

KORLOY'S
“MORE WAYS TO SAVE”



VALID THROUGH DECEMBER 31, 2015
END USER PROMOTION CATALOG

 **KORLOY AMERICA Inc.**

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One Choice for Most of Your Turning Applications

Only \$3.99 Each

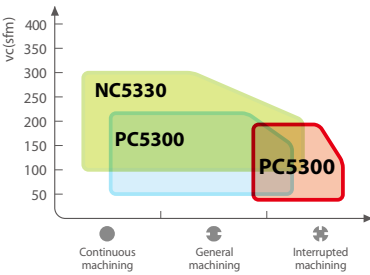
Limited Time Offer

Does NOT include VP chipbreakers

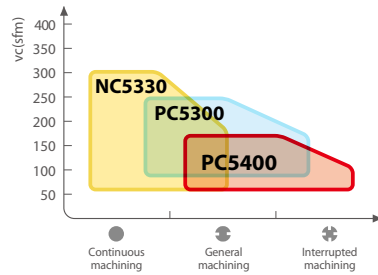


• Grade Choice

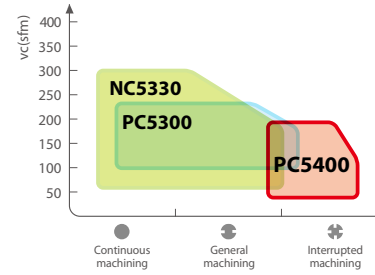
P Steel



M Stainless steel

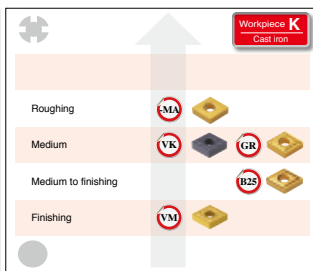
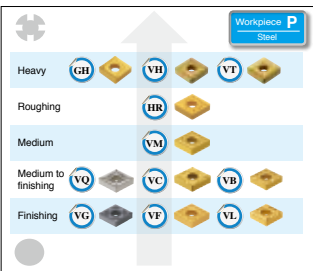


K Cast iron

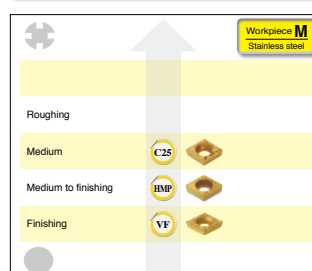
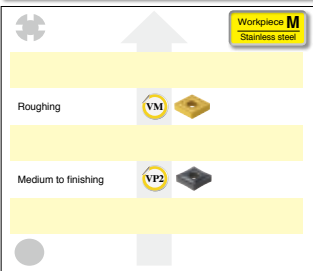
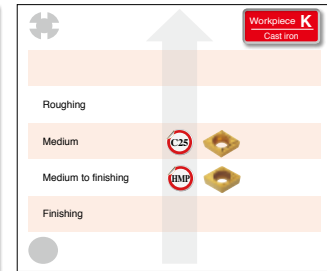
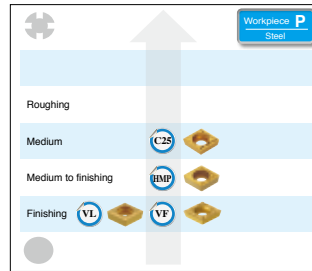


• Chip breaker Choice

Negative inserts



Positive inserts



Note

- Limited to Stock Standard Inserts Only
- Limited to M Class 4 series inserts
- Limit of 500 pcs per customer

