

THE NEW VALUE FRONTIER

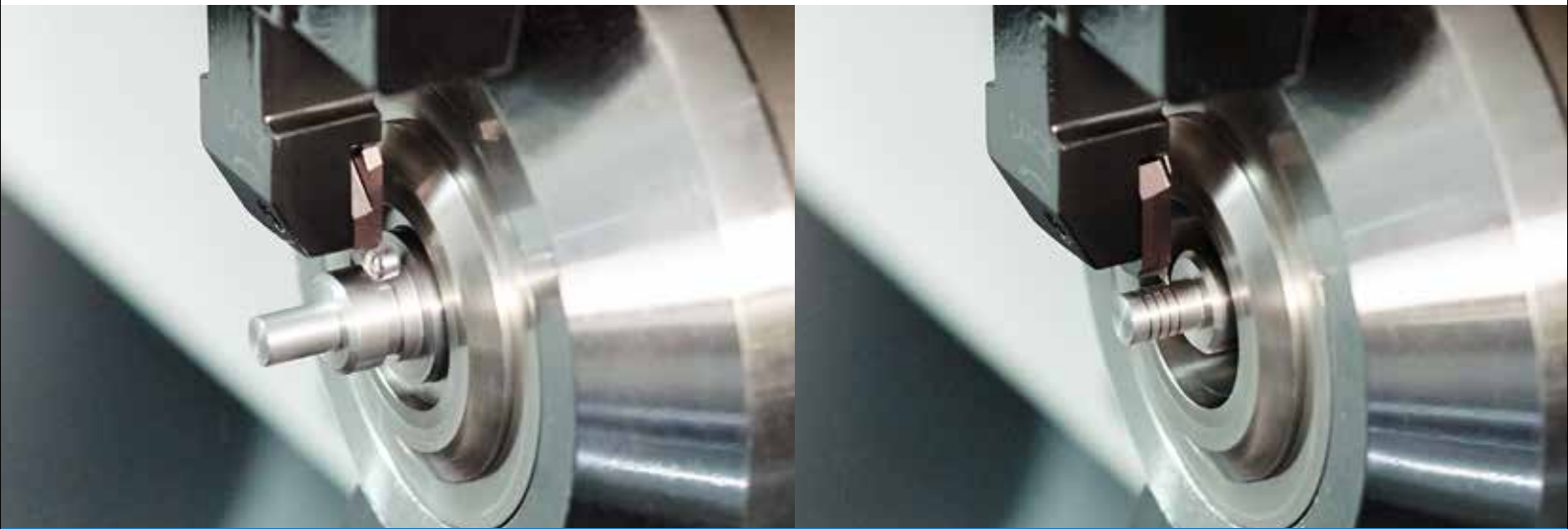


Grooving Tools for Small Parts Machining

GBF

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GBF



Low Cutting Force with a Large Rake Angle. High Precision Grooving

Groove Widths from 0.25 mm

Maximum Groove Depths up to 3 mm

Long Tool Life and Stable Machining with MEGACOAT Series

GW15 for Non-ferrous Metal Machining Added to the Lineup



GBF

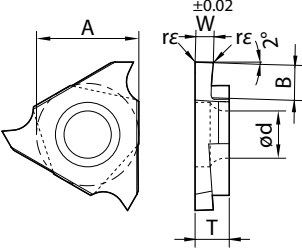
Low Cutting Force with a Large Rake Angle

High-precision Grooving with Insert Width Tolerance of ± 0.02 mm

- 1 Groove Widths from 0.25 mm
Maximum Groove Depths up to 3 mm
- 2 Chattering Resistance with a Large Rake Angle
(20° When Installed in Holder)
- 3 Long Tool Life and Stable Machining with MEGACOAT Series
GW15 for Non-ferrous Machining Added to the Lineup

