



# GBA

Grooving with 3 Cutting Edges



Smooth Chip Evacuation with Molded Chipbreaker

Large Lineup of Chipbreakers and Insert Grades

Smooth Chip Control with GM Chipbreaker



**NEW**

PR1625 Grade  
for Steel and Stainless Steel

# GBA Grooving with 3 Cutting Edges

Smooth Chip Control with Molded Chipbreakers Along with Excellent Surface Finish  
Stable Machining with PR1625 Insert Grades

## 1 Multiple Insert Grades Cover a Wide Variety of Applications

### Recommended Insert Grades for Steel

General Purpose: PR1215

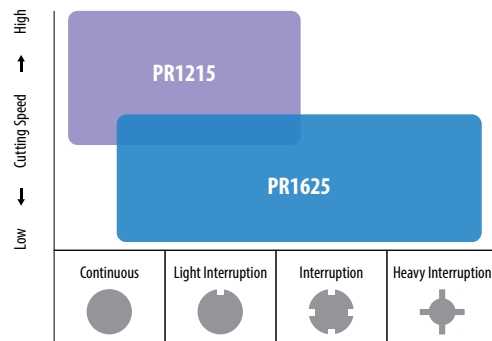
Surface Finish Oriented: TN620

Stable Machining Oriented: PR1625

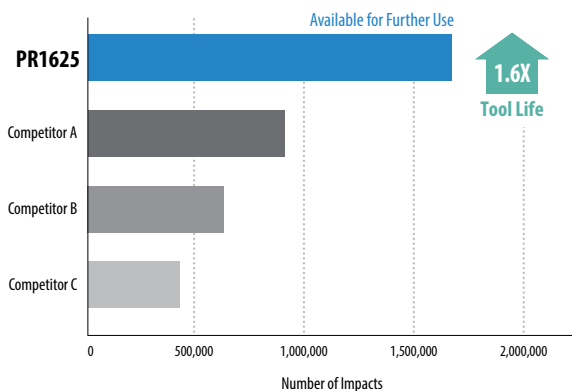


PR1625

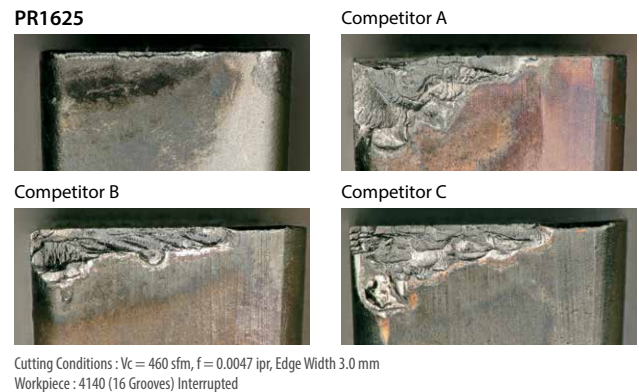
The new PR1625 has high hardness and toughness with a highly stable carbide base material and MEGACOAT NANO coating technology for excellent welding resistance



### Fracture Resistance Comparison (Internal Evaluation)



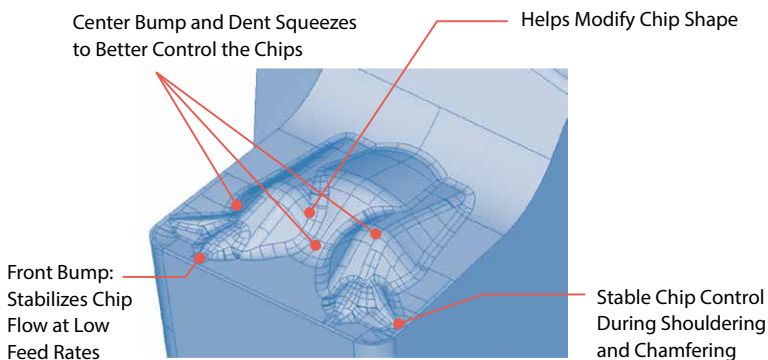
### Wear Resistance Comparison (Internal Evaluation)



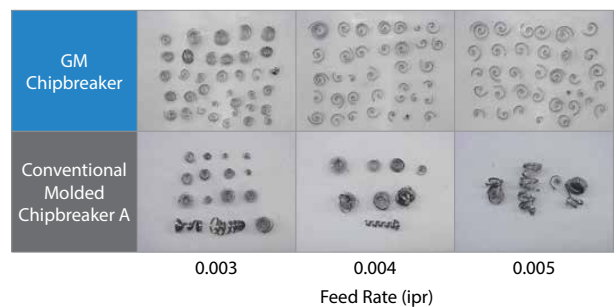
## 2 Smooth Chip Control with GM Chipbreaker

Smooth Chip Control Due to Bump Placement on the Chipbreaker  
Groove Widths from 1.4 mm

### Multi-Bump Design



### Chip Control Comparison (Internal Evaluation)



Cutting Conditions :  $V_c = 660$  sfm, Edge Width 2.0 mm, Grooving Workpiece : 5120 ( $\emptyset 1.575''$ )

