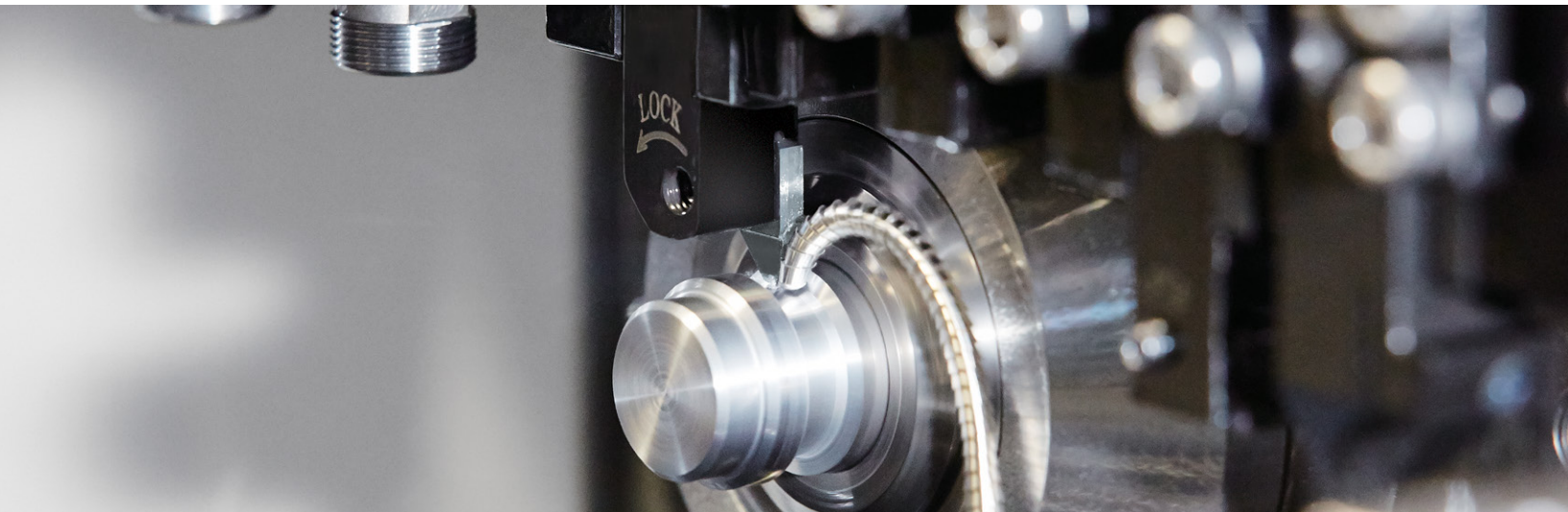




TKFB-GQ

Back Turning with Molded Chipbreaker



Good Chip Evacuation and Excellent Surface Finish with Molded Chipbreaker

Reduced Cycle Time by Increasing Depth of Cut Capabilities

PR1535 Extends Tool Life in Stainless Steel Machining



TKFB-GQ Chipbreaker

Back Turning with Molded Chipbreaker

Good Chip Evacuation and Excellent Surface Finish with Molded Chipbreaker
 Reduced Cycle Time by Increasing Depth of Cut Capabilities


1 Good Chip Evacuation with Molded Chipbreaker

Original 3D Molded Chipbreaker with Two Functions


Grooving Good Surface Finish

Prevents Chip Crunching

GQ Chipbreaker




Competitor A (Ground)




Turning Stable Chip Control

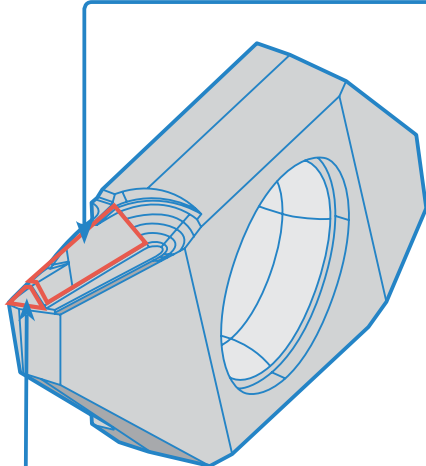
Prevents Chip Entanglement

GQ Chipbreaker



Competitor B (Ground)





