KYOCERA

Cera-Notch

Grooving & Threading
System

Versatility
Universal grooving geometry is easily interchangeable with a wide variety of toolholders

Variety
Cermet, ceramic, carbide and coated carbide inserts available

NEW

PR1215
MEGACOAT Grade

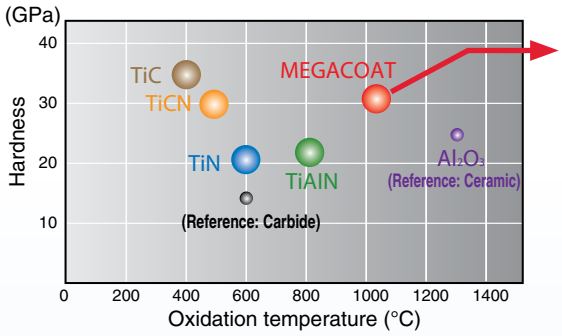
For Heat-Resistant Alloys, Alloy Steels, Stainless Steels, and Cast Iron

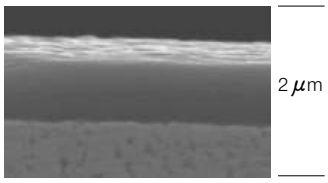
Made Exclusively in the USA!

MEGACOAT GRADES

Kyocera proprietary coating technology provides long tool life and stable machining in a variety of applications.

Physically harder than the ever-popular TiAlN coating with Oxidation resistance higher than TiAlN





Oxidation Resistance (≥1000°C)

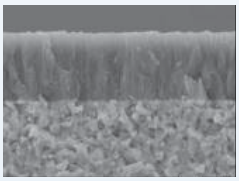
➡ Reduces oxidation wear
➡ Reduces crater wear

MEGACOAT GRADE **PR1215** NEW

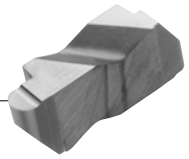
MEGACOAT PVD

Advantages

- Micro-grain carbide with metal binder is ideal for narrow grooving
- MEGACOAT coating maintains high hardness and promotes excellent oxidation resistance during high speed grooving
- Can be used for Heat-Resistant Alloys, Alloy Steels, Stainless Steels, and Cast Iron



GROOVING WITH CERMETS



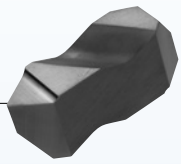
Advantages

- Offers better surface finish on carbon and alloy steel than coated carbides
- Higher cutting speeds than coated carbide are possible, reducing cycle times
- Cermets are ideal for light feeds and few interruptions
- Kyocera offers one of the largest selections of cermets for grooving in the industry

Grades

TC40 - First choice for carbon and alloy steels
TC60 - Recommended for ID grooving and tool steel

GROOVING WITH COATED CARBIDES



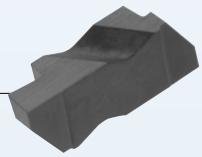
Advantages

- Offers better edge strength for high feeds and interruptions
- Coating improves tool life and surface finish
- Better suited for low speed applications or applications in heat resistant alloys and stainless steels

Grades

PR1215 - First choice for general purpose grooving. Apply in steel alloys, HRSA, stainless steels, and cast iron
PR930 - Good for general purpose steels and stainless steels at lower cutting speeds
PR660 - First choice for tougher applications and interrupted grooving
KW10 (Uncoated) - First choice for non-ferrous materials

GROOVING WITH CERAMICS



Advantages

- Ideal for grooving cast irons and hardened steels
- Excellent wear resistance
- No coolant needed

Grades

A65 - Higher tool life and reduced cycle times for continuous grooving of cast iron and hardened steels

Save Time & Money Grooving with Kyocera Cermets!

1144 Carbon Steel

Spool

- Vc=885 sfm
- d=0.035”
- fz=0.004 ipr
- Wet
- KCGP2031R TC40

3 times longer tool life

TC40	4200pcs / edge
Competitor A	1400pcs / Edge

TC60 tripled the tool life of the competitor’s coated carbide.

(User Evaluation)

8620 Alloy Steel

Shaft Housing

Kyocera Conditions
- Vc=750 sfm
- d=0.040”
- fz=0.003 ipr
- Wet
- KCGP3062L TC60

Competitor Conditions
- Vc=550 sfm
- d=0.040”
- fz=0.003 ipr
- Wet

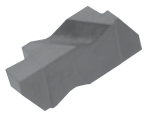
More than double tool life

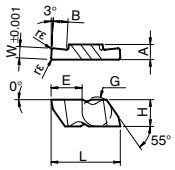
TC60	120pcs / edge
Competitor B	55pcs / Edge

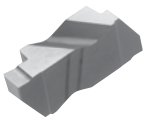
TC60 cut cycle time by 30% and doubled the tool life of the competitor’s coated carbide.

