



PR1535

MEGACOAT NANO Insert Grade for Turning



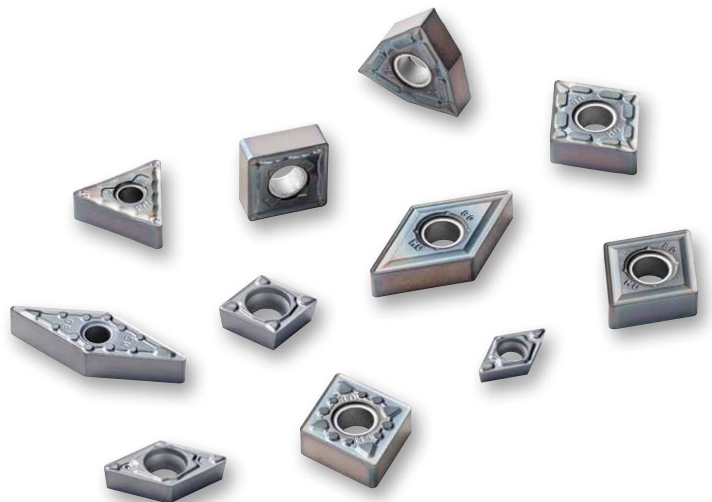
Tough Grade for Heat-Resistant Alloy, Titanium Alloy, and Stainless Steel

First Choice for Heat-Resistant Alloy, Titanium Alloy, and Stainless Steel

Reduced Sudden Fracturing during Scale Removal and Interrupted Machining

Reliable and Tough Grade for S35 / M35 / P35

Line-up Expansion 



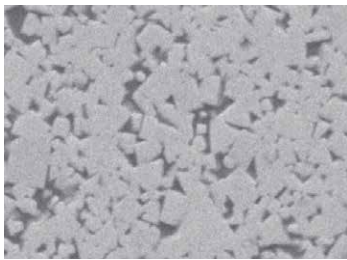
PR1535 MEGACOAT NANO

Fracture resistant with a tough substrate and high heat-resistant coating for stable machining of heat-resistant alloy, titanium alloy, and stainless steel

1 23% Improved Fracture Toughness

An increase in cobalt content yields a substrate with greater toughness. Fracture toughness values are improved by 23% over previous grades.

High Toughness Carbide Base Material

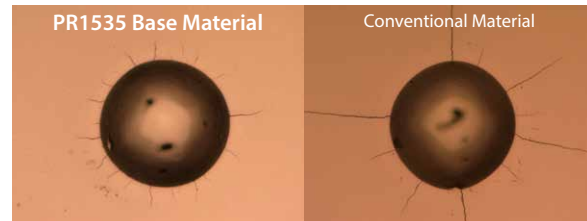


23%
Fracture
Toughness

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)

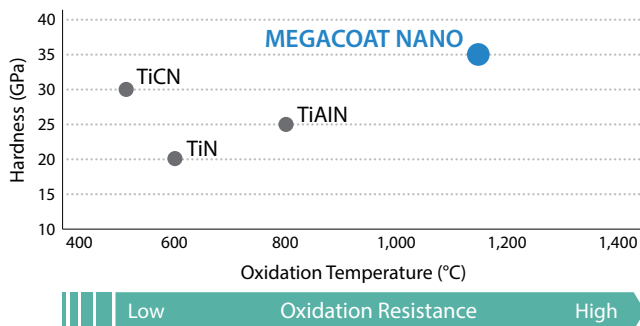


Short Cracks
(High Impact Improvement)

Long Cracks

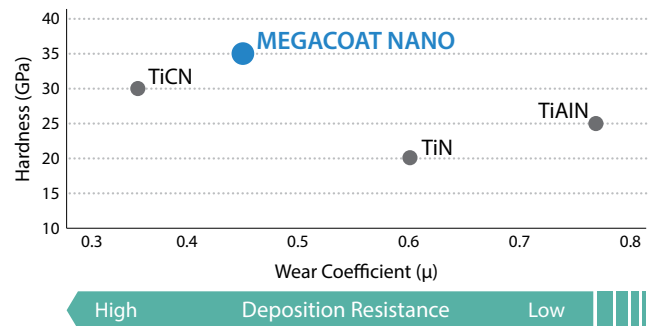
**Shock
Resistance**

Coating Properties (Abrasion Resistance)



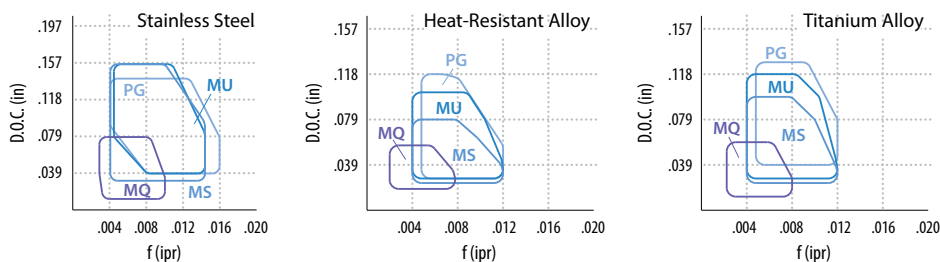
Achieves long tool life with the combination of a tough substrate and a special Nano coating layer

Coating Properties (Deposition Resistance)



Stable machining with excellent wear resistance

Cutting Conditions (External)



