFP-SK	6.35	2.38	2.8	<0.4	7°	●	
	CCGT 09T301MFP-SK				<0.1		7°	●
 Medium	CCMT 09T308	9.525	3.97	4.4	0.8	7°		●
	CCMT 060202PP				<0.2		7°	●
	060204PP				<0.4			●
 Finishing	CCMT 09T302PP	9.525	3.97	4.4	0.2	7°	●	
	09T304PP				0.4		●	
	09T308PP				0.8		●	
 Finishing-Medium	CCMT 060202HQ	6.35	2.38	2.8	0.2	7°	●	
	060204HQ				0.4		●	
	CCMT 09T302HQ				0.2		7°	●
09T304HQ	0.4	●						
 Finishing-Medium	CCMT 09T308HQ	9.525	3.97	4.4	0.8	7°	●	
	CCMT 060202GK				<0.2		7°	●
	060204GK				0.4			●
 Finishing-Medium	CCMT 09T302GK	9.525	3.97	4.4	0.2	7°	●	
	09T304GK				0.4		●	
 Finishing-Medium	CCMT 09T304MQ	9.525	3.97	4.4	0.2	7°	●	
	09T308MQ				0.4		●	
 Sharp Edge	CCET 0301005M ^{R/L-F}	3.5	1.4	1.9	<0.05	7°	●	
	030101M ^{R/L-F}				<0.1		●	
	030102M ^{R/L-F}				<0.2		●	
	030104M ^{R/L-F}				<0.4		●	
 Sharp Edge	CCET 040101M ^{R/L-F}	4.3	1.8	2.3	<0.1	7°	●	
	040102M ^{R/L-F}				<0.2		●	
	040104M ^{R/L-F}				<0.4		●	
 Sharp Edge	CCET 0602005M ^{R/L-U}	6.35	2.38	2.8	<0.05	7°	●	
	060201M ^{R/L-U}				<0.1		●	
	060202M ^{R/L-U}				<0.2		●	
	CCET 09T3005M ^{R/L-U}				<0.05		7°	●
09T301M ^{R/L-U}	<0.1	●						
 Sharp Edge	CCET 09T302M ^{R/L-U}	9.525	3.97	4.4	<0.2	7°	●	
	09T304M ^{R/L-U}				<0.4		●	














● : Standard Stock
R : Std. Item (Right-hand Only)

Standard Stock Item Description

Positive Insert

Shape	Description	Dimensions (mm)				Relief Angle	PRI535				
		I.C.	Thickness	Hole Diameter	Corner R (rε)						
	CCET 0602005MFR-J	6.35	2.38	2.8	<0.05	7°	R				
	060201MF R/L-J				<0.1		●				
	060202MF R/L-J				<0.2		●				
	CCET 09T301MF R/L-J				<0.1		●				
	09T302MF R/L-J	9.525	3.97	4.4	<0.2	7°	●				
	09T304MF R/L-J				<0.4		●				
	CPMH 080204				7.94		2.38	3.5	0.4	11°	●
	080208								0.8		●
	CPMH 090304	9.525	3.18	4.5	0.4	11°	●				
	090308				0.8		●				
	CPMT 080202PP				7.94		2.38	3.3	0.2	11°	●
	080204PP								0.4		●
	CPMT 090302PP	9.525	3.18	4.4	0.2	11°	●				
	090304PP				0.4		●				
	090308PP				0.8		●				
	CPMT 080204GP				7.94		2.38	3.3	0.4	11°	●
CPMT 090304GP	9.525	3.18	4.4	0.4		11°			●		
				090308GP	0.8		●				
	CPMH 080204HQ	7.94	2.38	3.5	0.4	11°	●				
	080208HQ				0.8		●				
		CPMH 090304HQ	9.525	3.18	4.5	0.4	11°	●			
090308HQ		0.8				●					
CPMT 080204XP		7.94				2.38		3.3	0.4	11°	●
CPMT 090304XP									9.525		3.18
	090308XP	0.8	●								
	DCGT 0702005MF	6.35	2.38	2.8	<0.05	7°	●				
	070201MF				<0.1		●				
	070202MF				<0.2		●				
070204MF	<0.4				●						
	DCGT 11T3005MF	9.525	3.97	4.4	<0.05	7°	●				
	11T301MF				<0.1		●				
	11T302MF				<0.2		●				
	11T304MF				<0.4		●				
	DCGT 070201MP-CF	6.35	2.38	2.8	<0.1	7°	●				
	070202MP-CF				<0.2		●				
	DCGT 11T301MP-CF				9.525		3.97	4.4	<0.1	7°	●
	11T302MP-CF								<0.2		●
	DCGT 070201MP-CK	6.35	2.38	2.8	<0.1	7°	●				
	070202MP-CK				<0.2		●				
	DCGT 11T301MP-CK				9.525		3.97	4.4	<0.1	7°	●
	11T302MP-CK								<0.2		●
	DCGT 070201MFP-GQ	6.35	2.38	2.8	<0.1	7°	●				
	070202MFP-GQ				<0.2		●				
	070204MFP-GQ				<0.4		●				
	DCGT 11T301MFP-GQ				9.525		3.97	4.4	<0.1	7°	●
11T302MFP-GQ	<0.2	●									
	11T304MFP-GQ	<0.4	●								
	DCGT 070201MFP-GF	6.35	2.38	2.8	<0.1	7°	●				
	070202MFP-GF				<0.2		●				
	070204MFP-GF				<0.4		●				
DCGT 11T301MFP-GF	9.525				3.97		4.4	<0.1	7°	●	
11T302MFP-GF		<0.2	●								
	11T304MFP-GF	<0.4	●								
	DCGT 070201MFP-SK	6.35	2.38	2.8	<0.1	7°	●				
	070202MFP-SK				<0.2		●				
	070204MFP-SK				<0.4		●				
DCGT 11T301MFP-SK	9.525				3.97		4.4	<0.1	7°	●	
11T302MFP-SK		<0.2	●								
	11T304MFP-SK	<0.4	●								
	DCMT 070202MQ	6.35	2.38	2.8	0.2	7°	●				
	070204MQ				0.4		●				
	DCMT 11T302MQ	9.525	3.97	4.4	0.2	7°	●				
11T304MQ	0.4				●						
	11T308MQ	0.8	●								