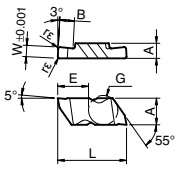
(User Evaluation)

GROOVING
INSERTS









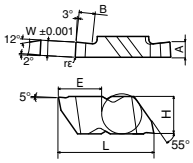
Insert	Part Number		Dimensions ±0.001 W	B	R	A	L	H	E	Cermet TC40	Cermet TC60	MEGA COAT CVD PR1215 (NEW)	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
	KCG	2062ℝ/𝕃	0.062	0.110	0.008	0.150	0.350	0.219	0.270							●
		2125ℝ/𝕃	0.125													Ⓛ
	KCG	3062ℝ/𝕃	0.062	0.094	0.008	0.195	0.634	0.344	0.405							Ⓡ
		3094ℝ/𝕃	0.094	0.150												●
		3125ℝ/𝕃	0.125													Ⓡ
		3156ℝ/𝕃	0.156													●
	KCGP	2031ℝ/𝕃	0.031	0.050	0.003	0.150	0.350	0.219	0.270	●	●	●	●	●	●	
		2041ℝ/𝕃	0.041							●	●	●		●		
		2047ℝ/𝕃	0.047							●	●	●	●	●	●	
	KCGP	2058ℝ/𝕃	0.058	0.110	0.008	0.150	0.350	0.219	0.270	●		●		●		
		2062ℝ/𝕃	0.062							●	●	●	●	●	●	
	KCGP	2094ℝ/𝕃	0.094	0.110	0.008	0.150	0.350	0.219	0.270	●		●	●	●	●	
		2125ℝ/𝕃	0.125							●		●	Ⓡ	●	Ⓡ	
	KCGP	3031ℝ/𝕃	0.031	0.050	0.008	0.195	0.634	0.344	0.405	●		●		●		
		3047ℝ/𝕃	0.047	0.075						●	●	●	●	●	Ⓡ	
		3062ℝ/𝕃	0.062	0.094						●	●	●	●	●	●	
		3072ℝ/𝕃	0.072							●	●	●		●		
	KCGP	3078ℝ/𝕃	0.078	0.094	0.008	0.195	0.634	0.344	0.405	●	Ⓡ	●	●	●		
		3088ℝ/𝕃	0.088							●	Ⓛ	●		●		
	KCGP	3094ℝ/𝕃	0.094	0.150	0.008	0.195	0.634	0.344	0.405	●	●	●	●	●	●	
		3097ℝ/𝕃	0.097							●				●		
		3105ℝ/𝕃	0.105							●		●		●		
	KCGP	3110ℝ/𝕃	0.110	0.150	0.008	0.195	0.634	0.344	0.405	●		●		●		
		3122ℝ/𝕃	0.122							●				●		
		3125ℝ/𝕃	0.125							●	●	●	●	●	●	
	KCGP	3142ℝ/𝕃	0.142	0.150	0.008	0.195	0.634	0.344	0.405	●				●		
		3156ℝ/𝕃	0.156							●	Ⓡ	●	Ⓛ	●		
		3178ℝ/𝕃	0.178							●				●		
	KCGP	3185ℝ/𝕃	0.185	0.150	0.008	0.195	0.634	0.344	0.405	●				●		
		3189ℝ/𝕃	0.189							●	●	●	Ⓛ	●	●	
	KCGP	4125ℝ/𝕃	0.125	0.150	0.008	0.255	0.764	0.453	0.636	●		●		●		
		4189ℝ/𝕃	0.189	0.250	0.018					●		●		●		
		4213ℝ/𝕃	0.213							●				●		
	KCGP	4219ℝ/𝕃	0.219	0.250	0.018	0.255	0.764	0.453	0.636	●				●		
		4250ℝ/𝕃	0.250							●		●		●		

Applicable Toolholders

Insert	External Holder ➡ P8	Internal Holder ➡ P10	Face Grooving Holder ➡ P9
KC_2...	KKCℝ/𝕃...-2...	A...-KKCℝ/𝕃...-2	-
KC_3...	KKCℝ/𝕃...-3...	A...-KKCℝ/𝕃...-3	-
KC_4...	KKCℝ/𝕃...-4...	A...-KKCℝ/𝕃...-4	-
KCF_3...	-	-	KKCEℝ/𝕃...