RICH MILL RM4

Heavy Duty Free Cutting 90° Face Mill

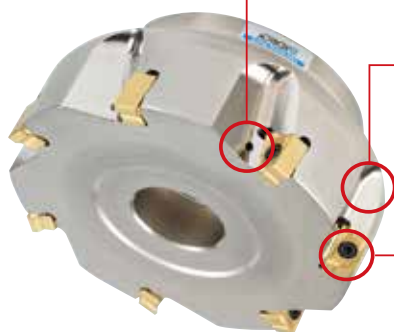
The Definition of High Performance

GET FREE CUTTER

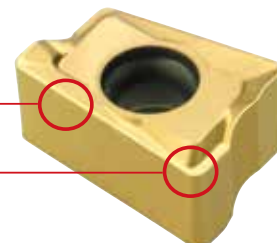
with the purchase of 10 inserts per inch of cutter diameter



Features



- Through coolant system Longer tool life due to direct cooling injection into the cutting edge of insert
- Wide chip pocket for better chip evacuation
- Simple screw on system
- Double sided insert has 4 cutting edges
- Strong negative insert with high rake angle for improved performance



Insert

- Chip breaker High rake angle chip breaker / Improving chip control
- Major cutting edge High rake angle chip breaker / Better surface roughness
- Step design Improving chip control / Reducing cutting load
- Concave design 4 cutting edges / Minimize interference
- Minor cutting edge Special design of cutting edge to improve surface roughness
- Clearance face Strong negative face. Strong cutting edge

Note

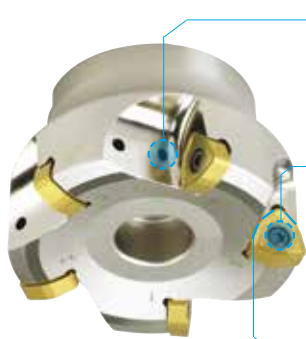
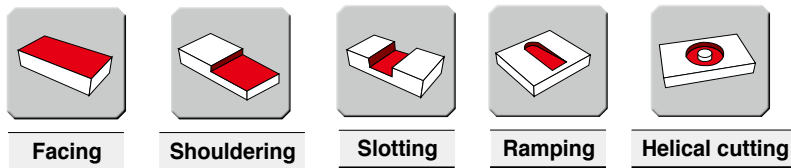
- Limited to Stock Standard Cutters and Inserts
- Includes RM4Z cutters
- Limit of 6 free cutters per customer per quarter

High Feed Milling

You Have to Run It to Believe It

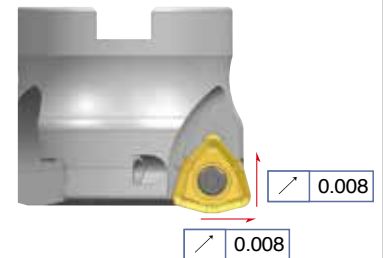
GET FREE CUTTER And 1 year Replacement Warranty

with the purchase of 10 inserts
per inch of cutter diameter



- **Inner coolant system**
 - Improvement of chip control and evacuation
 - Longer tool life due to reduced cutting temperature
 - High rake angle cutting edge reduces cutting load
- **Simple screw on system**
 - Strong clamping
 - Convenient clamping
 - Wide chip pocket for better chip evacuation
 - Negative design with high rake angle
- **3-Surface constrained System**
 - Strong clamping
 - Stable clamping against different cutting resistances in various machining applications
 - 6 cutting edges

Features



NOTE : Some insert feature information is repeated. This occurs because multiple insert features provide the same benefit. Example: Symmetrical design.

- **Major cutting edge**
 - Symmetrical design insert for RH/LH type tool
 - Superior cutting performance due to high rake angle cutting edge
 - Low cutting resistance in high feeds
 - Special design for decreasing thrust force
- **Minor cutting edge**
 - Improvement of surface roughness in high feed machining
 - Special design for decreasing thrust force
 - Symmetrical insert design for RH/LH type tool



- **Nose-R**
 - Security of rigid edge in ramping pocket machining
 - Round edge insert geometry suitable for high feed rates
 - Possible to use RH/LH type machining
- **Clamping surface**
 - Designed for stable clamping
 - Designed to prevention chip friction
- **Chip breaker**
 - Reduction of cutting loads due to high rake angle
 - Improvement of chip flow and evacuation in various applications and materials
 - Reduces damage on the clamping face of the insert

Insert

Note

- Limited to Stock Standard Cutters and Inserts
- Limited to M Class inserts
- Limit of 12 free cutters per customer per quarter

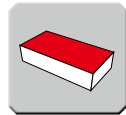
Warranty requires registration of cutter with Korloy America. Subject to limitations. Korloy America reserves the right to change the terms and conditions of the Warranty.