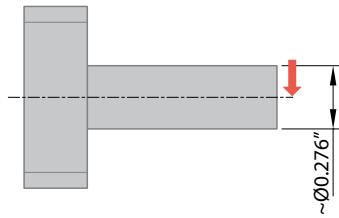
Workpiece Material	Cutting Speed Vc (sfm) Min. ~ Recommended ~ Max.
Stainless Steel	230 ~ 390 ~ 530
Heat-Resistant Alloy	130 ~ 160 ~ 200
Titanium Alloy	130 ~ 160 ~ 200

Case Studies

Ni-base Heat Resistant Alloy

Bolt

Vc = 165 sfm
D.O.C. = 0.118"
0.008 ipr
Wet
CNMG432MS PR1535



Machining Efficiency

PR1535
(MS Chipbreaker) **80 pcs/edge**

Tool Life
2.6x

Competitor A **30 pcs/edge**

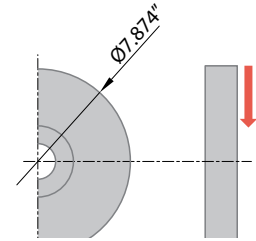
PR1535 (MS chipbreaker) shows 2.6 times longer tool life compared to Competitor A (PVD Coated Carbide).

(User Evaluation)

Ni-base Heat Resistant Alloy

Aircraft Parts

Vc = 165 sfm
D.O.C. = 0.020"
0.004 ipr
Wet
CNMG432MU PR1535



Machining Efficiency

PR1535
(MU Chipbreaker) **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 (PVD coated).

(User Evaluation)



PR1535

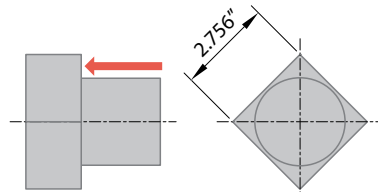


Competitor B

304 Stainless Steel

Square Bar

Vc = 330 sfm
D.O.C. = 0.079"
0.008 ipr
Wet
CNMG432MS PR1535



Machining Efficiency

PR1535
(MS Chipbreaker) **50 pcs/edge**

Tool Life
5x

Competitor C **10 pcs/edge**

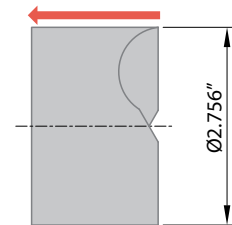
Competitor C fractured due to heavy interrupted machining. PR1535 (MS chipbreaker) shows 5 times longer tool life compared to Competitor C (CVD Coated Carbide).

(User Evaluation)

304 Stainless Steel

Lens Tube

Vc = 395 sfm
D.O.C. = 0.039"
0.006 ipr
Wet
CNMG432MS PR1535



Machining Efficiency

PR1535
(MS Chipbreaker) **80 pcs/edge**

Tool Life
2.6x

Competitor D **30 pcs/edge**

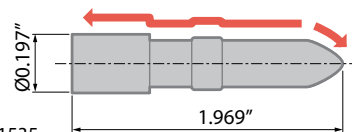
In heavy interrupted machining PR1535 (MS chipbreaker) shows 2.6 times longer tool life compared to Competitor D (PVD Coated Carbide).

(User Evaluation)

S17400 Stainless Steel

Pin

Vc = ~180 sfm
(n = 3,600 rpm)
D.O.C. = 0.004"~0.028"
0.0012 ipr
Wet (oil-based)
DCGT32505MFP-GQ PR1535



Machining Efficiency

PR1535
(GQ Chipbreaker) **1,600 pcs/edge**

Tool Life
1.3x

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

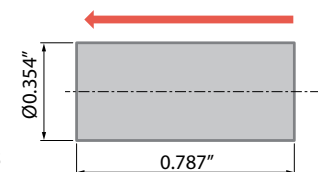
Competitor E had unstable tool life due to sudden defects. PR1535 with the GQ chipbreaker was capable of machining without defects and had improved tool life by 1.3 times that of Competitor E.

(User Evaluation)

440C Stainless Steel

Valve

Vc = 330 sfm
(n = 3,600 rpm)
D.O.C. = 0.004"
0.0024 ipr
Wet (oil-based)
DCGT32505MFP-SK PR1535



Machining Efficiency

PR1535
(SK Chipbreaker) **600 pcs/edge**

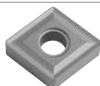
Tool Life
1.3x

Competitor F **450 pcs/edge**

SK chipbreaker in PR1535 increased tool life by 1.3 times that of Competitor F.

(User Evaluation)