● : U.S. Stock Ⓡ : Right-Hand Only Ⓛ : Left-Hand Only

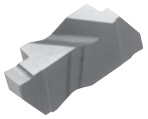
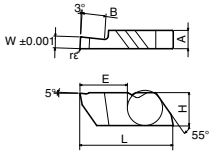
FACE GROOVING
I N S E R T S

Insert	Part Number		Dimensions ±0.001 W	B	R	A	L	H	E	Cermet TC40	Cermet TC60	NEW MEGA COAT CVD PR1215	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
 	KCFP	3125 R/L	0.125	0.150	0.008	0.195	0.634	0.344	0.405					●		
		3156 R/L	0.156											●		
		3189 R/L	0.188		0.023									●		

See ➡ **P5 for** Applicable Toolhoders

See ➡ **P9** for Groove Limits

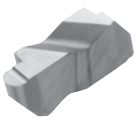
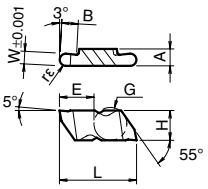
DEEP GROOVING
I N S E R T S

Insert	Part Number		Dimensions ±0.001 W	B	R	A	L	H	E	Cermet TC40	Cermet TC60	NEW MEGA COAT CVD PR1215	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
 	KCGDP	3062 R/L	0.062	0.125	0.008	0.195	0.634	0.344	0.405	●		●		Ⓡ		
		3094 R/L *	0.094	0.250	0.008	0.195	0.716	0.344	0.505	●		●		●		
		3125 R/L *	0.125	0.250	0.008	0.195	0.716	0.344	0.505	Ⓡ		●		●		
		3189 R/L *	0.189	0.250	0.023	0.195	0.716	0.344	0.505	●				●		

See ➡ **P5 for** Applicable Toolhoders

* These inserts have one cutting edge

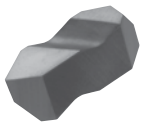
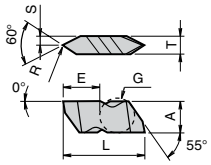
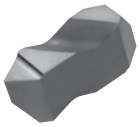
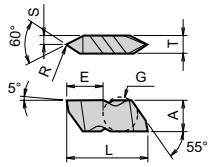
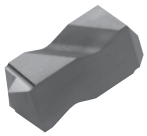
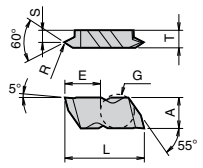
FULL RADIUS GROOVING
I N S E R T S

Insert	Part Number		Dimensions ±0.001 W	B	R	A	L	H	E	Cermet TC40	Cermet TC60	NEW MEGA COAT CVD PR1215	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
 	KCRP	2031 R/L	0.062	0.094	0.031	0.150	0.350	0.219	0.270		Ⓡ	●	Ⓡ	Ⓡ		
		2039 R/L	0.078	0.110	0.039									●		
		2047 R/L	0.094	0.150	0.047							●				
		2062 R/L	0.125	0.150	0.062						Ⓡ	●				
	KCRP	3031 R/L	0.062	0.094	0.031	0.195	0.634	0.344	0.405	●	Ⓡ	●	●	●	Ⓛ	
		3047 R/L	0.094	0.150	0.047					●		●	●	●		
		3062 R/L	0.125	0.150	0.062					●		●	●	●		
	KCRP	3078 R/L	0.156	0.150	0.078					●				●		
		3094 R/L	0.188	0.150	0.094					●		●		●		
	KCRP	4125 R/L	0.250	0.250	0.125	0.255	0.764	0.453	0.636	●		●	Ⓡ	●		

See ➡ **P5 for** Applicable Toolhoders

● : U.S. Stock Ⓡ : Right-Hand Only Ⓛ : Left-Hand Only

THREADING
INSERTS

Insert	Part Number		Pitch TPI	Dimensions A	T	R	E	S	L	Cermet TC40	Cermet TC60	MEGA COAT CVD PR1215 (NEW)	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
 	KCT	2R/L	External 8-36 Internal 7-20	0.219	0.150	0.004	0.266	0.075	0.350		●	●	●			
		3R/L	External 6-20 Internal 5-12	0.344	0.195	0.007	0.400	0.098	0.634		●	●	●			
 	KCTP	2R/L	External 8-36 Internal 7-20	0.219	0.150	0.004	0.266	0.075	0.350		●	●	●			
		3R/L	External 6-20 Internal 5-12	0.344	0.195	0.007	0.400	0.098	0.634		●	●	●			
 	KCTK	2R/L	External 14-44 Internal 12-24	0.219	0.150	0.003	0.268	0.110	0.350		●	●	●			
		3R/L	External 10-44 Internal 9-24	0.344	0.195	0.003	0.402	0.141	0.634		●	●	●			