PRO-L MILL **NEW**

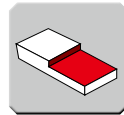
3P's - High Performance, Perpendicularity, and Precision



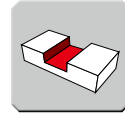
Buy 10 inserts and **GET a Free cutter body**



Facing



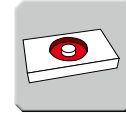
Shouldering



Slotting



Ramping



Helical cutting

Features

Long Edge Milling Performance in Aluminum, Stainless Steel, and HRSA materials.

Enhanced chip flow and increased tool life by inner coolant system





Strong clamping with 2 screw design

Set of various Nose-R

Improved perpendicularity and decreased cutting resistance due to application of High Helix



Chip breaker

Usage	Insert's type	Edge type	Features
Al	MA 		Application of the edge optimized for Aluminum machining and buffed finish ensure excellent machining quality
Hard-to-cut material	ML 		Design of Low cutting resistance Chip Breaker ensures excellent machining quality for light cutting and Hard-to-cut material

Note

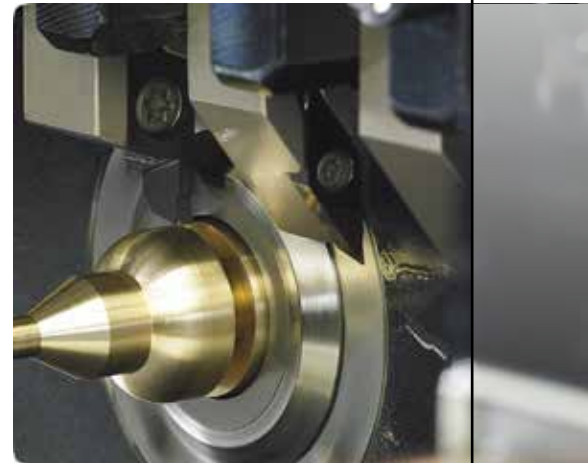
- Limited to Stock Standard Cutters and Inserts
- Limit of 4 free cutters per customer per quarter

category	M (STS)	N (Non-ferrous metal-Al)	S (HRSA)
Grade	PC5300 / PC5400	H01	PC5300 / PC5400
MA	-	○	-
ML	○	-	○



Precision Machining with Korloy Quality, Performance, Value, and Now MORE Flexibility

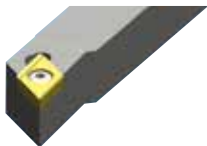
**Buy 20 Auto Tool inserts and
Get a Matching Tool Holder
for Free**



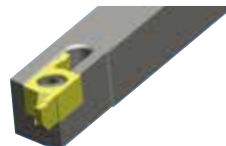
• Features

- Excellent for precision machining
- Excellent for complicated machining
- Excellent for small part machining
- Available for various types of machining
- Whole inserts can be clamped on only one FGT holders
- ISO whole holders Offset "0"

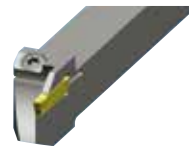
• Type



ISO



FGT



MGT

• Multi functional auto tool(FGT)

Possible to clamp on only one holder (Ex : 06 size whole inserts - Clamping on the 06 size holder)