Negative Inserts

● Light Interruption / 1st Choice		M	Stainless Steel		●	
		S	Heat-Resistant Alloy		●	
			Titanium Alloy		●	
Shape	Part Number	Dimensions (in)				MEGACOAT NANO
		IC	Thickness	Hole	Corner-R (RE)	PR1535
 Finishing-Medium	CNMG 431HQ	1/2	3/16	0.203	1/64	●
	432HQ				1/32	●
	433HQ				3/64	●
 Finishing-Medium	CNMG 431MQ	1/2	3/16	0.203	1/64	●
	432MQ				1/32	●
 Medium-Roughing	CNMG 431MS	1/2	3/16	0.203	1/64	●
	432MS				1/32	●
	433MS				3/64	●
	434MS				1/16	●
 Medium-Roughing	CNMG 431MU	1/2	3/16	0.203	1/64	●
	432MU				1/32	●
	433MU				3/64	●
	434MU				1/16	●
	CNMG 542MU	5/8	1/4	0.250	1/32	●
	543MU				3/64	●
	544MU	1/16	●			
	CNMG 643MU	3/4	1/4	0.313	3/64	●
 Medium-Roughing	CNMG 431PG	1/2	3/16	0.203	1/64	●
	432PG				1/32	●
	433PG				3/64	●
 Medium-Roughing	CNMG 431TK	1/2	3/16	0.203	1/64	●
	432TK				1/32	●
 Roughing	CNMG 432SG	1/2	3/16	0.203	1/32	●
	433SG				3/64	●
	CNMG 543SG	5/8	1/4	0.250	3/64	●
	544SG				1/16	●
	CNMG 643SG	3/4	1/4	0.313	3/64	●
 Medium-Roughing	CNMG 431	1/2	3/16	0.203	1/64	●
	432				1/32	●
	433				3/64	●
 Sharp Edge / Mirror Surface Finish	CNMG 431FP-TK	1/2	3/16	0.203	1/64	●
	432FP-TK				1/32	●
 Sharp Edge / Mirror Surface Finish	CNMG 4305MFP-SK	1/2	3/16	0.203	<0.008	●
	431MFP-SK				<1/64	●
 Finishing-Medium	DNMG 431HQ	1/2	3/16	0.203	1/64	●
	432HQ				1/32	●
	433HQ				3/64	●
 Finishing-Medium	DNMG 441HQ	1/2	1/4	0.203	1/64	●
	442HQ				1/32	●
	443HQ				3/64	●
 Finishing-Medium	DNMG 431MQ	1/2	3/16	0.203	1/64	●
	432MQ				1/32	●
	433MQ				3/64	●
 Finishing-Medium	DNMG 441MQ	1/2	1/4	0.203	1/64	●
	442MQ				1/32	●
	443MQ				3/64	●
 Medium-Roughing	DNMG 431MS	1/2	3/16	0.203	1/64	●
	432MS				1/32	●
	433MS				3/64	●
 Medium-Roughing	DNMG 441MS	1/2	1/4	0.203	1/64	●
	442MS				1/32	●
	443MS				3/64	●
 Medium-Roughing	DNMG 431MU	1/2	3/16	0.203	1/64	●
	432MU				1/32	●
	433MU				3/64	●

● Light Interruption / 1st Choice		M		Stainless Steel		●	
		S	Heat-Resistant Alloy			●	
			Titanium Alloy			●	
Shape	Part Number	Dimensions (in)				MEGACOAT NANO	
		IC	Thickness	Hole	Corner-R (RE)	PR1535	
 Medium-Roughing	DNMG 431PG	1/2	3/16	0.203	1/64	●	
	432PG				1/32	●	
	433PG				3/64	●	
	DNMG 441PG	1/2	1/4	0.203	1/64	●	
	442PG				1/32	●	
443PG	3/64				●		
 Medium-Roughing	DNMG 431TK	1/2	3/16	0.203	1/64	●	
	432TK				1/32	●	
	DNMG 441TK	1/2	1/4	0.203	1/64	●	
	442TK				1/32	●	
 Roughing	DNMG 432SG	1/2	3/16	0.203	1/32	●	
	433SG				3/64	●	
	434SG				1/16	●	
 Large D.O.C.	DNMG 4305R-LD	1/2	3/16	0.203	0.008	●	
	431R-LD				1/64	●	
 Sharp Edge / Mirror Surface Finish	DNMG 431FP-TK	1/2	3/16	0.203	1/64	●	
	432FP-TK				1/32	●	
 Sharp Edge / Mirror Surface Finish	DNMG 4305MFP-SK	1/2	3/16	0.203	<0.008	●	
	431MFP-SK				<1/64	●	
 Finishing-Medium	SNMG 432HQ	1/2	3/16	0.203	1/32	●	
 Finishing-Medium	SNMG 431MQ	1/2	3/16	0.203	1/64	●	
	432MQ				1/32	●	
 Medium-Roughing	SNMG 431MS	1/2	3/16	0.203	1/64	●	
	432MS				1/32	●	
	433MS				3/64	●	
	434MS				1/16	●	
 Medium-Roughing	SNMG 643MU	3/4	1/4	0.313	3/64	●	
	644MU				1/16	●	
 Medium-Roughing	SNMG 432PG	1/2	3/16	0.203	1/32	●	
	433PG				3/64	●	
 Roughing	SNMG 432SG	1/2	3/16	0.203	1/32	●	
	433SG				3/64	●	
	NEW SNMG 543SG	5/8	1/4	0.250	3/64	●	
	544SG				1/16	●	
	SNMG 643SG	3/4	1/4	0.313	3/64	●	
	644SG				1/16	●	
 Roughing	SNMG 432	1/2	3/16	0.203	1/32	●	
	433				3/64	●	
 Finishing-Medium	TNMG 331HQ	3/8	3/16	0.150	1/64	●	
	332HQ				1/32	●	
 Finishing-Medium	TNMG 331MQ	3/8	3/16	0.150	1/64	●	
	332MQ				1/32	●	
 Medium-Roughing	TNMG 331MS	3/8	3/16	0.150	1/64	●	
	332MS				1/32	●	
	333MS				3/64	●	

Insert with corner-R(RE) dimension shown with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate inserts with minus tolerance for corner-R (RE).