GBF

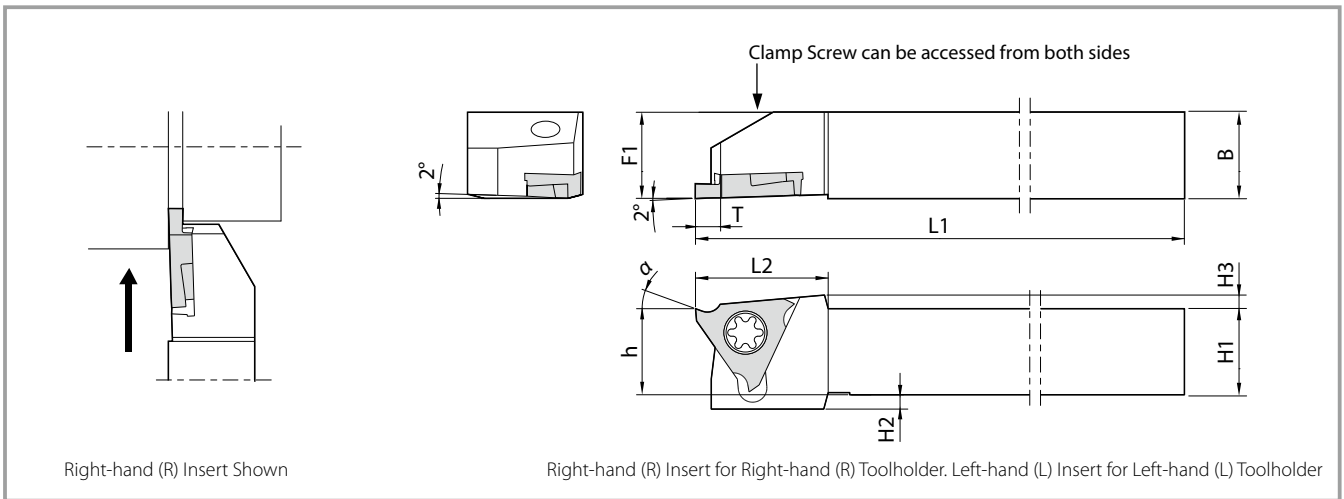
Inserts

Description	A	T	ϕd						
GBF32	9.525	3.18	4.4						
Shape	Description	Dimensions (mm)			MEGACOAT	MEGACOAT NANO	Carbide		
		W	B	r ϵ	PR1215	PR1535	GW15		
	GBF32 ^{R/L}	025-005	0.25	0.6	0.05	●	●	●	
		030-005	0.30	0.8		●	●	●	
		033-005	0.33			●	●	●	
		043-005	0.43	1.0		●	●	●	
		050-005	0.50	1.2		●	●	●	
		053-005	0.53			●	●	●	
		065-005	0.65			●	●	●	
		075-005	0.75	2.0		●	●	●	
		080-005	0.80			●	●	●	
		095-005	0.95			●	●	●	
		100-005	1.00			●	●	●	
		110-005	1.10			●	●	●	
		120-005	1.20	0.1		●	●	●	
		125-010	1.25			●	●	●	
		130-010	1.30		●	●	●		
		140-010	1.40		●	●	●		
		145-010	1.45		2.7	●	●	●	
		150-010	1.50			●	●	●	
		165-010	1.65			●	●	●	
		170-010	1.70			●	●	●	
		175-010	1.75		3.0	●	●	●	
		200-010	2.00			●	●	●	
		225-010	2.25	●		●	●		
		250-010	2.50	●		●	●		
		300-010	3.00	●		●	●		

The maximum machining diameter is $\phi 51$ mm (Please check cautions on back cover)

● : Standard Stock

KGBF-F (No Offset)



Toolholder Dimensions

Description	Stock		Dimensions (mm)							Parts	
	R	L	H1 = h	H2	H3	B	L1	L2	T*1	Clamp Screw	Wrench
KGBF ^{R/L} 1010JX-16F	●	●	10	4	2.1	10	120	18.5	3	SB-4070TRW	FT-8
	●	●	12	2		12					
	●	●	16	—		16					
	●	●	20	—		20					

*1 Dimension T shows the distance from the toolholder to the cutting edge. Dimension B shows available grooving depth
The maximum machining diameter is $\varnothing 51$ mm (Please see cautions on back cover)