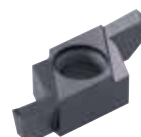
SG : Grooving



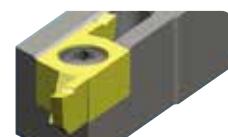
ST : Threading



SB : Back-turning



SGB : Grooving & Back-turning



SC : Parting off

• Recommended cutting condition

Workpiece	Turning		Grooving		Parting off		Back-turning	
	Cutting Speed(sfm)	Feed(ipr)	Cutting Speed(sfm)	Feed(ipr)	Cutting Speed(sfm)	Feed(ipr)	Cutting Speed(sfm)	Feed(ipr)
Stainless steel	160~400	0.0008~0.0079	100~400	0.0008~0.0020	160~400	0.0008~0.0020	100~400	0.0008~0.0079
Carbon steel	160~490	0.0004~0.0098	160~490	0.0008~0.0031	160~490	0.0008~0.0031	160~490	0.0004~0.0098
Free-cutting steel	100~490	0.0008~0.0098	100~490	0.0008~0.0031	100~490	0.0008~0.0031	100~490	0.0004~0.0098
Non-ferrous metal	230~660	0.0012~0.0098	230~660	0.0012~0.0039	230~660	0.0012~0.0039	230~660	0.0012~0.0118

Note

- Limited to Stock Standard Holders and Inserts
- Limited to M Class inserts
- Limit of 12 free holders per customer per quarter

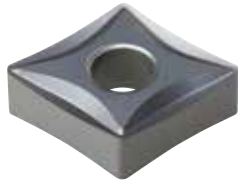
VP SERIES CHIPBREAKER



High Performance in Stainless Steel and High Temp Alloys

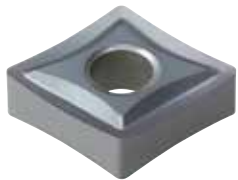
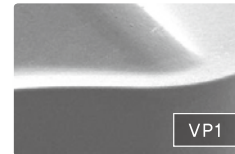
Introductory Price of
Only \$3.29 each

- Sharp cutting edge and minimized cutting heat



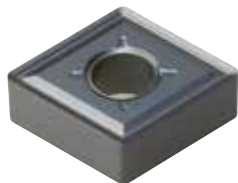
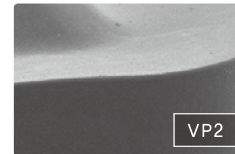
- **VP1 (for finishing)**

- High positive cutting edge
Longer tool life due to minimizing chip contact and reducing cutting heat while machining
- Recommended cutting conditions
fn (ipr) = 0.002~0.008, ap (inch) = 0.004~0.060



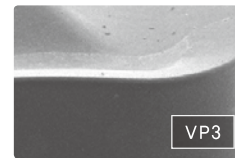
- **VP2 (for medium to finishing)**

- High positive cutting edge and side rake angle
Improved machining performance with stable chip control in ball machining with various depth of cuts
- Recommended cutting conditions



- **VP3 (for medium machining)**

- High positive cutting edge and wide land
Stable machinability in interrupted machining toughness
Stable chip evacuation and machining in machining with high depth of cut
- Recommended cutting conditions
fn (ipr) = 0.004~0.018, ap (inch) = 0.02~0.2



- Recommended cutting condition

ISO	Workpiece	Standard	HB	CVD			PVD	
				NC5330	PC8110	PC5300		
M	Ferrite Stainless Steel	STS409	165	295~755	490~820	330~720		
		STS430	180	295~755	490~820	330~720		
		STS444	220	260~720	395~755	295~655		
	Austenitic Stainless Steel	STS304	180	260~820	490~920	330~790		
		STS316	200	260~720	395~820	295~690		
		STS410	200	295~755	430~820	330~720		
	Martensite Stainless Steel	STS420J1	220	295~755	430~820	330~720		
		STS420J2	230	260~720	430~790	330~690		
Precipitation hardening Stainless Steel	STS630	300	130~360	260~590	165~490			
	STS631	300	130~360	260~590	165~165			
M	Nickel base alloys	Inconel	220~300	50~165	130~295	65~230		
		Nimonic	350	50~165	130~230	65~200		
		Hastelloy	160	50~165	130~295	65~230		
	Cobalt base alloys	Stellite	370	50~165	100~260	65~200		
		17-4-PH	250	115~260	100~230	65~200		
	Iron base alloys	Incoloy	180	115~260	100~230	65~200		
		Titanium alloys	Ti-6246	200	130~490	200~655	165~560	
	Ti-6Al-4V	250~310	130~490	165~590	130~490			
M,S	Stainless steel+Inconel	.	.	50~165	130~260	65~200		
		.	.	50~165	130~260	65~200		