Chip Control Comparison (Turning)
 (In-house Evaluation)

Prevents Entanglement with Tightly Curled Chips

Stable Chip Control Over Wide Range of Cutting Conditions

		1045					
		GQ Chipbreaker			Competitor C (Molded)		
(D.O.C.)	(f)	0.0012 ipr	0.0020 ipr	0.0028 ipr	0.0012 ipr	0.0020 ipr	0.0028 ipr
0.158" Competitor (0.138")							✗ Chip Clogging
0.118"							
0.079							⚠ Unstable Chip Control

Cutting Conditions: Vc = 330 sfm, Wet

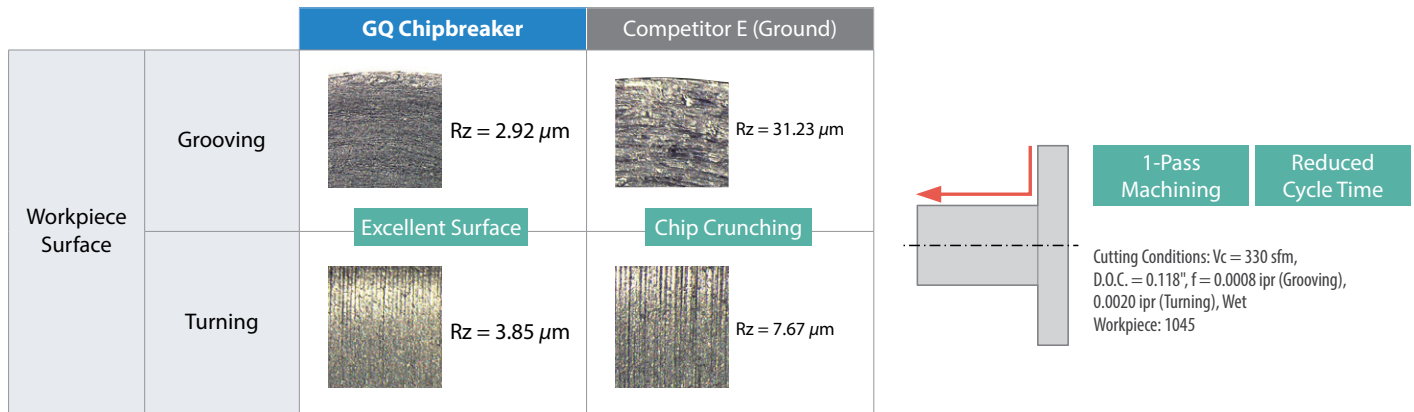
		304					
		GQ Chipbreaker			Competitor D (Molded)		
(D.O.C.)	(f)	0.0008 ipr	0.0016 ipr	0.0024 ipr	0.0008 ipr	0.0016 ipr	0.0024 ipr
0.158" Competitor (0.138")							✗ Insert Fracture
0.118"							✗ Chip Clogging
0.079							⚠ Unstable Chip Control