● : Standard Stock

Recommended Cutting Conditions ★ 1st Recommendation ☆ 2nd Recommendation

Workpiece	Recommended Insert Grade (Cutting Speed Vc: m/min)			[1] Grooving Feed Rate (mm/rev) [2] Traversing Feed Rate (mm/rev) [3] Max DOC for Traversing (mm)			
	MEGACOAT	MEGACOAT NANO	Carbide	GBF32 ^{R/L} 025 - 053	GBF32 ^{R/L} 065 - 095	GBF32 ^{R/L} 100 - 145	GBF32 ^{R/L} 150 - 300
	PR1215	PR1535	GW15				
Carbon Steel	★ 80 - 180	☆ 70 - 160	—	[1] 0.01 - 0.05 [2] Not Recommended [3] Not Recommended	[1] 0.02 - 0.07 [2] Not Recommended [3] Not Recommended	[1] 0.03 - 0.08 [2] 0.03 - 0.06 [3] MAX. 0.2	[1] 0.03 - 0.08 [2] 0.03 - 0.06 [3] MAX. 0.2
Alloy Steel	★ 80 - 180	☆ 70 - 160	—	[1] 0.01 - 0.04 [2] Not Recommended [3] Not Recommended	[1] 0.02 - 0.06 [2] Not Recommended [3] Not Recommended	[1] 0.03 - 0.07 [2] 0.02 - 0.05 [3] MAX. 0.2	[1] 0.03 - 0.07 [2] 0.02 - 0.05 [3] MAX. 0.2
Stainless Steel	☆ 60 - 130	★ 50 - 120	—	[1] 0.01 - 0.04 [2] Not Recommended [3] Not Recommended	[1] 0.02 - 0.06 [2] Not Recommended [3] Not Recommended	[1] 0.03 - 0.07 [2] 0.02 - 0.05 [3] MAX. 0.2	[1] 0.03 - 0.07 [2] 0.02 - 0.05 [3] MAX. 0.2
Cast Iron	—	—	★ 60 - 100	[1] 0.01 - 0.05 [2] Not Recommended [3] Not Recommended	[1] 0.02 - 0.07 [2] Not Recommended [3] Not Recommended	[1] 0.03 - 0.08 [2] 0.03 - 0.06 [3] MAX. 0.2	[1] 0.03 - 0.08 [2] 0.03 - 0.06 [3] MAX. 0.2
Aluminum Alloy	—	—	★ 150 - 400	[1] 0.01 - 0.05 [2] Not Recommended [3] Not Recommended	[1] 0.02 - 0.07 [2] Not Recommended [3] Not Recommended	[1] 0.03 - 0.08 [2] 0.03 - 0.06 [3] MAX. 0.2	[1] 0.03 - 0.08 [2] 0.03 - 0.06 [3] MAX. 0.2
Brass	—	—	★ 150 - 300	[1] 0.01 - 0.04 [2] Not Recommended [3] Not Recommended	[1] 0.02 - 0.06 [2] Not Recommended [3] Not Recommended	[1] 0.03 - 0.07 [2] 0.02 - 0.05 [3] MAX. 0.2	[1] 0.03 - 0.07 [2] 0.02 - 0.05 [3] MAX. 0.2

MEGACOAT NANO PR1535

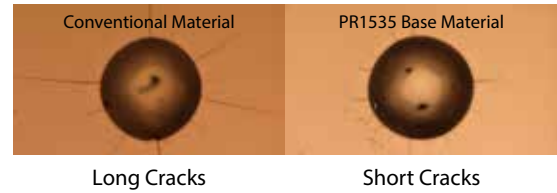
PR1535 achieves long tool life and stable machining of stainless steel with the combination of a tough substrate and a special nano layer coating

- 1 An increase in cobalt content yields a substrate with greater toughness
* Fracture toughness values are improved by 23% over previous grades
- 2 The coarse grain structure and uniform particle size correspond to improved heat resistance, with conductivity values decreased by 11%
- 3 MEGACOAT NANO for Long Tool Life and Stable Machining

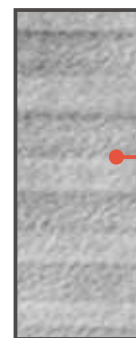
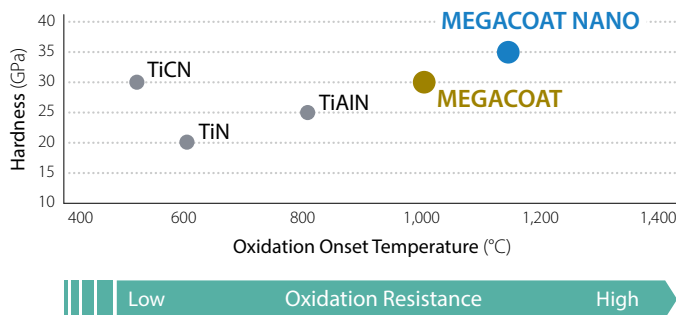
UP
23%
Fracture
Toughness*

Cracking Comparison by Diamond Indentor (In-house Evaluation)

UP
Shock
Resistance



Coating Properties



Layer Structure of MEGACOAT NANO Coating

One point

PR1535 is a good solution for unstable conditions such as early fracturing and variable tool life during steel machining

Precautions

GBF and GBA Compatibility

- 1 GBF will fit KGBA/KGBAS holders
Caution: The maximum groove depth for KGBA/KGBAS holders is 2.5 mm
- 2 GBA inserts will also fit KGBF-F holders
Caution: The rake angle after installation in the toolholder is 11°
2.5 mm groove depth is available on workpiece diameters up to 200 mm max
2.2 mm groove depth is available on workpiece diameters over 200 mm

KGBF-F Holder with GBF Insert Maximum Machining Diameter

The maximum machining diameter is $\phi 51$ mm
The workpiece interferes with the holder at $\phi 51$ mm workpiece diameter or larger