● : Standard Item

Inserts sold in 10 piece boxes

Negative Inserts

● Light Interruption / 1st Choice		M		Stainless Steel		●
		S	Heat-Resistant Alloy		●	
			Titanium Alloy		●	
Shape	Part Number	Dimensions (in)				MEGACOAT NANO
		IC	Thickness	Hole	Corner-R (RE)	PR1535
 Medium-Roughing	TNMG 331MU 332MU	3/8	3/16	0.150	1/64	●
					1/32	●
 Medium-Roughing	TNMG 331PG 332PG 333PG	3/8	3/16	0.150	1/64	●
					1/32	●
					3/64	●
 Medium-Roughing	TNMG 331TK 332TK	3/8	3/16	0.150	1/64	●
					1/32	●
 Medium-Roughing	TNMG 331 ^R / _L -ST 332 ^R / _L -ST	3/8	3/16	0.150	1/64	●
					1/32	●
 Roughing	TNMG 332SG 333SG TNMG 432SG 433SG	3/8	3/16	0.150	1/32	●
		1/2	3/16	0.203	3/64	●
					1/32	●
 Roughing	TNMG 331 332	3/8	3/16	0.150	1/64	●
					1/32	●
 Large D.O.C.	TNMG 3305R-LD 331R-LD	3/8	3/16	0.150	0.008	●
					1/64	●
 Sharp Edge / Mirror Surface Finish	TNGG 331FP-TK 332FP-TK	3/8	3/16	0.150	1/64	●
					1/32	●
 Surface Finishing Oriented	TNGG 3305 ^R / _L -S 331 ^R / _L -S 332 ^R / _L -S	3/8	3/16	0.150	0.008	●
					1/64	●
					1/32	●
 Sharp Edge / Mirror Surface Finish	TNGG 3302MFP-SK 3305MFP-SK 331MFP-SK	3/8	3/16	0.150	<0.004	●
					<0.008	●
					<1/64	●
 Medium-Roughing Low Cutting Force	TNGG 331 ^R / _L -25R 332 ^R / _L -25R	3/8	3/16	0.150	1/64	●
					1/32	●
 Finishing-Medium	VNMG 331MQ 332MQ	3/8	3/16	0.150	1/64	●
					1/32	●
 Medium-Roughing	VNMG 331MS 332MS 333MS	3/8	3/16	0.150	1/64	●
					1/32	●
					3/64	●
 Medium-Roughing	VNMG 331MU 332MU	3/8	3/16	0.150	1/64	●
					1/32	●
 Roughing	VNMG 331SG 332SG	3/8	3/16	0.150	1/64	●
					1/32	●
 Sharp Edge / Mirror Surface Finish	VNGG 3305MFP-SK 331MFP-SK	3/8	3/16	0.150	<0.008	●
					<1/64	●
 Finishing-Medium	WNMG 431HQ 432HQ	1/2	3/16	0.203	1/64	●
					1/32	●

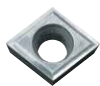
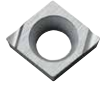
Insert with corner-R(RE) dimension shown with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate inserts with minus tolerance for corner-R (RE).

● Light Interruption / 1st Choice		M	Stainless Steel		●	
		S	Heat-Resistant Alloy		●	
			Titanium Alloy		●	
Shape	Part Number	Dimensions (in)				MEGACOAT NANO
		IC	Thickness	Hole	Corner-R (RE)	
 Finishing-Medium	WNMG 431MQ	1/2	3/16	0.203	1/64	●
	432MQ				1/32	●
 Medium-Roughing	WNMG 431MS	1/2	3/16	0.203	1/64	●
	432MS				1/32	●
	433MS				3/64	●
 Medium-Roughing	WNMG 431MU	1/2	3/16	0.203	1/64	●
	432MU				1/32	●
 Medium-Roughing	WNMG 431PG	1/2	3/16	0.203	1/64	●
	432PG				1/32	●
	433PG				3/64	●
 Medium-Roughing	WNMG 431TK	1/2	3/16	0.203	1/64	●
	432TK				1/32	●
 Roughing	WNMG 432SG	1/2	3/16	0.203	1/32	●
	433SG				3/64	●
 Roughing	WNMG 431	1/2	3/16	0.203	1/64	●
	432				1/32	●
	433				3/64	●
 Sharp Edge	CNGU 24202MFR-U	0.295	1/8	0.142	<0.004	●
	24205MFR-U				<0.008	●
	2421MFR-U				<1/64	●
 Sharp Edge	CNGU 24202MFR-F	0.295	1/8	0.142	<0.004	●
	24205MFR-F				<0.008	●
	2421MFR-F				<1/64	●
 Sharp Edge / Mirror Surface Finish	CNGU 24202MFP-SK	0.295	1/8	0.142	<0.004	●
	24205MFP-SK				<0.008	●
 Honed Edge	CNMU 24205E-GK	0.295	1/8	0.142	<0.008	●
	2421E-GK				<1/64	●
 Sharp Edge	DNGU 22202MFR-U	0.276	1/8	0.142	<0.004	●
	22205MFR-U				<0.008	●
	2221MFR-U				<1/64	●
 Sharp Edge	DNGU 22202MFR-F	0.276	1/8	0.142	<0.004	●
	22205MFR-F				<0.008	●
	2221MFR-F				<1/64	●
 Sharp Edge / Mirror Surface Finish	DNGU 22202MFP-SK	0.276	1/8	0.142	<0.004	●
	22205MFP-SK				<0.008	●
	2221MFP-SK				<1/64	●
 Honed Edge	DNMU 22205E-GK	0.276	1/8	0.142	0.008	●
	2221E-GK				1/64	●
 Sharp Edge	TNGU 18202MFR-U	7/32	1/8	0.118	<0.004	●
	18205MFR-U				<0.008	●
	1821MFR-U				<1/64	●
 Sharp Edge	TNGU 18202MFR-F	7/32	1/8	0.118	<0.004	●
	18205MFR-F				<0.008	●
	1821MFR-F				<1/64	●