Cutting Conditions: Vc = 260 sfm, Wet

2 Excellent Surface Finish by Preventing Chip Crunching and Clogging

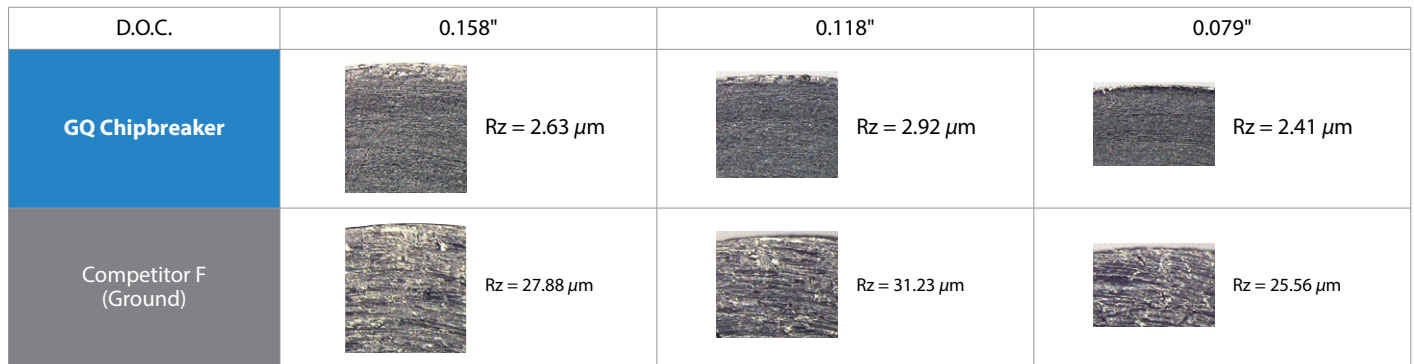
Reduced Cycle Time with GQ Chipbreaker by Increasing Depth of Cut Capabilities

Surface Finish Comparison (In-house Evaluation)



Grooving • Excellent Surface Finish at Large Depths of Cut

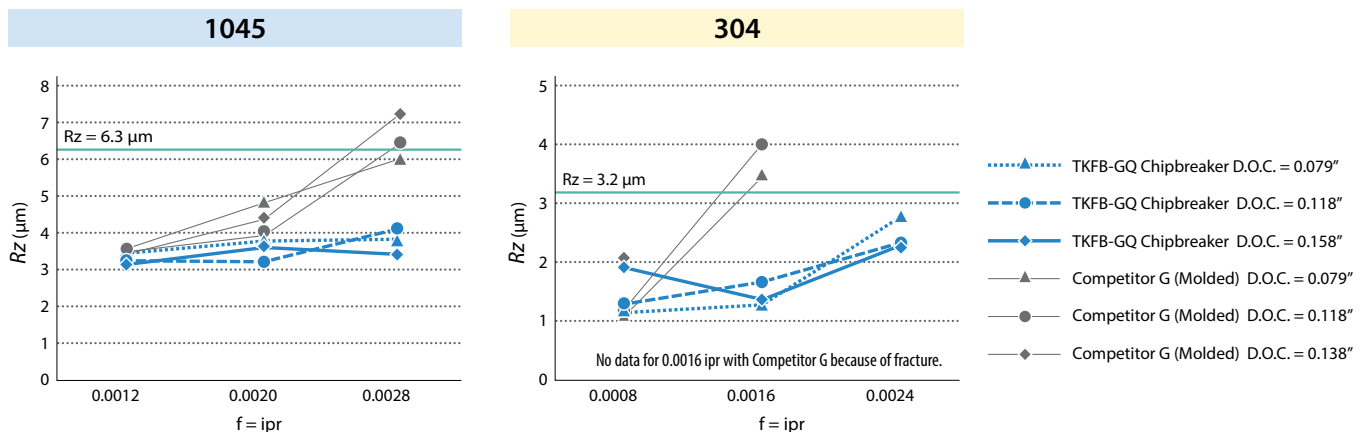
Flange Finish



Cutting Conditions: $V_c = 330 \text{ sfm}$, $f = 0.0008 \text{ ipr}$, Wet Workpiece: 1045

Turning • Prevents Chip Clogging and Entanglement at High Feed Rates

Surface Finish During External Turning (In-house Evaluation)



PR1535 MEGACOAT NANO

Combination of tough substrate and special nano layer coating enables long tool life and stable machining of stainless steel.