Insert whose corner-R(rε) dimension expressed with less than sign (e.g. <0.1, <0.2 etc.) indicate models with minus tolerance for corner-R(rε).

Shape	Description	Dimensions (mm)				Relief Angle	PRI535	
		I.C.	Thickness	Hole Diameter	Corner R (rε)			
	DCMT 070202PP	6.35	2.38	2.8	0.2	7°	●	
	070204PP				0.4		●	
	DCMT 11T302PP	9.525	3.97	4.4	0.2	7°	●	
					11T304PP		0.4	●
11T308PP					0.8		●	
	DCMT 070202GP	6.35	2.38	2.8	0.2	7°	●	
	070204GP				0.4		●	
	DCMT 11T304GP	9.525	3.97	4.4	0.4	7°	●	
					11T308GP		0.8	●
	DCMT 070202GK	6.35	2.38	2.8	0.2	7°	●	
	070204GK				0.4		●	
	DCMT 11T302GK	9.525	3.97	4.4	0.2	7°	●	
					11T304GK		0.4	●
11T308GK	0.8	●						
	DCMT 070202HQ	6.35	2.38	2.8	0.2	7°	●	
	070204HQ				0.4		●	
	070208HQ				0.8		●	
	DCMT 11T302HQ	9.525	3.97	4.4	0.2	7°	●	
11T304HQ					0.4		●	
11T308HQ					0.8		●	
	DCMT 070204XP	6.35	2.38	2.8	0.4	7°	●	
	DCMT 11T302XP				9.525		3.97	4.4
	11T304XP	0.4	●					
	11T308XP	0.8	●					
	DCET 0702005MR-F	6.35	2.38	2.8	<0.05	7°	R	
	070201M R/L-F				<0.1		●	
	070202M R/L-F				<0.2		●	
	070204M R/L-F				<0.4		●	
	DCET 11T3005MR-F	9.525	3.97	4.4	<0.05	7°	R	
	11T301M R/L-F				<0.1		●	
	11T302M R/L-F				<0.2		●	
	11T304M R/L-F				<0.4		●	
	DCET 0702005MFR-J	6.35	2.38	2.8	<0.05	7°	R	
	070201MF R/L-J				<0.1		●	
	070202MF R/L-J				<0.2		●	
	DCET 11T3005MFR-J				9.525		3.97	4.4
11T301MF R/L-J	<0.1	●						
11T302MF R/L-J	<0.2	●						
11T304MFR-J	<0.4	●						
	DCET 0702005MFR-U	6.35	2.38	2.8	<0.05	7°	R	
	070201MF R/L-U				<0.1		●	
	070202MF R/L-U				<0.2		●	
	DCET 11T3005MFR-U				9.525		3.97	4.4
11T301MF R/L-U	<0.1	●						
11T302MF R/L-U	<0.2	●						
11T304MFR-U	<0.4	●						
	JCET 030102M R/L-F	3.5	1.4	1.9	<0.2	7°	●	
	030104M R/L-F				<0.4		●	
		TBGT 060101MP-CF	3.97	1.59	2.3	<0.1	5°	●
		060102MP-CF				<0.2		●
TBET 0601005M R/L		3.97	1.59	2.3	<0.05	5°	●	
					060101M R/L		<0.1	●
	060102M R/L				<0.2		●	
	060104M R/L				<0.4		●	
	TPGT 080201MP-CF	4.76	2.38	2.3	<0.1	11°	●	
	080202MP-CF				<0.2		●	
	TPGT 090201MP-CF	5.56	2.38	3.0	<0.1	11°	●	
					090202MP-CF		<0.2	●
	TPMT 090202PP	5.56	2.38	3.0	0.2	11°	●	
	090204PP				0.4		●	
	TPMT 110302PP	6.35	3.18	3.3	0.2	11°	●	
					110304PP		0.4	●
110308PP	0.8	●						