# GBA Inserts (Inch Size)

Part Number	A	T	Ød	Usage Classification	
				● : Light Interruption / 1st Choice	○ : Light Interruption / 2nd Choice
GBA32_	0.375	0.125	0.173	P	Carbon Steel / Alloy Steel
GBA43_	0.500	0.187	0.217	M	Stainless Steel
GBA43 ¾ 480	0.500	0.197	0.217	K	Cast Iron
				N	Non-ferrous Metals
				S	Titanium Alloy
				H	Hard Materials (≤40HRC)
					Hard Materials (≥40HRC)

Insert Right-handed Insert Shown	Part Number	Dimensions (in)			MEGACOAT Cermets	MEGACOAT	Applicable Toolholders
		W	B	re	PV7040	PR1215	
	<b>GBA32%</b> 031N	0.031	0.079	0.002	○	●	KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16
	041N	0.041	0.079	0.002	●	●	
	047N	0.047	0.079	0.008	○	●	
	058N	0.058	0.079	0.008	●	●	
	062N	0.062	0.079	0.008	●	●	
	078N	0.078	0.098	0.008	●	●	
	094N	0.094	0.098	0.008	○	●	KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15
	<b>GBA43%</b> 031N	0.031	0.079	0.008	●	●	
	047N	0.047	0.079	0.008	○	●	
	062N	0.062	0.138	0.008	●	●	
	072N	0.072	0.138	0.008	○	●	
	078N	0.078	0.138	0.008	○	●	
	088N	0.088	0.138	0.008	●	●	KGBA% ...-4-25 KGBA% ...-22-25 KGBAS% ...-4-25 KGBAS% ...-22-25T5 KGBAS% ...-4-25 KGBAS% ...-22-25 KGBAS% ...-22-25T5
	094N	0.094	0.157	0.012	●	●	
	097N	0.097	0.157	0.012	●	●	
	105N	0.105	0.157	0.012	○	●	
	109N	0.109	0.157	0.012		○	
	110N	0.110	0.157	0.012	●	○	
	125N	0.125	0.157	0.012	○	●	KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35
	141N	0.141	0.197	0.012		●	
142N	0.142	0.197	0.012	○	●		
156N	0.156	0.197	0.016	○	●		
172N	0.172	0.197	0.016		●		
178N	0.178	0.197	0.016	○	●		
188N	0.188	0.197	0.016		●		

Dimension B shows available grooving depth

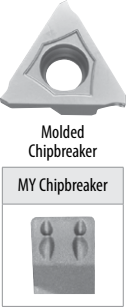
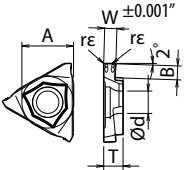
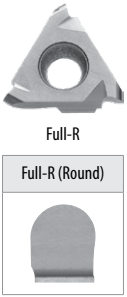
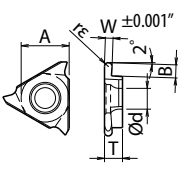
● : U.S. Stock ● : U.S. Stock (R-hand Only) ● : U.S. Stock (L-hand Only) ○ : World Express (Shipping: 7-10 Business Days)

Inserts sold in 5 piece boxes

## Rake Angle (α) After Installment of GBA (External Grooving Toolholders)

GBA32%○○○N		GBA43%○○○N	
α	Insert Grade	α	Insert Grade
10°	PV7040, PR1215	10°	PV7040, PR1215

# GBA Inserts (Inch Size)

Part Number	A	T	Ød (in)	P	Carbon Steel / Alloy Steel	●	Usage Classification ● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	
				M	Stainless Steel	●		
K	Cast Iron							
N	Non-ferrous Metals							
S	Titanium Alloy	●						
H	Hard Materials (≤40HRC)	●						
	Hard Materials (≥40HRC)							
Insert		Part Number		Dimensions (in)			MEGACOAT	Applicable Toolholders
Right-handed Insert Shown		W	B	re	PR1215			
		<b>GBA43%</b> 078MYN	0.078	0.138	0.008	Ⓡ	KGBA% ...4-15 KGBA% ...22-15 KGBAS% ...4-15 KGBAS% ...22-15	
		094MYN	0.094	0.157	0.012	●	KGBA% ...4-25 KGBA% ...22-25 KGBA% ...4-25T KGBA% ...22-25T5 KGBAS% ...4-25 KGBAS% ...22-25 KGBAS% ...22-25T5	
		125MYN	0.125	0.157	0.012	Ⓡ	KGBA% ...4-35 KGBA% ...22-35 KGBAS% ...4-35 KGBAS% ...22-35	
		156MYN	0.156	0.197	0.016	Ⓡ	KGBA% ...4-35 KGBA% ...22-35 KGBAS% ...4-35 KGBAS% ...22-35	
		<b>GBA32R</b> 031R	0.062	0.079	0.031	●	KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16	
		047R	0.094	0.098	0.047	●	KGBA% ...4-15 KGBA% ...22-15 KGBAS% ...4-15 KGBAS% ...22-15	
		<b>GBA43%</b> 031R	0.062	0.138	0.031	Ⓡ	KGBA% ...4-25 KGBA% ...22-25 KGBA% ...4-25T KGBA% ...22-25T5 KGBAS% ...4-25 KGBAS% ...22-25 KGBAS% ...22-25T5	
		047R	0.094	0.157	0.047	●	KGBA% ...4-35 KGBA% ...22-35 KGBAS% ...4-35 KGBAS% ...22-35	
		062R	0.125	0.157	0.062	Ⓡ	KGBA% ...4-35 KGBA% ...22-35 KGBAS% ...4-35 KGBAS% ...22-35	
		078R	0.156	0.197	0.078	○	KGBA% ...4-35 KGBA% ...22-35 KGBAS% ...4-35 KGBAS% ...22-35	
094R	0.188	0.197	0.094	○				