● : Standard Item

Inserts sold in 10 piece boxes

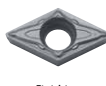
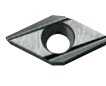
Positive Inserts

● Light Interruption / 1st Choice		M	Stainless Steel				●
		S	Heat-Resistant Alloy				●
			Titanium Alloy				●
Shape	Part Number	Dimensions (in)					MEGACOAT NANO
		IC	Thickness	Hole	Corner-R (RE)	Relief Angle	PR1535
	CCGT 215013MF	1/4	3/32	0.110	<0.002	7°	●
	21502MF				<0.004		●
	21505MF				<0.008		●
	2151MF				<1/64		●
	CCGT 325013MF	3/8	5/32	0.173	<0.002	●	
	32502MF				<0.004	●	
	32505MF				<0.008	●	
3251MF	<1/64				●		
	CCGT 21502MP-CK	1/4	3/32	0.110	<0.004	7°	●
	21505MP-CK				<0.008		●
	CCGT 32502MP-CK	3/8	5/32	0.173	<0.004	7°	●
	32505MP-CK				<0.008		●
	CCGT 110902MP-CF	0.138	0.055	0.075	<0.004	7°	●
	110905MP-CF				<0.008		●
	CCGT 141102MP-CF	0.169	0.071	0.091	<0.004	7°	●
	141105MP-CF				<0.008		●
	CCGT 21502MFP-GQ	1/4	3/32	0.110	<0.004	7°	●
	21505MFP-GQ				<0.008		●
	2151MFP-GQ				<1/64		●
	CCGT 32502MFP-GQ	3/8	5/32	0.173	<0.004	7°	●
32505MFP-GQ	<0.008				●		
3251MFP-GQ	<1/64				●		
	CCGT 21502MFP-GF	1/4	3/32	0.110	<0.004	7°	●
	21505MFP-GF				<0.008		●
	2151MFP-GF				<1/64		●
	CCGT 32502MFP-GF	3/8	5/32	0.173	<0.004	7°	●
32505MFP-GF	<0.008				●		
3251MFP-GF	<1/64				●		
	CCGT 21502MFP-SK	1/4	3/32	0.110	<0.004	7°	●
	21505MFP-SK				<0.008		●
	2151MFP-SK				<1/64		●
	CCGT 32502MFP-SK	3/8	5/32	0.173	<0.004	7°	●
32505MFP-SK	<0.008				●		
3251MFP-SK	<1/64				●		
	CCMT 3252	3/8	5/32	0.173	1/32	7°	●
	CCMT 21505PP	1/4	3/32	0.110	0.008	7°	●
	2151PP				1/64		●
	CCMT 32505PP	3/8	5/32	0.173	0.008	7°	●
	3251PP				1/64		●
	3252PP				1/32		●
	CCMT 21505HQ	1/4	3/32	0.110	0.008	7°	●
	2151HQ				1/64		●
	CCMT 32505HQ	3/8	5/32	0.173	0.008	7°	●
	3251HQ				1/64		●
3252HQ	1/32	●					
	CCMT 21505GK	1/4	3/32	0.110	0.008	7°	●
	2151GK				1/64		●
	CCMT 32505GK	3/8	5/32	0.173	0.008	7°	●
3251GK	1/64				●		
	CCMT 3251MQ	3/8	5/32	0.173	0.008	7°	●
	3252MQ				1/64		●
	CCET 1109013M ^R /L-F	0.138	0.055	0.075	<0.002	7°	●
	110902ML-F				<0.004		●
	110905M ^R /L-F				<0.008		●
	11091M ^R /L-F				<1/64		●
	CCET 141102M ^R /L-F	0.169	0.071	0.091	<0.004	7°	●
141105M ^R /L-F	<0.008				●		
14111M ^R /L-F	<1/64	●					
	CCET 215013MF ^R /L-U	1/4	3/32	0.110	<0.002	7°	●
	21502MF ^R /L-U				<0.004		●
	21505MF ^R /L-U				<0.008		●
	CCET 325013MF ^R /L-U	3/8	5/32	0.173	<0.002	7°	●
	32502MF ^R /L-U				<0.004		●
	32505MF ^R /L-U				<0.008		●
3251MF ^R /L-U	<1/64	●					

Insert with corner-R(RE) dimension shown with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate inserts with minus tolerance for corner-R (RE).