(inch)

Note

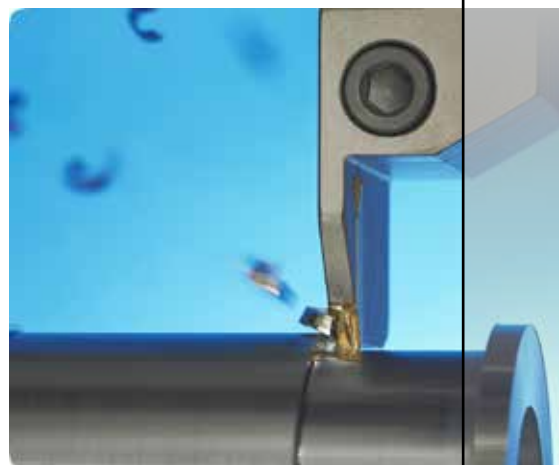
- Limited to Stock Standard M Class 4 Series Inserts
- Limit of 100 inserts per customer at \$3.29 Introductory Price
- Additional 400 VP inserts may be purchased at \$4.32 each



More Performance, More Precision, More Stability

Introductory Offer
Buy Any KGT Holder and receive

10 Free Inserts



Top side(Insert)



- Strong clamping → Higher machining reliability
- Self-centering → Higher accuracy
- Anti-chatter design → Fine surface finish



• **Recommended Insert**

Designation	Geometry	Picture	Application									
			For external machining			For face grooving		For Internal machining		Copying	For relieving	Special machining
			Parting	Grooving	Turning	Grooving	Turning	Grooving	Turning	Copying	Relieving	Special
KGMM	L Light Grooving		○	◎		○						
	R Rough Grooving		○	◎		○						
	T Turning-Multi Grooving		○	◎	◎	◎	◎					
KGMI	T Internal Grooving							◎	◎			
KRMN	C Copying									◎	◎	
KGMR/L	LP Light Parting		◎									
	RP Rough Parting		◎									
KGGN	B Blank											◎

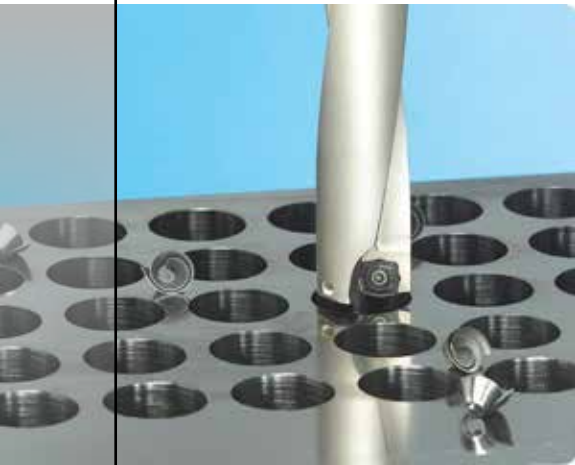
◎ First choice, ○ Second choice

Note

- Limited to Stock Standard Holders and Inserts
- Limited to M Class inserts
- Limit of 12 free cutters per customer per quarter

KING DRILL

High Performance and Improve Chip Evacuation



Buy 20 Inserts and Receive a Free Drill body up to 1.0 inch

Buy 40 Inserts and Receive a Free Drill body up to 2.0 inch

Features



The optimized shape of the flute increases the rigidity of the drill body and improves chip evacuation



Central insert



Peripheral insert

Optimized design of inserts for maximum drilling efficiency

- ▶ Excellent cutting performance and chip control due to the optimized geometry and chip breaker of both inserts, central & peripheral.
- ▶ Different inserts, optimized for the central and peripheral insert locations in order to maximize cutting tool life.