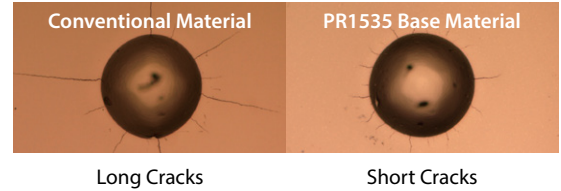
- 1 Toughening with a New Cobalt Mixing Ratio**
* Comparison with our Conventional Grade
- 2 Improved Stability by Optimization and Homogenization of the Particle Matrix**
- 3 Long Tool Life and Stable Machining with MEGACOAT NANO**

23%
Fracture Toughness*

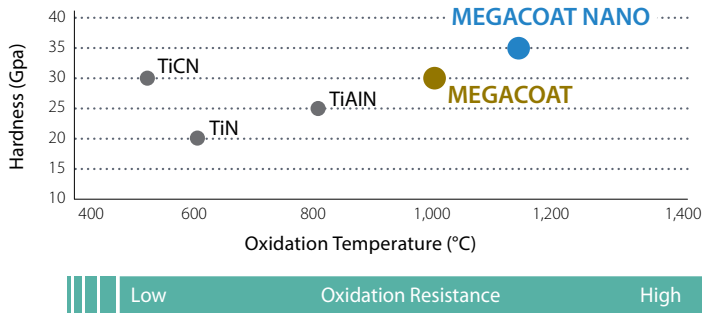
Cracking Comparison by Diamond Indentor

(In-house Evaluation)

Shock Resistance

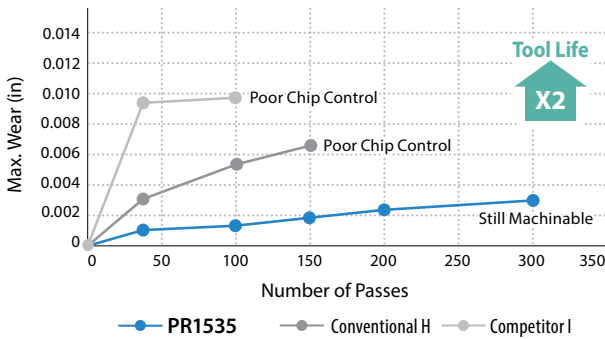


Coating Film Property



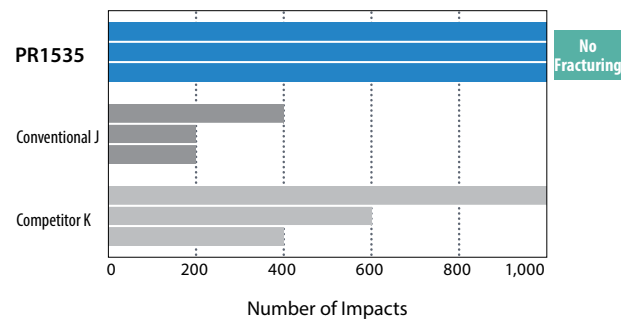
Layer Structure of MEGACOAT
PR1535 is a good solution for unstable conditions such as early fracturing and variable tool life during steel machining.

Wear Resistance Evaluation (In-house Evaluation)



Cutting Conditions: $n = 1,273 \text{ min}^{-1}$ ($V_c = 260 \text{ sfm}$), $f = 0.0010 \text{ ipr}$, Wet (Oil Base)
Workpiece: 304 ($\text{Ø}0.787''$)

Fracture Resistance Comparison (In-house Evaluation)

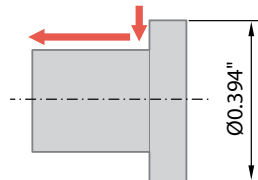


Cutting Conditions: $V_c = 260 \text{ sfm}$, $f = 0.005 \text{ ipr}$, Wet (Water Soluble)
Workpiece: 304 ($\text{Ø}1.969, 0.394''$ 4 slots)