● Light Interruption / 1st Choice		M	Stainless Steel				●
		S	Heat-Resistant Alloy				●
			Titanium Alloy				●
Shape	Part Number	Dimensions (in)					MEGACOAT NANO
		IC	Thickness	Hole	Corner-R (RE)	Relief Angle	PR1535
 Sharp Edge	CCET 215013MFR-J	1/4	3/32	0.110	<0.002	7°	●
	21502MF ^{R/L} -J				<0.004		●
	21505MF ^{R/L} -J				<0.008		●
	CCET 32502MF ^{R/L} -J	3/8	5/32	0.173	<0.004	7°	●
	32505MF ^{R/L} -J				<0.008		●
3251MF ^{R/L} -J	<1/64				●		
 Medium	CPMH 25151	5/16	3/32	0.138	1/64	11°	●
	25152				1/32		●
	CPMH 321	3/8	1/8	0.177	1/64	11°	●
	322				1/32		●
 Finishing	CPMT 251505PP	5/16	3/32	0.130	0.008	11°	●
	25151PP				1/64		●
	CPMT 3205PP	3/8	1/8	0.173	0.008	11°	●
	321PP				1/64		●
	322PP				1/32		●
 Finishing	CPMT 25151GP	5/16	3/32	0.130	1/64	11°	●
	CPMT 321GP	3/8	1/8	0.173	1/64	11°	●
	322GP				1/32		●
 Finishing-Medium	CPMH 25151HQ	5/16	3/32	0.138	1/64	11°	●
	25152HQ				1/32		●
	CPMH 321HQ	3/8	1/8	0.177	1/64	11°	●
	322HQ				1/32		●
 Finishing	CPMT 25151XP	5/16	3/32	0.130	1/64	11°	●
	CPMT 321XP	3/8	1/8	0.173	1/64	11°	●
	322XP				1/32		●
 Sharp Edge	DCGT 215013MF	1/4	3/32	0.110	<0.002	7°	●
	21502MF				<0.004		●
	21505MF				<0.008		●
	2151MF				<1/64		●
	DCGT 325013MF	3/8	5/32	0.173	<0.002	7°	●
	32502MF				<0.004		●
	32505MF				<0.008		●
	3251MF				<1/64		●
 Sharp Edge / Mirror Surface Finish	DCGT 21502MP-CF	1/4	3/32	0.110	<0.004	7°	●
	21505MP-CF				<0.008		●
	DCGT 32502MP-CF	3/8	5/32	0.173	<0.004	7°	●
	32505MP-CF				<0.008		●
 Sharp Edge / Mirror Surface Finish	DCGT 21502MP-CK	1/4	3/32	0.110	<0.004	7°	●
	21505MP-CK				<0.008		●
	DCGT 32502MP-CK	3/8	5/32	0.173	<0.004	7°	●
	32505MP-CK				<0.008		●
 Sharp Edge / Mirror Surface Finish	DCGT 21502MFP-GQ	1/4	3/32	0.110	<0.004	7°	●
	21505MFP-GQ				<0.008		●
	2151MFP-GQ				<1/64		●
	DCGT 32502MFP-GQ	3/8	5/32	0.173	<0.004	7°	●
	32505MFP-GQ				<0.008		●
	3251MFP-GQ				<1/64		●
 Sharp Edge / Mirror Surface Finish	DCGT 21502MFP-GF	1/4	3/32	0.110	<0.004	7°	●
	21505MFP-GF				<0.008		●
	2151MFP-GF				<1/64		●
	DCGT 32502MFP-GF	3/8	5/32	0.173	<0.004	7°	●
	32505MFP-GF				<0.008		●
3251MFP-GF	<1/64	●					
 Sharp Edge / Mirror Surface Finish	DCGT 21502MFP-SK	1/4	3/32	0.110	<0.004	7°	●
	21505MFP-SK				<0.008		●
	2151MFP-SK				<1/64		●
	DCGT 32502MFP-SK	3/8	5/32	0.173	<0.004	7°	●
	32505MFP-SK				<0.008		●
3251MFP-SK	<1/64	●					
 Finishing-Medium	DCMT 21505MQ	1/4	3/32	0.110	0.008	7°	●
	2151MQ				1/64		●
	DCMT 32505MQ	3/8	5/32	0.173	0.008	7°	●
	3251MQ				1/64		●
3252MQ	1/32	●					

Positive Inserts

● Light Interruption / 1st Choice		M	Stainless Steel				●
		S	Heat-Resistant Alloy				●
			Titanium Alloy				●
Shape	Part Number	Dimensions (in)					MEGACOAT NANO
		IC	Thickness	Hole	Corner-R (RE)	Relief Angle	PR1535
 Finishing	DCMT 21505PP	1/4	3/32	0.110	0.008	7°	●
	2151PP				1/64		●
	DCMT 32505PP	3/8	5/32	0.173	0.008	7°	●
	3251PP				1/64		●
 Finishing	DCMT 21505GP	1/4	3/32	0.110	0.008	7°	●
	2151GP				1/64		●
	DCMT 3251GP	3/8	5/32	0.173	1/64	7°	●
	3252GP				1/32		●
 Finishing-Medium	DCMT 21505GK	1/4	3/32	0.110	0.008	7°	●
	2151GK				1/64		●
	DCMT 32505GK	3/8	5/32	0.173	1/64	7°	●
	3251GK				1/32		●
 Finishing-Medium	DCMT 21505HQ	1/4	3/32	0.110	0.008	7°	●
	2151HQ				1/64		●
	DCMT 32505HQ	3/8	5/32	0.173	0.008	7°	●
	3251HQ				1/64		●
 Finishing	DCMT 2151XP	1/4	3/32	0.110	1/64	7°	●
	DCMT 32505XP				0.008		●
	DCMT 3251XP	3/8	5/32	0.173	1/64	7°	●
	3252XP				1/32		●
 Sharp Edge	DCET 215013MR-F	1/4	3/32	0.110	<0.002	7°	●
	21502M ^{R/L} -F				<0.004		●
	21505M ^{R/L} -F				<0.008		●
	2151M ^{R/L} -F				<1/64		●
 Sharp Edge	DCET 325013MR-F	3/8	5/32	0.173	<0.002	7°	●
	32502M ^{R/L} -F				<0.004		●
	32505M ^{R/L} -F				<0.008		●
	3251M ^{R/L} -F				<1/64		●
 Sharp Edge	DCET 215013MFR-J	1/4	3/32	0.110	<0.002	7°	●
	21502MF ^{R/L} -J				<0.004		●
	21505MF ^{R/L} -J				<0.008		●
	DCET 325013MFR-J				3/8		5/32
32502MF ^{R/L} -J	<0.004	●					
32505MF ^{R/L} -J	<0.008	●					
3251MFR-J	<1/64	●					
 Sharp Edge	DCET 215013MFR-U	1/4	3/32	0.110	<0.002	7°	●
	21502MF ^{R/L} -U				<0.004		●
	21505MF ^{R/L} -U				<0.008		●
	DCET 325013MFR-U				3/8		5/32
32502MF ^{R/L} -U	<0.004	●					
32505MF ^{R/L} -U	<0.008	●					
3251MFR-U	<1/64	●					
 Sharp Edge	JCET 110905M ^{R/L} -F	0.138	0.055	0.075	<0.008	7°	●
	11091M ^{R/L} -F				<1/64		●
 Medium	SPMR 321	3/8	1/8	-	1/64	11°	●
	322				1/32		●
	SPMR 421	1/2	1/8	-	1/64	11°	●
	422				1/32		●
 Sharp Edge / Mirror Surface Finish	TBGT 12102MP-CF	5/32	1/16	0.091	<0.004	5°	●
	12105MP-CF				<0.008		●
 Finishing	TBET 121013M ^{R/L}	5/32	1/16	0.091	<0.002	5°	●
	12102M ^{R/L}				<0.004		●
	12105M ^{R/L}				<0.008		●
	1211M ^{R/L}				<1/64		●
 Sharp Edge / Mirror Surface Finish	TPGT 151502MP-CF	3/16	3/32	0.091	<0.004	11°	●
	151505MP-CF				<0.008		●
	TPGT 181502MP-CF	7/32	3/32	0.118	<0.004	11°	●
	181505MP-CF				<0.008		●