Dimension B shows available grooving depth

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

Inserts sold in 5 piece boxes

## Rake Angle (α) After Installment of GBA-MY (External Grooving Toolholders)

α	Insert Part Number
15°	GBA43% 078MYN }
	GBA43% 125MYN
14°	GBA43% 156MYN

α shows the rake angle at the center of the edge width after installing insert

## Rake Angle (α) After Installment of GBA-R (External Grooving Toolholders)

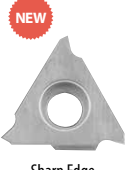
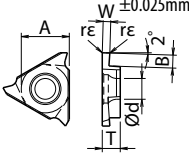
GBA43%○○○R (Full-R)		
	Insert Grade	Full-R Part Number
10°	PV7040, PR1215	031R ~ 062R
14°	PV7040, PR1215	078R ~ 094R



# GBA Inserts (Metric Size)

Part Number	A	T	Ød	P	Material	Usage Classification
GBA32_	9.525	3.18	4.4	P	Carbon Steel / Alloy Steel	●
GBA43_	12.70	4.76	5.5	M	Stainless Steel	○
GBA43% 480	12.70	5.00	5.5	K	Cast Iron	●
				N	Non-ferrous Metals	○
				S	Titanium Alloy	●
				H	Hard Materials (≤40HRC)	○
				H	Hard Materials (≥40HRC)	○

Insert Right-handed Insert Shown	Part Number	Dimensions (mm)			Cermet	Applicable Toolholders	
		W	B	re			
 <p>Sharp Edge</p> 	<b>GBA32%</b> <b>050-005F</b> *1	0.50	1.0	0.05	○	KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16 KIGBA% ...-3 (Internal) KIGBA% ...-16 (Internal)	
	<b>075-005F</b>	0.75	2.0		0.2		○
	<b>095-005F</b>	0.95					○
	<b>100-005F</b>	1.00		○			
	<b>125-020F</b>	1.25		○			
	<b>145-020F</b>	1.45		○			
	<b>150-020F</b>	1.50		○			
	<b>175-020F</b>	1.75	2.5	○	○		
	<b>200-020F</b>	2.00					
	<b>250-020F</b>	2.50					
	<b>GBA43%</b> <b>125-020F</b>	1.25	2.0	0.2	○	KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	<b>145-020F</b>	1.45	3.5		○		
	<b>150-020F</b>	1.50					
	<b>175-020F</b>	1.75					
	<b>185-020F</b>	1.85					
	<b>200-020F</b>	2.00					
	<b>230-020F</b>	2.30					
	<b>250-030F</b>	2.50	4.0	0.3	○	KGBA% ...-4-25T KGBA% ...-22-25T5 KGBAS% ...-22-25T5 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	<b>265-030F</b>	2.65					
	<b>280-030F</b>	2.80					
	<b>300-030F</b>	3.00					
	<b>330-030F</b>	3.30					
	<b>350-030F</b>	3.50					
	<b>400-040F</b>	4.00	5.0	0.4	○	KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	<b>430-040F</b>	4.30					
	<b>450-040F</b>	4.50					
	<b>480-040F</b>	4.80					

NEW


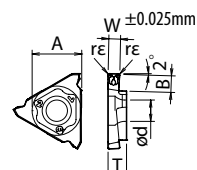
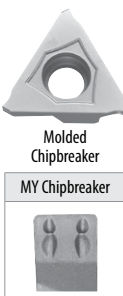
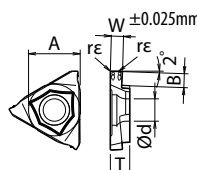
Dimension B shows available grooving depth

○ : World Express (Shipping: 7-10 Business Days) ® : World Express (R-hand Only)

\*1 : The edge width tolerance of GBA32% 050-005F : 0.50<sup>+0.05mm</sup>/<sub>-0.05mm</sub>