● **Recommended cutting condition**

Workpiece			Grade	vc	Feed(aspect ratio=2D, 3D, 4D)						
ISO	Workpiece	Hardness(HB)			sfm	Feed (ipr) depending on drill Dia.(inch)					
						0.47~0.63	0.64~0.91	0.92~1.14	1.15~1.65	1.66~2.36	
P	Carbon steel	Low carbon steel	80~180	LD	Central PC5335	492(197~591)	0.0016~0.0031	0.0016~0.0031	0.0016~0.0031	0.0031~0.0071	0.0016~0.0031
		High carbon	180~280	PD	Central PC5300	623(427~820)					
	Alloy steel	Low alloy steel	140~260	LD	Central PC5335	492(197~591)	0.0024~0.0039	0.0024~0.0039	0.0024~0.0063	0.0024~0.0079	0.0024~0.0079
		Low pre-hardened	200~400	PD	Central PC5300	492(295~656)	0.0016~0.004	0.002~0.005	0.003~0.0063	0.0031~0.0079	0.0031~0.0094
		Low alloy steel	50~260	PD	Central PC5300	328(164~492)	0.0016~0.004	0.002~0.005	0.003~0.0063	0.0031~0.0071	0.0031~0.0087
		High pre-hardened steel	220~450	PD	Central PC5300	328(164~525)	0.0016~0.007	0.002~0.005	0.003~0.0063	0.0031~0.0071	0.0031~0.0087
M	Stainless steel	Austenite series	135~275	LD	Central PC5335	295(131~492)	0.0016~0.004	0.0024~0.0047	0.0024~0.0047	0.0024~0.0047	0.0024~0.0047
		Ferrite series Martensite series	135~275	PD	Central PC5300		0.0016~0.004	0.0024~0.0047	0.0024~0.0055	0.0024~0.0063	0.0024~0.0079
	Cast iron	Gray cast iron	150~230	PD	Central PC5300	623(492~820)	0.0016~0.004	0.002~0.0055	0.0024~0.0063	0.0039~0.0087	0.0039~0.0102
		Ductile cast iron	150~230	PD	Central PC6510	492(328~656)	0.0016~0.005	0.0024~0.0063	0.0031~0.0071	0.0031~0.0079	0.0039~0.0087
S	Heat resisting alloy			PD	PC5300	164(98~328)					
				PD	PC5300	131(98~295)					
				PD	PC5300	131(66~262)					

• In case of 5D, reduce 30~40% of cutting condition from the above.
 • In interrupted machining part, reduce 30~50% of feed from the above machining around interrupted part.

Note

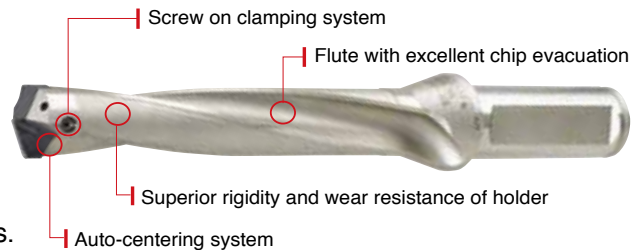
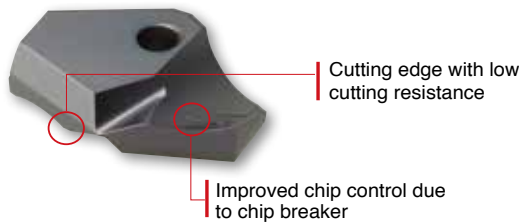
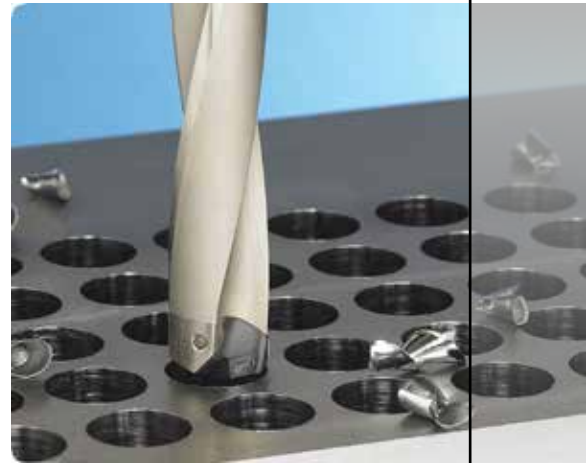
- Limited to Stock Standard Bodies and Inserts
- Limited to 2D and 3D drills, Available in 5D for 40 and 60 inserts
- Limit of 6 free bodies per customer per quarter