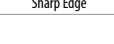
Insert with corner-R(RE) dimension shown with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate inserts with minus tolerance for corner-R (RE).

● Light Interruption / 1st Choice		M	Stainless Steel				●	
		S	Heat-Resistant Alloy				●	
			Titanium Alloy				●	
Shape	Part Number	Dimensions (in)					MEGACOAT NANO	
		IC	Thickness	Hole	Corner-R (RE)	Relief Angle	PR1535	
 Finishing	TPMT 181505PP	7/32	3/32	0.118	0.008	11°	●	
	18151PP				1/64		●	
	TPMT 2205PP	1/4	1/8	0.130	0.008	11°	●	
	221PP				1/64		●	
	222PP				1/32		●	
 Finishing	TPMT 181505GP	7/32	3/32	0.118	0.008	11°	●	
	18151GP				1/64		●	
	TPMT 221GP	1/4	1/8	0.130	1/64	11°	●	
	222GP				1/32		●	
	TPMT 321GP				3/8		1/8	0.177
 Finishing-Medium	TPMT 181505HQ	7/32	3/32	0.118	0.008	11°	●	
	18151HQ				1/64		●	
	TPMT 2205HQ	1/4	1/8	0.130	0.008	11°	●	
	221HQ				1/64		●	
	222HQ				1/32		●	
 Finishing-Medium	TPMT 3205HQ	3/8	1/8	0.177	0.008	11°	●	
	321HQ				1/64		●	
	322HQ				1/32		●	
	 Finishing	TPMT 18151XP	7/32	3/32	0.118	1/64	11°	●
		TPMT 221XP	1/4	1/8	0.130	1/64	11°	●
222XP		1/32				●		
TPMT 321XP		3/8	1/8	0.177	1/64	11°	●	
322XP					1/32		●	
 Finishing-Medium	TPMR 221HQ	1/4	1/8	-	1/64	11°	●	
	222HQ	3/8	1/8	-	1/32	11°	●	
	TPMR 321HQ				1/64		●	
	322HQ				1/32		●	
	 Medium	TPMR 221	1/4	1/8	-	1/64	11°	●
222		3/8	1/8	-	1/32	11°	●	
TPMR 321					1/64		●	
322					1/32		●	
 Finishing		TPGH 151502 ^{R/L}	3/16	3/32	0.091	0.004	11°	●
	151505 ^{R/L}	0.008				●		
	15151 ^{R/L}	1/64				●		
	TPGH 181502 ^{R/L}	7/32	3/32	0.118	0.004	11°	●	
	181505 ^{R/L}				0.008		●	
18151 ^{R/L}	1/64				●			
 Finishing	TPGH 21505 ^{R/L}	1/4	3/32	0.138	0.008	11°	●	
	2151 ^{R/L}				1/64		●	
	TPGH 2205 ^{R/L}				0.008		●	
	221 ^{R/L}	1/4	1/8	0.130	1/64	11°	●	
	222 ^{R/L}				1/32		●	
TPGH 3205 ^{R/L}	3/8				1/8		0.177	0.008
321 ^{R/L}		1/64	●					
322 ^{R/L}		1/32	●					
 Medium	TPGH 181502L-H	7/32	3/32	0.118	0.004	11°	●	
	181505L-H				0.008		●	
	18151L-H				1/64		●	
	TPGH 2205 ^{R/L} -H	1/4	1/8	0.130	0.008	11°	●	
	221 ^{R/L} -H				1/64		●	
222 ^{R/L} -H	1/32				●			
 Finishing	TPGH 321 ^{R/L} -H	3/8	1/8	0.177	1/64	11°	●	
	322 ^{R/L} -H				1/32		●	
	VBMT 2205PP				1/4		1/8	0.110
	221PP	1/64	●					
	222PP	1/32	●					
 Finishing	VBMT 331PP	3/8	3/16	0.173	1/64	5°	●	
	332PP				1/32		●	
	333PP				3/64		●	
	 Finishing	VBMT 221GP	1/4	1/8	0.110	1/64	5°	●
		VBMT 221HQ	1/4	1/8	0.110	1/64	5°	●
222HQ	1/32					●		