Inserts sold in 10 piece boxes

# GBA Inserts (Metric Size)

Part Number	A	T	Ød	(mm)	P	Carbon Steel / Alloy Steel	NEW	NEW	NEW	NEW	NEW	Usage Classification ● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	
					M	Stainless Steel	K	Cast Iron	N	Non-ferrous Metals	S		Titanium Alloy
GBA32_	9.525	3.18	4.4										
GBA43_	12.70	4.76	5.5										
GBA43% 480	12.70	5.00	5.5										
Insert Right-handed Insert Shown	Part Number	Dimensions (mm)			Cermet		MEGA COAT NANO	MEGA COAT	PVD Coated Carbide		Applicable Toolholders		
		W	B	ε	TN620	TN6020	PR1625	PR1215	PR1115	PR930			
 Molded Chipbreaker GM Chipbreaker		<b>GBA43% 140-010GM</b>	1.40	3.5	0.1	○			○			KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
		<b>150-020GM</b>	1.50		0.2	○		●	●	○			
		<b>175-020GM</b>	1.75		○								
		<b>185-020GM</b>	1.85		○								
		<b>200-020GM</b>	2.00		○				●	Ⓜ			
		<b>230-020GM</b>	2.30		○					●			
		<b>250-030GM</b>	2.50	5.0	0.3	○		●	Ⓜ			KGBA% ...-4-25T KGBA% ...-22-25T5 KGBAS% ...-22-25T5 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
		<b>265-030GM</b>	2.65		○								
		<b>300-030GM</b>	3.00		○				●	○			
		<b>330-030GM</b>	3.30		○					○			
<b>350-030GM</b>	3.50	5.0	0.4	○				○		KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)			
<b>400-040GM</b>	4.00		○			●	●						
 Molded Chipbreaker MY Chipbreaker		<b>GBA43% 175-020MY</b>	1.75	3.5	0.2		○		●	○	○	KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
		<b>185-020MY</b>	1.85		○								
		<b>200-020MY</b>	2.00		Ⓜ			●	Ⓜ	Ⓜ			
		<b>230-020MY</b>	2.30		○					●	○		
		<b>250-030MY *1</b>	2.50	4.0	0.3		Ⓜ					★2	
			5.0							●	○	Ⓜ	★1
		<b>265-030MY *1</b>	2.65	4.0	0.3					●	○	○	★1
			5.0										
		<b>300-030MY *1</b>	3.00	4.0	0.3					○			★2
			5.0							Ⓜ	○	○	★1
		<b>330-030MY *1</b>	3.30	4.0	0.3			Ⓜ					★2
			5.0									Ⓜ	★1
		<b>350-030MY</b>	3.50	5.0	0.4					○	○	○	KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)
		<b>400-040MY</b>	4.00		○				●	Ⓜ	Ⓜ		

Dimension B shows available grooving depth

● : U.S. Stock ○ : World Express (Shipping: 7-10 Business Days) Ⓜ : U.S. Stock (R-hand Only) Ⓜ : U.S. Stock (L-hand Only)  
 Ⓜ : World Express (Shipping: 7-10 Business Days) Ⓜ : World Express (R-hand Only) Ⓜ : World Express (L-hand Only)

\*1 : Available grooving depth is different based on grade

★1: KGBA% ...-4-25T, KGBA% ...-22-25T5, KGBAS% ...-22-25T5, KIGBA% ...-4, KIGBA% ...-22

★2: KGBA% ...-4-25T, KGBA% ...-22-25T5, KGBAS% ...-22-25T5, KIGBA% ...-4-25, KIGBA% ...-22-25, KGBAS% ...-4-25, KGBAS% ...-22-25, KIGBA% ...-4, KIGBA% ...-22

Inserts sold in 10 piece boxes

## Rake Angle (α) After Installment of GBA-GM (External Grooving Toolholders)

α	Insert Part Number	α	Insert Part Number
10°	GBA43% 150-020GM	12°	GBA43% 300-030GM GBA43% 400-040GM
15°	GBA43% 175-020GM		
	GBA43% 265-030GM		

α shows the rake angle at the center of the edge width after installing insert

## Rake Angle (α) After Installment of GBA-MY (External Grooving Toolholders)

α	Insert Part Number
15°	GBA43% 175-020MY GBA43% 350-030MY
	GBA43% 400-040MY
14°	GBA43% 400-040MY

α shows the rake angle at the center of the edge width after installing insert



# GBA Inserts (Metric Size)

Part Number	A	T	Ød	(mm)	P	M	K	N	S	H	NEW										Usage Classification
					Carbon Steel / Alloy Steel	Stainless Steel	Cast Iron	Non-ferrous Metals	Titanium Alloy	Hard Materials (≤40HRC)	Hard Materials (≥40HRC)	●	○	●	●	○	○	○	○	○	
Insert		Part Number	Dimensions (mm)			MEGA COAT Cermet	Cermet			MEGA COAT NANO	MEGA COAT	PVD Coated Carbide			Carbide	Applicable Toolholders					
Right-handed Insert Shown			W	B	rc	PV7040	TN620	TN90	PR1625	PR1215	PR1115	PR905	PR930	KW10							
	<b>GBA32R 200-100R</b>		2.00	2.5	1.00					○								KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16 KIGBA% ...-3 (Internal) KIGBA% ...-16 (Internal)			
	<b>300-150R</b>		3.00		1.50						○	○									
	<b>GBA43% 100-050R</b>		1.00	2.0	0.50	○				●	Ⓡ	Ⓛ	○						KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
	<b>150-075R</b>		1.50	3.5	0.75	○				●	○	○	○					Ⓡ	KGBA% ...-4-15 KGBA% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
	<b>200-100R</b>		2.00		1.00	○					●	Ⓡ	Ⓛ	○						KGBA% ...-4-15 KGBA% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	<b>250-125R</b>		2.50	4.0	1.25						●	○	○						★1		
	<b>300-150R</b>		3.00		1.50							○	●	Ⓡ	Ⓡ	○	○	○		KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	<b>400-200R</b>		4.00	5.0	2.00														KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
	<b>GBA43% 100-050RF</b>		1.00	2.0	0.50		○												KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
	<b>150-075RF</b>		1.50	3.5	0.75		○												KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
	<b>200-100RF</b>		2.00		1.00			○												★1	
	<b>250-125RF</b>		2.50	4.0	1.25														KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
	<b>300-150RF</b>		3.00		1.50															★1	
	<b>400-200RF</b>		4.00	5.0	2.00													Ⓡ	KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		