Case Studies

Bolt SUM23

$V_c = 300 \text{ sfm}$
 $D.O.C. = 0.079$
 $f = 0.0010 \text{ ipr}$ (Grooving)
 $f = 0.0016 \text{ ipr}$ (Turning)
Wet
TKFB12R28015-GQ PR1225



Number of Workpieces

PR1225 **5,000 pcs/edge**

Tool Life
X2

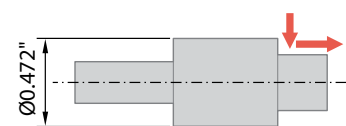
Competitor L **2,500 pcs/edge**

TKFB-GQ Chipbreaker (PR1225) showed 2 times longer tool life compared to Competitor L. Stable machining with minimal deflection was achieved.

(User Evaluation)

Shaft SUJ2

$V_c = 160 \text{ sfm}$
 $D.O.C. = 0.079$
 $f = 0.0012 \text{ ipr}$ (Grooving)
 $f = 0.0020 \text{ ipr}$ (Turning)
Wet
TKFB12R28015-GQ PR1225



Number of Workpieces

PR1225 **1,500 pcs/edge**

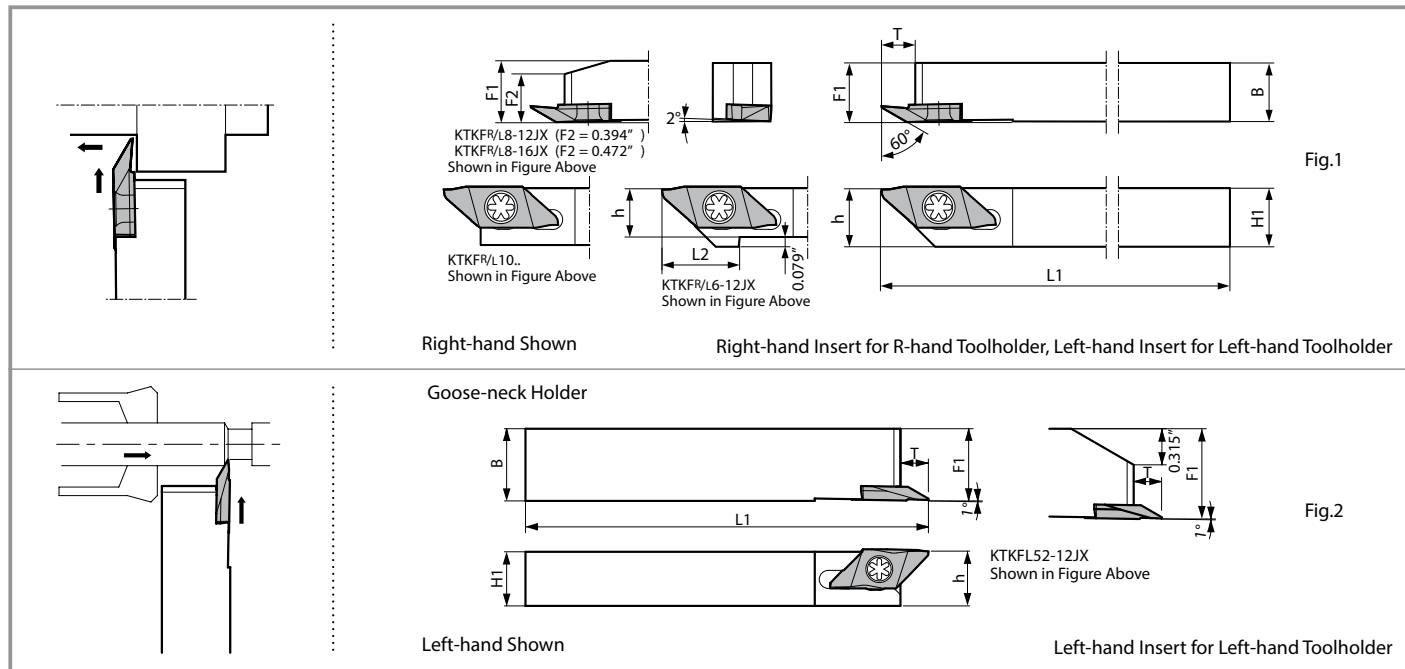


Competitor M **1,500 pcs/edge**



TKFB-GQ Chipbreaker (PR1225) maintained smoother chip control compared to Competitor M.

(User Evaluation)

KTKF / KTKF Goose-neck Holder (Inch Sizes)



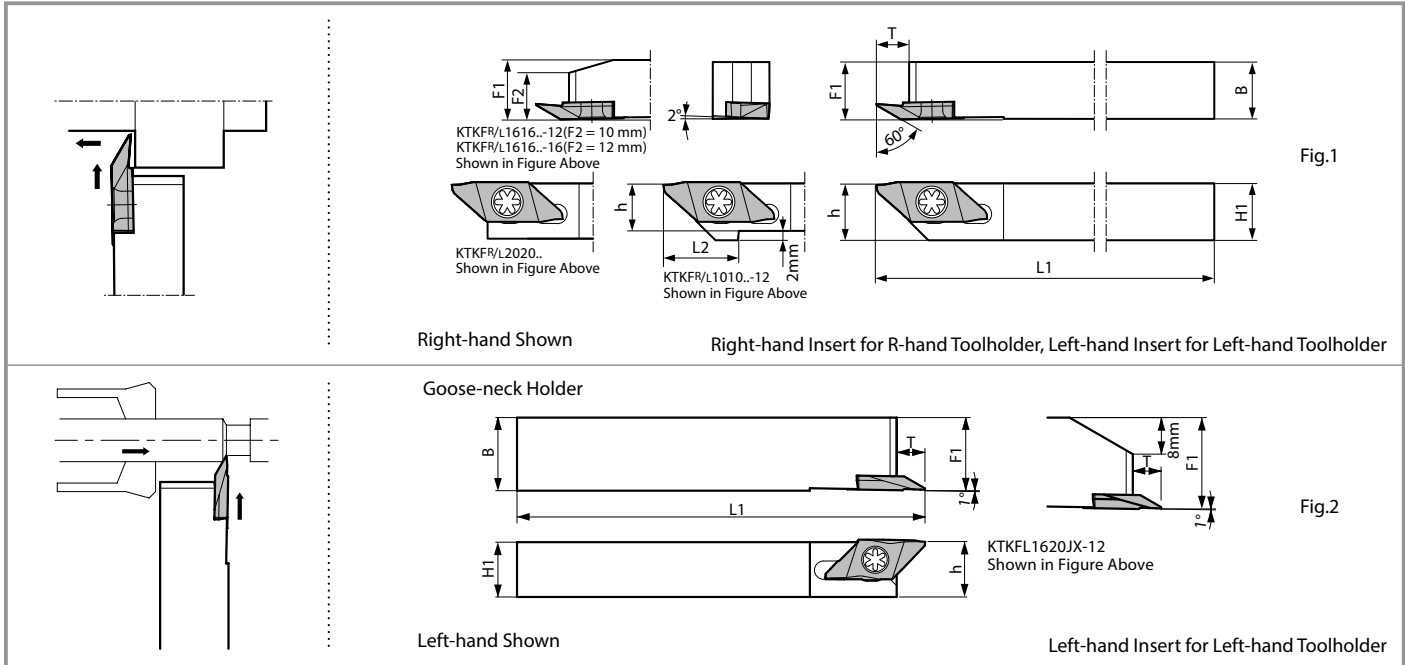
Toolholder Dimensions

Part Number	Stock		Dimensions (in)						Drawing	Spare Parts		Applicable Inserts (Page 7)			
	R	L	H1 = h	B	L1	L2	F1	T		Clamp Screw	Wrench				
															