3D, 5D, and 8D Drills for Combined Precision and Productivity

Buy 2 tips and Receive a Free Drill Body
 or *Buy 2 tips and Get 1 tip free*

Free tip offer limited to tip of equal or lower price of purchased tips.



- High precision clamping system.
- Cutting edge produces superior surface finishes.
- Holder with superb durability.

• **Recommended cutting condition**

Workpiece			Grade	vc	fn(aspect ratio=3D~5D)			
ISO	Workpiece	HB			Feed(ipr) per drill Dia.(inch)			
				sfm	0.3937~0.6260	0.6300~0.9803	0.9843~1.1772	
P	Carbon steel	Low carbon	80-120	PC5300	365(265 - 464)	0.0059~0.0118	0.0079~0.0138	0.0098~0.0157
		High carbon	180~280	PC5300	332(232 - 431)	0.0059~0.0118	0.0079~0.0138	0.0098~0.0157
	Alloy steel	Low alloy steel	140~260	PC5300	365(265 - 464)	0.0071~0.0138	0.0091~0.015	0.0110~0.0169
		Low pre-hardened	200~400	PC5300	249(166 - 332)	0.0071~0.0138	0.0091~0.015	0.0110~0.0169
		High alloy steel	50-260	PC5300		0.0071~0.0138	0.0079~0.0138	0.0098~0.0157
		High pre-hardened	220~450	PC5300	232(166 - 298)	0.0071~0.0118	0.0079~0.0138	0.0098~0.0157
M	Stainless Steel	Austenite	135-275	PC5300	199(133 - 265)	0.0071~0.0118	0.0079~0.0138	0.0098~0.0157
		Ferrite series	135-275	PC5300	166(99-232)	0.0051~0.0098	0.0059~0.0118	0.0067~0.0130
K	Cast Iron			PC5300	182(133-232)	0.0051~0.0098	0.0059~0.0118	0.0067~0.0130
				PC5300	365(265 - 464)	0.0071~0.0138	0.0079~0.0157	0.0098~0.0177
S	Heat Resisting Steel	Ni pre-hardened		PC5300	332(232 - 431)	0.0071~0.0138	0.0079~0.0157	0.0098~0.0177
		Ti pre-hardened		PC5300		0.0071~0.0138	0.0079~0.0157	0.0098~0.0177
		High hardened		PC5300	133(66 - 199)	0.0039~0.0079	0.0047~0.0087	0.0051~0.0098

• In case of 8D, reduce the cutting conditions to 40~50% or machine the beginning of hole first.(1.5D)
 • In case of interrupted machining, reduce the feed to 30~50% machining around the interrupted part.