Dimension B shows available grooving depth

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)

GBA43% ...RF : Sharp Edge Type

○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes

★1: KGBA% ...-4-25T, KGBA% ...-22-25T5, KGBAS% ...-22-25T5, KGBA% ...-4-25, KGBA% ...-22-25, KGBAS% ...-4-25, KGBAS% ...-22-25, KIGBA% ...-4, KIGBA% ...-22

## Rake Angle (α) After Installment of GBA (External Grooving Toolholders)

GBA32%○○○-○○○		GBA43%○○○-○○○		GBA43%○○○-○○○R (Full-R)	
α	Insert Grade	α	Insert Grade	Insert Grade	Full-R Part Number
10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905 KPD001, KPD010	0°	KBN510, KBN525	10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905
		10°	TN620, TC40N, TN90, PV7040 PR930, PR1115, PR1215, PR905 KPD001, KPD010	14°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905
20°	KW10	20°	KW10	KW10	050R ~ 150R 200R 050R ~ 200R



# GBA Inserts (Metric Size)

Part Number	A	T	Ød	Material				Usage Classification						
				P	M	K	N	S	H	●	○	●	○	
GBA32_	9.525	3.18	4.4	Carbon Steel / Alloy Steel	Stainless Steel									
GBA43_	12.70	4.76	5.5	Cast Iron	Non-ferrous Metals					●				
GBA43% 480	12.70	5.00	5.5	Titanium Alloy	Hard Materials (≤40HRC)					●				
				Hard Materials (≥40HRC)		○	●							

Insert Right-handed Insert Shown	Part Number	Dimensions (mm)			CBN		PCD		Applicable Toolholders		
		W	B	rE	KBN510	KBN525	KPD001	KPD010			
<p>GBA32 S = 1.7mm GBA43 S = 1.9mm</p>	<b>GBA32R</b>	<b>125-010</b>	1.25	2.0	0.1				○	KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16 KIGBA% ...-3 (Internal) KIGBA% ...-16 (Internal)	
		<b>150-010</b>	1.50						○		○
	<b>GBA43%</b>	<b>125-010</b>	1.25	2.0	0.1				○	KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
		<b>125-020</b>			0.2	○	Ⓛ				
		<b>150-010</b>	1.50	3.5	0.1				○	KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
		<b>150-020</b>			0.2	●	Ⓢ				○
		<b>200-010</b>	2.00	3.5	0.1				●	○	KGBA% ...-4-25 KGBA% ...-22-25 KGBA% ...-4-25T KGBA% ...-22-25T5 KGBAS% ...-4-25 KGBAS% ...-22-25 KGBAS% ...-22-25T5 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)
		<b>200-020</b>			0.2	●	○				
		<b>250-010</b>	2.50	4.0	0.1				○	○	KGBA% ...-4-25 KGBA% ...-22-25 KGBA% ...-4-25T KGBA% ...-22-25T5 KGBAS% ...-4-25 KGBAS% ...-22-25 KGBAS% ...-22-25T5 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)
		<b>250-020</b>			0.2	○	○				
		<b>300-010</b>	3.00	4.0	0.1				○	Ⓢ	KGBA% ...-4-25 KGBA% ...-22-25 KGBA% ...-4-25T KGBA% ...-22-25T5 KGBAS% ...-4-25 KGBAS% ...-22-25 KGBAS% ...-22-25T5 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)
		<b>300-020</b>			0.2		Ⓢ				

Dimension B shows available grooving depth

GBA43% ...RF : Sharp Edge Type

● : U.S. Stock Ⓢ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)

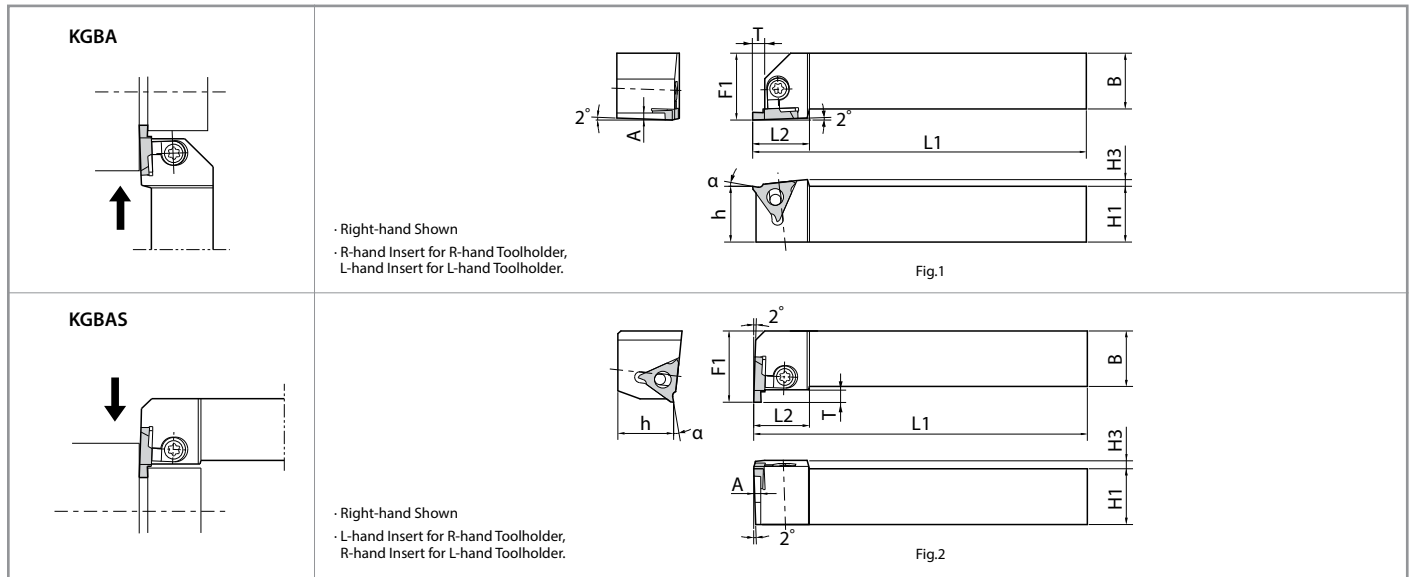
○ : World Express (Shipping: 7-10 Business Days) Ⓢ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes

## Rake Angle (α) After Installment of GBA (External Grooving Toolholders)

GBA32% ○○○-○○○		GBA43% ○○○-○○○		GBA43% ○○○-○○○R (Full-R)	
α	Insert Grade	α	Insert Grade	Insert Grade	Full-R Part Number
10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905 KPD001, KPD010	0°	KBN510, KBN525	10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905 050R ~ 150R
		10°	TN620, TC40N, TN90, PV7040 PR930, PR1115, PR1215, PR1625, PR905 KPD001, KPD010	14°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905 200R
20°	KW10	20°	KW10	KW10	050R ~ 200R

# KGBA / KGBAS Toolholders



## Toolholder Dimensions

Part Number	Stock		Unit	Dimensions								Drawing	Spare Parts		Applicable Inserts
	R	L		H1=h	H3	B	L1	L2	F1	A	T		Clamp Set	Wrench	
<b>KGBA%</b> 12-3	●	●	inch	0.750	0.160	0.750	5.000	0.945	1.000	-	0.098	Fig.1	LGBA-16% S	FT-15	GBA32%
16-3	●	●		1.000	0.160	1.000	6.000	0.945	1.250	-	0.098				
12-4-15	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.039	0.157				
16-4-15	●	●		1.000	0.160	1.000	6.000	1.004	1.250	0.039	0.157				
12-4-25	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.079	0.177				
16-4-25	●	●		1.000	0.160	1.000	6.000	1.004	1.250	0.079	0.177				
<b>KGBA%</b> 2020K-16	●	●	mm	20	4.0	20	125	24	25	-	2.5	Fig.1	LGBA-16% S	FT-15	GBA32%
2525M-16	○	○		25		150	30								
2020K22-15	●	○		20	4.0	20	125	25.5	25	1.0	4.0				
2525M22-15	●	●		25		150	30								
2020K22-25	●	○		20	4.0	20	125	25.5	25	2.0	4.5				
2525M22-25	●	○		25		150	30								
2020K22-25T5	●	○		20	4.0	20	125	25.5	25	2.0	5.5				
2525M22-25T5	○	○		25		150	30								
2020K22-35	○	○		20	4.0	20	125	25.5	25	3.0	5.5				
2525M22-35	○	○		25		150	30								
2020H22-15*	○	○		20	4.0	20	100	25.5	25	1.0	4.0				
2020H22-25*	○	○							2.0	4.5					
2020H22-35*	○	○	3.0						5.5						
<b>KGBASR</b> 12-3	●		inch	0.750	0.152	0.750	5.000	0.984	0.984	-	0.098	Fig.2	LGBA-16LS	FT-15	GBA32L
16-3	●			1.000	0.172	1.000	6.000	0.984	1.181	-	0.098				
12-4-15	●			0.750	0.160	0.750	5.000	0.984	1.062	0.039	0.157				
16-4-15	●			1.000	0.180	1.000	6.000	0.984	1.260	0.039	0.157				
12-4-25	●			0.750	0.160	0.750	5.000	0.984	1.062	0.079	0.177				
16-4-25	●			1.000	0.197	1.000	6.000	0.984	1.250	0.079	0.177				
<b>KGBAS%</b> 2020K-16	○	○	mm	20	4.0	20	125	25	25	-	2.5	Fig.2	LGBA-16% S	FT-15	GBA32%
2525M-16	○	○		25		150	30								
2020K22-15	○	●		20	4.5	20	125	25	27	1.0	4.0				
2525M22-15	●	○		25		150	32								
2020K22-25	○	○		20	4.5	20	125	25	27	2.0	4.5				
2525M22-25	○	○		25		150	32								
2020K22-25T5	○	○		20	4.5	20	125	25	27	2.0	5.5				
2525M22-25T5	○	○		25		150	32								
2020K22-35	○	○		20	4.5	20	125	25	27	3.0	5.5				
2525M22-35	○	○		25		150	32								

Dimension T shows the distance from the toolholder to the cutting edge. Reference dimension B in applicable insert table for available grooving depth.