KTKF $\frac{5}{8}$ 6-12JX	●	●	0.375	0.375	4.750	0.590	0.375	0.236	Fig.1	SB-4590TRWN	LTW-10S	TKFB12 $\frac{5}{8}$ / L ...			
8-12JX	●	●	0.500	0.500	4.750	-	0.500	0.236							
10-12JX	●	●	0.625	0.625	4.750	-	0.625	0.236							
KTKF $\frac{5}{8}$ 6-16JX	●	●	0.375	0.375	4.750	0.787	0.375	0.315				Fig.2	SB-4590TRWN	LTW-10S	TKFB16 $\frac{5}{8}$ / L ...
8-16JX	●	●	0.500	0.500	4.750	-	0.500	0.315							
10-16JX	●	●	0.625	0.625	4.750	-	0.625	0.315							
KTKFL 52-12JX		●	0.500	0.625	4.750	-	0.625	0.236	Fig.2	SB-4590TRWN	LTW-10S	TKFB12L ...			
62.5-12JX		●	0.625	0.750	4.750	-	0.750	0.236							

Dimension T shows the distance from the toolholder to the cutting edge.
 TKFB...GQ inserts are right-hand and are only available for KTKFR right-hand holders.

● : U.S. Stock

KTKF / KTKF Goose-neck Holder (Metric Sizes)



Toolholder Dimensions

Part Number	Stock		Dimensions (mm)						Drawing	Spare Parts		Applicable Inserts (Page 7)			
	R	L	H1 = h	B	L1	L2	F1	T		Clamp Screw	Wrench				
KTKF $\frac{R}{L}$ 1010JX-12	●	○	10	10	120	15	10	6	Fig. 1	SB-4590TRWN	LTW-10S	TKFB12 $\frac{R}{L}$...			
1212JX-12	●	○	12	12	120	—	12	6							
1616JX-12	●	○	16	16	120	—	16	6							
2020JX-12	○		20	20	120	—	20	6							
KTKF $\frac{R}{L}$ 1010JX-16	○	○	10	10	120	20	10	8				Fig. 2	SB-4590TRWN	LTW-10S	TKFB16 $\frac{R}{L}$...
1212JX-16	○	○	12	12	120	—	12	8							
1616JX-16	○	○	16	16	120	—	16	8							
2020JX-16	○		20	20	120	—	20	8							
KTKF $\frac{R}{L}$ 1212F-12	○		12	12	85	—	12	6	Fig. 2	SB-4590TRWN	LTW-10S	TKFB12 $\frac{R}{L}$...			
KTKF $\frac{R}{L}$ 1212F-16	○		12	12	85	—	12	8				TKFB16 $\frac{R}{L}$...			
KTKFL 1216JX-12		○	12	16	120	—	16	6	Fig. 2	SB-4590TRWN	LTW-10S	TKFB12L ...			
1620JX-12		○	16	20	120	—	20	6							

Dimension T shows the distance from the toolholder to the cutting edge.
 TKFB...GQ inserts are right-hand and are only available for KTKFR right-hand holders.

● : U.S. Stock ○ : World Express (Shipping: 7-10 Business Days)