● : Standard Stock
R : Std. Item (Right-hand Only)

Standard Stock Item Description

Positive Insert

Shape Left-hand (L) is shown for inserts with angles	Description	Dimensions (mm)				Relief Angle	PRI1535
		I.C.	Thickness	Hole Diameter	Corner R (rε)		
 Finishing	TPMT 090202GP	5.56	2.38	3.0	0.2	11°	●
	TPMT 090204GP				0.4		
	TPMT 110304GP	6.35	3.18	3.3	0.4	11°	●
TPMT 110308GP	0.8						
 Finishing-Medium	TPMT 160304GP	9.525	3.18	4.5	0.4	11°	●
	TPMT 090202HQ				0.2		
	TPMT 090204HQ	5.56	2.38	3.0	0.4	11°	●
	TPMT 110302HQ				0.2		
	TPMT 110304HQ	6.35	3.18	3.3	0.4	11°	●
	TPMT 110308HQ				0.8		
TPMT 160302HQ	9.525	3.18	4.5	0.2	11°	●	
TPMT 160304HQ				0.4			
TPMT 160308HQ				0.8			
 Finishing	TPMT 090204XP	5.56	2.38	3.0	0.4	11°	●
	TPMT 110304XP				0.4		
	TPMT 110308XP	6.35	3.18	3.3	0.8	11°	●
	TPMT 160304XP				0.4		
TPMT 160308XP	9.525	3.18	4.5	0.8	11°	●	
 Finishing	TPGH 080201 R/L	4.76	2.38	2.3	0.1	11°	●
	TPGH 080202 R/L				0.2		
	TPGH 080204 R/L				0.4		
	TPGH 090201 R/L	5.56	2.38	3.0	0.1	11°	●
	TPGH 090202 R/L				0.2		
	TPGH 090204 R/L				0.4		
	TPGH 110202 R/L	6.35	2.38	3.5	0.2	11°	●
	TPGH 110204 R/L				0.4		
	TPGH 110302 R/L	6.35	3.18	3.3	0.2	11°	●
	TPGH 110304 R/L				0.4		
	TPGH 110308 R/L				0.8		
	TPGH 160302 R/L	9.525	3.18	4.5	0.2	11°	●
TPGH 160304 R/L	0.4						
TPGH 160308 R/L	0.8						
 Medium	TPGH 090201 L-H	5.56	2.38	3.0	0.1	11°	L
	TPGH 090202 L-H				0.2		
	TPGH 090204 L-H				0.4		
	TPGH 110302 R/L-H	6.35	3.18	3.3	0.2	11°	●
	TPGH 110304 R/L-H				0.4		
	TPGH 110308 R/L-H				0.8		
	TPGH 160304 R/L-H	9.525	3.18	4.5	0.4	11°	●
	TPGH 160308 R/L-H				0.8		
	 Finishing	VBMT 110302PP	6.35	3.18	2.8	0.2	5°
VBMT 110304PP		0.4					
VBMT 110308PP		0.8					
VBMT 160404PP		9.525	4.76	4.4	0.4	5°	●
VBMT 160408PP					0.8		
VBMT 160412PP				1.2		●	
 Finishing	VBMT 110304GP	6.35	3.18	2.8	0.4	5°	●
 Finishing-Medium	VBMT 110304HQ	6.35	3.18	2.8	0.4	5°	●
	VBMT 110308HQ				0.8		
 Finishing	VBMT 110302VF	6.35	3.18	2.8	0.2	5°	●
	VBMT 110304VF				0.4		
	VBMT 110308VF				0.8		
 Sharp Edge	VBET 1103005M R/L-F	6.35	3.18	2.8	<0.05	5°	●
	VBET 110301M R/L-F				<0.1		
	VBET 110302M R/L-F				<0.2		
 Finishing-Medium	VBET 1103005M R/L-Y	6.35	3.18	2.8	<0.05	5°	●
	VBET 110301M R/L-Y				<0.1		
	VBET 110302M R/L-Y				<0.2		
	VBET 110304M R/L-Y				<0.4		