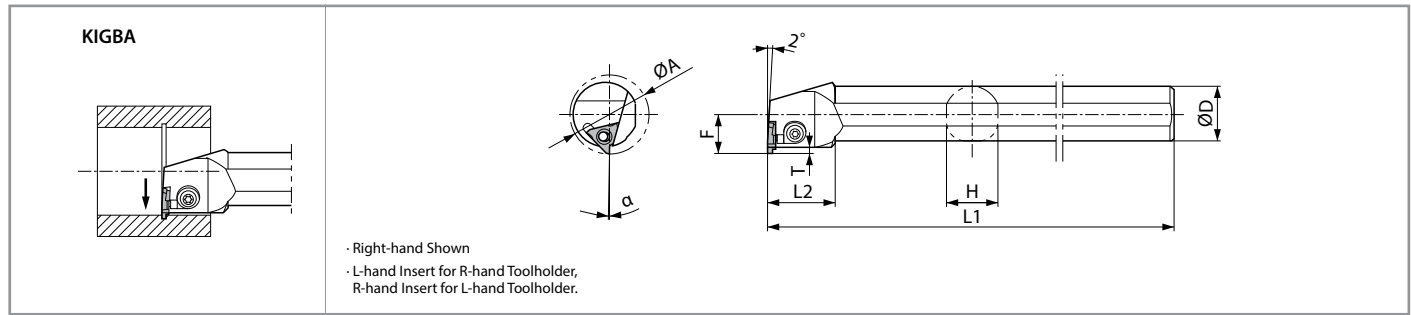
● : U.S. Stock ○ : World Express (Shipping: 7-10 Business Days)

\* Short Shank Type Clamp Set : KGBA% ... LGBA-○○RS for Right-hand Toolholder, and LGBA-○○LS for Left-hand Toolholder.  
KGBAS% ... LGBA-○○LS for Right-hand Toolholder, and LGBA-○○RS for Left-hand Toolholder.

## External Grooving Toolholders KGBA Short Shank Types are Available

For NC lathe, KGBAR2020K-○○ (Overall length 125mm) short shank type KGBAR2020H22-○○ (Overall length 100mm) is available. No longer requires the user to cut the shank portion.

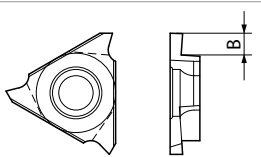
# KIGBA Toolholders



## Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions						Spare Parts		Applicable Inserts
	R	L			ØA	ØD	H	L1	L2	F	*T	Clamp Set	
KIGBA% 16-3	●	●	inch	1.38	1.00	0.92	9.0	1.18	0.69	0.12	LGBA-16% S	FT-15	GBA32%
	●	●		1.57	1.25	1.18	10.0	1.18	0.90	0.12			LGBA-22% S
KIGBA% 3525-16	○	●	mm	35	25	23	220	30	17.5	2.8	LGBA-16% S		GBA32%
	●	●		40	32	30	250	30	23.0	3.0	LGBA-22% S		GBA43%

\* Dimension T shows the distance from the toolholder to the cutting edge.  
Available grooving depth depends on the insert.  
KIGBA% 3525-16 : Dimension B of the applicable insert (GBA32 Type)  
4032-22 : Dimension B of the applicable insert (GBA43 Type)  
① 2.0 mm (Dimension B > 2.8mm)  
② 2.8 mm (Dimension B ≥ 2.8mm)



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

Clamp Set : LGBA-○●LS for Right-hand Toolholder, and LGBA-○●RS for Left-hand Toolholder.

## Rake Angle (α) After Installment of GBA

(External Grooving Toolholders)

GBA32% ○○○-○○○		GBA43% ○○○-○○○		GBA43% ○○○-○○○R (Full-R)		
α	Insert Grade	α	Insert Grade	Insert Grade	Full-R Part Number	
+1°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905 KPD001, KPD010	-9°	KBN510, KBN525	+1°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905	050R ~ 150R
		+1°	TN620, TC40N, TN90, PV7040 PR930, PR1115, PR1215, PR1625, PR905 KPD001, KPD010		TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905	200R
+11°	KW10	+11°	KW10	KW10	050R ~ 200R	

## Rake Angle (α) After Installment of GBA-GM

(External Grooving Toolholders)

α	Insert Part Number	α	Insert Part Number
+1°	GBA43% 150-020GM	+3°	GBA43% 300-030GM GBA43% 400-040GM
+6°	GBA43% 175-020GM		
	GBA43% 265-030GM		

α shows the rake angle at the center of the edge width after installing insert

## Rake Angle (α) After Installment of GBA-MY

(External Grooving Toolholders)