Applicable Inserts

NEW

Shape	Description	Dimensions (in)								Angle (°)	MEGACOAT NANO PR1425	MEGACOAT NANO PR1535	MEGACOAT PR1225	Applicable Toolholder
		W	a	B	R(ε)	T	H	Ød	θ					
Usage Classification		P	Carbon Steel / Alloy Steel								☉	☉	☉	
		M	Stainless Steel								☉	☉	☉	
		K	Gray Cast Iron											
			Nodular Cast Iron											
		N	Non-ferrous Material											
		S	Heat-Resistant Alloy								☉	☉	☉	
			Titanium Alloy									☉		
		H	Hardened Material											
		● : Continuous - Light Interruption / 1st Choice ☉ : Continuous - Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice												
	TKFB 12R28005-GQ	0.110	0.059	0.181	0.002	0.118	0.343	0.205	74°	●	●	●	KTKFR ...12	
	12R28015-GQ	0.110	0.059	0.181	0.006	0.118	0.343	0.205	74°	●	●	●		
	TKFB 16R38005-GQ	0.150	0.071	0.248	0.002	0.158	0.374	0.205	72°	●	●	●	KTKFR ...16	
	16R38015-GQ	0.150	0.071	0.248	0.006	0.158	0.374	0.205	72°	●	●	●		

● : U.S. Stock ○ : World Express (Shipping: 7-10 Business Days)

Recommended Cutting Conditions ★ 1st Recommendation ☆ 2nd Recommendation

Workpiece		Recommended Insert Grade						Notes
		MEGACOAT NANO				MEGACOAT		
		PR1425		PR1535		PR1225		
		Grooving	Traversing	Grooving	Traversing	Grooving	Traversing	
Carbon Steel / Alloy Steel	Cutting Speed (sfm)	★ 260 – 660		☆ 200 – 490		☆ 200 – 490		Wet
	Feed (ipr)	0.0004 – 0.00016	0.0008 – 0.0059	0.0004 – 0.0016	0.0008 – 0.0059	0.0004 – 0.00016	0.0008 – 0.0059	
Stainless Steel	Cutting Speed (sfm)	☆ 200 – 490		★ 200 – 430		☆ 200 – 430		
	Feed (ipr)	0.0004 – 0.0012	0.0008 – 0.0039	0.0004 – 0.0012	0.0008 – 0.0039	0.0004 – 0.0012	0.0008 – 0.0039	

Inserts Identification System (See Table 1)

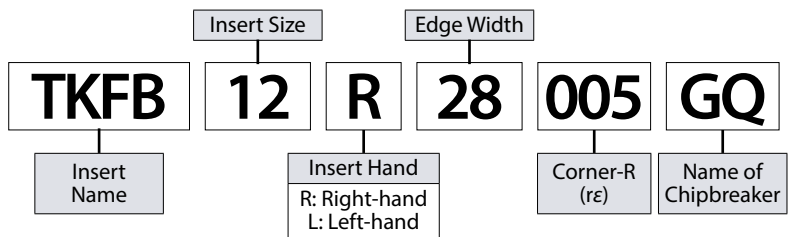
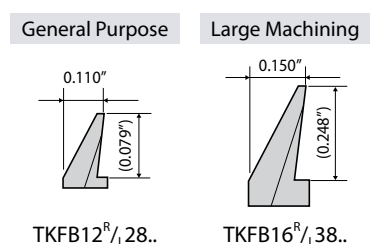
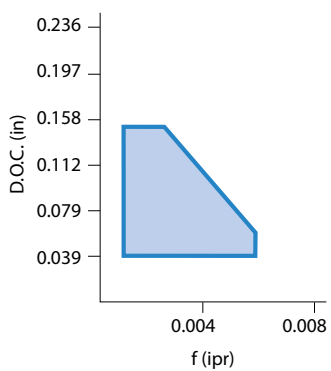


Table 1 (Insert Width)

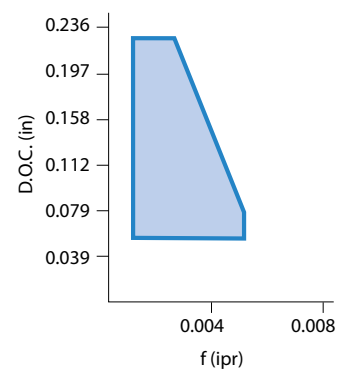


Applicable Range (Steel)

TKFB12R280..GQ



TKFB16R380..GQ





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