Insert whose corner-R(rε) dimension expressed with less than sign (e.g. < 0.1, < 0.2 etc.) indicate models with minus tolerance for corner-R(rε).

Shape Left-hand (L) is shown for inserts with angles	Description	Dimensions (mm)				Relief Angle	PRI1535
		I.C.	Thickness	Hole Diameter	Corner R (rε)		
 Finishing	VCMT 080202PP	4.76	2.38	2.3	0.2	7°	●
	VCMT 080204PP				0.4		
 Finishing	VCMT 160404PP	9.525	4.76	4.4	0.4	7°	●
	VCMT 160408PP				0.8		
 Finishing	VCMT 080202VF	4.76	2.38	2.3	0.2	7°	●
	VCMT 080204VF				0.4		
 Finishing-Medium	VCMT 080202HQ	4.76	2.38	2.3	0.2	7°	●
	VCMT 080204HQ				0.4		
 Sharp Edge / Mirror Surface Finish	VPGT 110301MP-CF	6.35	3.18	2.8	<0.1	11°	●
	VPGT 110302MP-CF				<0.2		
 Sharp Edge / Mirror Surface Finish	VPGT 080201MP-CK	4.76	2.38	2.3	<0.1	11°	●
	VPGT 080202MP-CK				<0.2		
	VPGT 110301MP-CK	6.35	3.18	2.8	<0.1	11°	●
 Sharp Edge / Mirror Surface Finish	VPGT 110301MFP-GF	6.35	3.18	2.8	<0.1	11°	●
	VPGT 110302MFP-GF				<0.2		
 Sharp Edge	VPET 080201M R/L-F	4.76	2.38	2.3	<0.1	11°	●
	VPET 080202M R/L-F				<0.2		
	VPET 1103005MR-F	6.35	3.18	2.8	<0.05	11°	R
 Sharp Edge	VPET 110301MR-F	6.35	3.18	2.8	<0.1	11°	R
	VPET 110302M R/L-F				<0.2		
	VPET 080201MF R/L-U				4.76		2.38
 Sharp Edge	VPET 080202MF R/L-U	6.35	3.18	2.8	<0.05	11°	●
	VPET 110301MF R/L-U				<0.1		
	VPET 110302MF R/L-U				<0.2		
 Sharp Edge	VPET 1103005MFR-J	6.35	3.18	2.8	<0.05	11°	R
	VPET 110301MF R/L-J				<0.1		
	VPET 110302MF R/L-J				<0.2		
 Sharp Edge / Mirror Surface Finish	WBG 060101MP R/L-CF	3.97	1.59	2.3	<0.1	5°	●
	WBG 060102MP R/L-CF				<0.2		
 Finishing	WBMT 060102 R/L-DP	3.97	1.59	2.3	<0.2	5°	●
	WBMT 060104 R/L-DP				<0.4		
	WBMT 080202 R/L-DP	4.76	2.38	2.3	<0.2	5°	●
 Sharp Edge	WBET 0601005ML-F	3.97	1.59	2.3	<0.05	5°	L
	WBET 060101M R/L-F				<0.1		
	WBET 060102M R/L-F				<0.2		
	WBET 060104M R/L-F				<0.4		
	WBET 080201ML-F				4.76		2.38
WBET 080202ML-F				<0.2		L	
WBET 080204M R/L-F				<0.4		●	

● : Standard Stock
R : Std. Item (Right-hand Only)
L : Std. Item (Left-hand Only)