α	Insert Part Number
+6°	GBA43% 175-020MY
	GBA43% 350-030MY
+5°	GBA43% 400-040MY

α shows the rake angle at the center of the edge width after installing insert

# Recommended Cutting Conditions ★ 1st Recommendation ☆ 2nd Recommendation

## GBA Inserts (Ground Chipbreaker)

Workpiece	Recommended Insert Grades (Cutting Speed Vc : sfm)										(1) f (feed) for Grooving (ipr) (2) f (feed) for Turning (ipr) (3) D.O.C. for Turning (in)					Notes	
	MEGA COAT Cermet		Cermet		MEGA COAT	MEGA COAT NANO	PVD Coated Carbide		Carbide	CBN	PCD	GBA○○○% O31N ~ O41N 033... ~ 100...	GBA○○○% O47N ~ O78N 125... ~ 200...	GBA○○○% O94N ~ 109N 230... ~ 300...	GBA○○○% 125N ~ 156N 330... ~ 400...		GBA○○○% 172N ~ 188N 400... ~ 480...
	PV7040	TN620	TC40	TN90	PR1215	PR1625	PR930	PR1115	PR905	KW10	KBN510 KBN525						
Carbon Steel	☆ 490 - 790	★ 260 - 720	☆ 490 - 720	☆ 490 - 720	★ 260 - 660	★ 260 - 590	☆ 260 - 590	☆ 260 - 590	-	-	-	-	(1) 0.0012 - 0.0031 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0035 (2) 0.0016 - 0.0035 (3) Max. 0.0118	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315
Alloy Steel	☆ 430 - 720	★ 260 - 660	☆ 430 - 660	☆ 430 - 660	★ 260 - 520	★ 260 - 520	☆ 260 - 520	☆ 260 - 520	-	-	-	-	(1) 0.0012 - 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0031 (2) 0.0016 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315
Stainless Steel	-	-	-	☆ 230 - 490	☆ 200 - 490	★ 200 - 430	☆ 200 - 430	☆ 200 - 430	-	-	-	-	(1) 0.0012 - 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0031 (2) 0.0016 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315
Cast Iron	-	-	-	-	-	-	-	-	★ 260 - 590	☆ 200 - 390	★ 490 - 1,310	-	(1) 0.0012 - 0.0031 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0035 (2) 0.0016 - 0.0035 (3) Max. 0.0118	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315
Aluminum	-	-	-	-	-	-	-	-	-	★ 490 - 1,310	-	★ 490 - 6,560	(1) 0.0020 - 0.0047 (2) Not Recommended (3) Not Recommended	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0315	(1) 0.0031 - 0.0059 (2) 0.0031 - 0.0059 (3) Max. 0.0315	(1) 0.0031 - 0.0059 (2) 0.0031 - 0.0059 (3) Max. 0.0315
Brass	-	-	-	-	-	-	-	-	-	★ 490 - 980	-	★ 660 - 2,620	(1) 0.0020 - 0.0047 (2) Not Recommended (3) Not Recommended	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0315	(1) 0.0031 - 0.15 (2) 0.0031 - 0.15 (3) Max. 0.0315	(1) 0.0031 - 0.0059 (2) 0.0031 - 0.0059 (3) Max. 0.0315
Hard materials	-	-	-	-	-	-	-	-	-	-	★ 260 - 390	-	(1) 0.0008 - 0.0020 (2) Not Recommended (3) Not Recommended	(1) 0.0008 - 0.0020 (2) 0.0004 - 0.0016 (3) Max. 0.0039	-	-	-

Above cutting conditions are for external grooving. Set both cutting speed and feed rate 10% lower for internal grooving.

## GBA Inserts (GM Chipbreaker)

Workpiece	Recommended Insert Grades (Cutting Speed Vc : sfm)				(1) f (feed) for Grooving (ipr) (2) f (feed) for Turning (ipr) (3) D.O.C. for Turning (in)					Notes
	Cermet		MEGACOAT	MEGACOAT NANO	GBA43% 140-010GM	GBA43% 150-020GM	GBA43% 175-020GM ~ 230-020GM	GBA43% 250-030GM ~ 350-030GM	GBA43% 400-040GM	
	TN620	PR1215	PR1625							
Carbon Steel	★ 260 - 720	☆ 260 - 720	☆ 260 - 660	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0315		
Alloy Steel	★ 260 - 660	☆ 260 - 660	☆ 260 - 590	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0315		
Stainless Steel	-	★ 200 - 490	★ 200 - 430	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0016 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315		

Above cutting conditions are for external grooving. Set both cutting speed and feed rate 20% lower for internal grooving.

## GBA Inserts (MY Chipbreaker)

Workpiece	Recommended Insert Grades (Cutting Speed Vc : sfm)								(1) f (feed) for Grooving (ipr) (2) f (feed) for Turning (ipr) (3) D.O.C. for Turning (in)					Notes
	Cermet		MEGA COAT	PVD Coated Carbide		Carbide	CBN	PCD	GBA43% 175-020MY ~ 200-020MY	GBA43% 230-020MY ~ 265-030MY	GBA43% 300-030MY	GBA43% 330-030MY ~ 350-030MY	GBA43% 400-040MY	
	TN6020	TC40	PR1215	PR930	PR1115	KW10	KBN510	KPD001 (KPD010)						
Carbon Steel	☆ 490 - 720	-	★ 260 - 660	☆ 260 - 660	☆ 260 - 660	-	-	-	(1) 0.0012 - 0.0031 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.04 - 0.0035 (2) 0.04 - 0.0035 (3) Max. 0.0118	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Alloy Steel	☆ 430 - 660	-	★ 260 - 590	☆ 260 - 590	☆ 260 - 590	-	-	-	(1) 0.0012 - 0.0028 (2) 0.0012 - 0.0039 (3) Max. 0.0118	(1) 0.04 - 0.0031 (2) 0.04 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Stainless Steel	☆ 230 - 490	-	☆ 200 - 490	☆ 200 - 490	★ 200 - 490	-	-	-	(1) 0.0012 - 0.0028 (2) 0.0012 - 0.0039 (3) Max. 0.0118	(1) 0.04 - 0.0031 (2) 0.04 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315	

Above cutting conditions are for external grooving. Set both cutting speed and feed rate 20% lower for internal grooving.



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