Note

- Limited to Stock Standard Bodies and Inserts
- Limit of 6 free bodies per customer per quarter

• Grade Chart for Turning

Workpiece	P Steel					M Stainless steel				K Cast iron				N Nonferrous			S HRSA				H Hardened																					
	P01	P10	P20	P30	P40	P50	M10	M20	M30	M40	K01	K10	K20	K30	N10	N20	N30	S10	S20	S30	S40	H01	H10	H20																		
Coated carbide	NC3010		NC3220 <i>New</i>		NC3120		NC3030		NC5330		NC500H		PC8110				PC8110				PC8110																					
	NC3220 <i>New</i>		NC3120		NC3030		NC5330		NC500H		PC8110				PC8110				PC8110																							
	NC3120		NC3030		NC5330		NC500H		PC8110				PC8110				PC8110																									
	NC3030		NC5330		NC500H		PC8110				PC8110				PC8110																											
	NC5330		NC500H		PC8110				PC8110				PC8110																													
Cermet	CN1000		CN2000		CN20		CN1000				CN1000				CN1000				CN1000																							
	CN1000		CN2000		CN20		CN1000				CN1000				CN1000				CN1000																							
	CN2000		CN20		CN1000				CN1000				CN1000				CN1000																									
cBN / PCD	KB350				KB360				DP150				KB320				KB330																									
	KB350				KB360				DP150				KB320				KB330																									
Uncoated carbide	ST05		ST10		ST15		ST20		ST30N		ST40		ST30		ST46		ST45		U10				U20				U40				H02				H01				H01			
	ST10		ST15		ST20		ST30N		ST40		ST30		ST46		ST45		U10				U20				U40				H02				H01				H01					
	ST15		ST20		ST30N		ST40		ST30		ST46		ST45		U10				U20				U40				H02				H01				H01							
	ST20		ST30N		ST40		ST30		ST46		ST45		U10				U20				U40				H02				H01				H01									
	ST30N		ST40		ST30		ST46		ST45		U10				U20				U40				H02				H01				H01											
	ST40		ST30		ST46		ST45		U10				U20				U40				H02				H01				H01													
	ST46		ST45		U10				U20				U40				H02				H01				H01																	
	ST45		U10				U20				U40				H02				H01				H01																			
	U10				U20				U40				H02				H01				H01																					
	U20				U40				H02				H01				H01																									

• Grade Chart for Milling

Workpiece	P Steel					M Stainless steel				K Cast iron				N Nonferrous			S HRSA				H Hardened															
	P01	P10	P20	P30	P40	P50	M10	M20	M30	M40	K01	K10	K20	K30	K40	N10	N20	N30	S01	S10	S20	S30	H01	H10	H20											
Coated carbide	NC5330		NCM325		PC3600 <i>New</i>		PC5300		NCM335		PC5400 <i>New</i>		PC3545		NC5330				PC5300				PC210F													
	NCM325		PC3600 <i>New</i>		PC5300		NCM335		PC5400 <i>New</i>		PC3545		NC5330				PC5300				PC210F															
	PC3600 <i>New</i>		PC5300		NCM335		PC5400 <i>New</i>		PC3545		NC5330				PC5300				PC210F																	
	PC5300		NCM335		PC5400 <i>New</i>		PC3545		NC5330				PC5300				PC210F																			
	NCM335		PC5400 <i>New</i>		PC3545		NC5330				PC5300				PC210F																					
	PC5400 <i>New</i>		PC3545		NC5330				PC5300				PC210F																							
Cermet	CN2000		CN20		CN30		CN2000				CN20				CN30				CN2000																	
	CN2000		CN20		CN30		CN2000				CN20				CN30				CN2000																	
	CN20		CN30		CN2000				CN20				CN30				CN2000																			
cBN / PCD	DP150				KB360				KB350				DP150				KB360				KB350															
	DP150				KB360				KB350				DP150				KB360				KB350															
Uncoated carbide	ST20		ST30A		ST30N		ST40		U10				U20				U40				H01				H05				H10				G10			
	ST30A		ST30N		ST40		U10				U20				U40				H01				H05				H10				G10					
	ST30N		ST40		U10				U20				U40				H01				H05				H10				G10							
	ST40		U10				U20				U40				H01				H05				H10				G10									
	U10				U20				U40				H01				H05				H10				G10											



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