Positive Inserts

● Light Interruption / 1st Choice		M	Stainless Steel				●
		S	Heat-Resistant Alloy				●
			Titanium Alloy				●
Shape	Part Number	Dimensions (in)					MEGACOAT NANO
		IC	Thickness	Hole	Corner-R (RE)	Relief Angle	PR1535
 Finishing	VBMT 2205VF	1/4	1/8	0.110	0.008	5°	●
	221VF				1/64		●
	222VF				1/32		●
 Sharp Edge	VBET 22013M ^{R/L} - F	1/4	1/8	0.110	<0.002	5°	●
	2202M ^{R/L} - F				<0.004		●
	2205M ^{R/L} - F				<0.008		●
 Finishing-Medium	VBET 22013M ^{R/L} - Y	1/4	1/8	0.110	<0.002	5°	●
	2202M ^{R/L} - Y				<0.004		●
	2205M ^{R/L} - Y				<0.008		●
	221M ^{R/L} - Y				<1/64		●
 Sharp Edge / Mirror Surface Finish	VCMT 2202MP-CF	1/4	1/8	0.110	<0.004	7°	●
	2205MP-CF				<0.008		●
 Sharp Edge / Mirror Surface Finish	VCMT 2202MFP-CF	1/4	1/8	0.110	<0.004	7°	●
	2205MFP-CF				<0.008		●
 Finishing	VCMT 151505PP	3/16	3/32	0.091	0.008	7°	●
	15151PP				1/64		●
	VCMT 331PP	3/8	3/16	0.173	1/64		7°
 Finishing	332PP				1/32	●	
	VCMT 151505VF	3/16	3/32	0.091	0.008	7°	●
15151VF	1/64				●		
 Finishing-Medium	VCMT 151505HQ	3/16	3/32	0.091	0.008	7°	●
	15151HQ				1/64		●
 Sharp Edge	VCET 2202M ^{R/L} - F	1/4	1/8	0.110	<0.004	7°	●
	2205M ^{R/L} - F				<0.008		●
	221M ^{R/L} - F				<1/64		●
 Sharp Edge	VCET 22013M ^{R/L} - Y	1/4	1/8	0.110	<0.002	7°	●
	2202M ^{R/L} - Y				<0.004		●
	2205M ^{R/L} - Y				<0.008		●
	221M ^{R/L} - Y				<1/64		●

Insert with corner-R(RE) dimension shown with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate inserts with minus tolerance for corner-R (RE).

● Light Interruption / 1st Choice		M	Stainless Steel					
		S	Heat-Resistant Alloy					
			Titanium Alloy					
Shape	Part Number	Dimensions (in)					MEGACOAT NANO	
		IC	Thickness	Hole	Corner-R (RE)	Relief Angle	PR1535	
 Sharp Edge / Mirror Surface Finish	VPGT 2202MP-CF	1/4	1/8	0.110	<0.004	11°		
	2205MP-CF				<0.008			
 Sharp Edge / Mirror Surface Finish	VPGT 151502MP-CK	3/16	3/32	0.091	<0.004	11°		
	151505MP-CK				<0.008			
 Sharp Edge / Mirror Surface Finish	VPGT 2202MP-CK	1/4	1/8	0.110	<0.004	11°		
	2205MP-CK				<0.008			
 Sharp Edge / Mirror Surface Finish	VPGT 2202MFP-GF	1/4	1/8	0.110	<0.004	11°		
	2205MFP-GF				<0.008			
 Sharp Edge	VPET 151502M ^{R/L} -F	3/16	3/32	0.091	<0.004	11°		
	151505M ^{R/L} -F				<0.008			
 Sharp Edge	VPET 22013MR-F	1/4	1/8	0.110	<0.002	11°		
	2202MR-F				<0.004			
 Sharp Edge	2205M ^{R/L} -F				<0.008			
	VPET 151502MF ^{R/L} -U	3/16	3/32	0.091	<0.004	11°		
151505MF ^{R/L} -U	<0.008							
 Sharp Edge	VPET 22013MF ^{R/L} -U	1/4	1/8	0.110	<0.002	11°		
	2202MF ^{R/L} -U				<0.004			
 Sharp Edge	2205MF ^{R/L} -U				<0.008			
	VPET 22013MFR-J	1/4	1/8	0.110	<0.002	11°		
2202MF ^{R/L} -J	<0.004							
 Sharp Edge	2205MF ^{R/L} -J				<0.008			
	WBGT 12102MP ^{R/L} -CF	5/32	1/16	0.091	<0.004	5°		
12105MP ^{R/L} -CF	<0.008							
 Sharp Edge / Mirror Surface Finish	WBMT 12105 ^{R/L} -DP	5/32	1/16	0.091	<0.008	5°		
	1211 ^{R/L} -DP				<1/64			
 Finishing	WBMT 151505 ^{R/L} -DP	3/16	3/32	0.091	<0.008	5°		
	15151L-DP				<1/64			
 Sharp Edge	WBET 121013ML-F	5/32	1/16	0.091	<0.002	5°		
	12102M ^{R/L} -F				<0.004			
 Sharp Edge	12105M ^{R/L} -F				<0.008			
	1211M ^{R/L} -F				<1/64			
 Sharp Edge	WBET 151502ML-F	3/16	3/32	0.091	<0.004	5°		
	151505ML-F				<0.008			
 Sharp Edge	15151M ^{R/L} -F				<1/64			

● : Standard Item

Inserts sold in 10 piece boxes



KYOCERA Precision Tools

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Hendersonville, NC 28792
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