See ➡ **P5 for** Applicable Toolhoders

Cera-Notch Conversion Charts

Notch / Lock Style Inserts Conversion

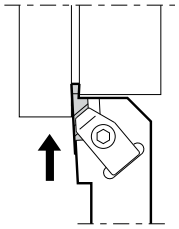
Notch Style Grooving Inserts								
Inserts Style	***Kyocera***	***Horizon***	***Tool-Flo***	***Kennametal***	***RTW***	***Valentine***	***Sandvik***	***Mitsubishi***
Face Grooving	KCFP	HF	FLF	NF	-	-	TLF*	EF
ID or OD Grooving	KCG / KCGP	HG	FLG	NG	PG	VLG	TLG*	EG
With Chipbreaker	KCGP-MY	HG-K	FLG CB	NG-K	PG-K	-	-	EG-K
Deep Grooving	KCGDP	HGD	FLGD	NGD	PGD	-	-	EGD
Positive Grooving	KCGP	HGP	FLGP	NGP	-	VLGP	TLGP*	EGP
Full Nose Radius	KCRP	HR	FLR	NR	PR	VLR	TLR*	EGR
Positive Full Nose Radius	KCRP	HRP	FLRP	NRP	PRP	VLRP	TLRP*	-
Notch Style Threading Inserts								
Inserts Style	***Kyocera***	***Horizon***	***Tool-Flo***	***Kennametal***	***RTW***	***Valentine***	***Sandvik***	***Mitsubishi***
Face Grooving	KCT	HT	FLT	NT	PT	VLT	TLT*	ET
ID or OD Grooving	KCTK	HTK	FLTK	NTK	PTK	VLTK	TLTK*	-
With Chipbreaker	KCTP	HTP	FLTP	NTP	PTP	VLTP	TLTP*	-

* Sandvik uses a different clamp system. Requires Kyocera or any other standard clamp from competitor

● : U.S. Stock Ⓡ : Right-Hand Only Ⓛ : Left-Hand Only

EXTERNAL GROOVING
T O O L H O L D E R S

KKC
KC INSERT



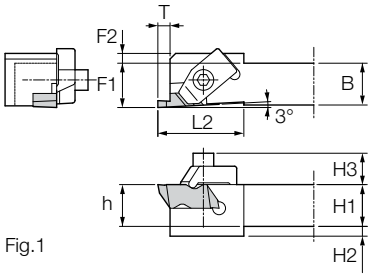


Fig.1

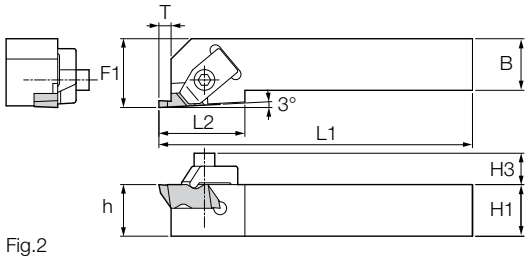


Fig.2

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F1	F2	T	Fig.	Spare Parts Clamp	Clamp Screw	Wrench
KKC	**1212M-2-150F**	●		mm	12	-	9.2	12	150	19.05	12.25	-	3.5	1	CKC-2	SKC-2	(7/64 hex)
KKC	**6-2X**	●	●		0.375	-	0.362	0.375	2.500	0.750	0.562	-	0.138	2			
	6-2CF	●	●		0.375	0.125	0.362	0.375	5.000	0.750	0.385	0.125	0.138	1			
	8-2X	●	●		0.500	-	0.362	0.500	3.500	0.750	0.750	-	0.138	2			
	8-2DF	●	●		0.500	-	0.362	0.500	6.000	0.750	0.510	-	0.138	1			
	10-2DF	●	●	inch	0.625	-	0.362	0.625	6.000	0.750	0.635	-	0.138	1	CKC-2	SKC-2	(7/64 hex)
	12-2B	●	●		0.750	-	0.362	0.750	4.500	0.750	1.000	-	0.138	2			
	12-2C	●			0.750	-	0.362	0.750	5.000	0.750	1.000	-	0.138	2			
	16-2C	●	●		1.000	-	0.362	1.000	5.000	0.750	1.250	-	0.138	2			
	16-2D	●	●		1.000	-	0.362	1.000	6.000	0.750	1.250	-	0.138	2			
KKC	**12-3B**	●	●		0.750	-	0.465	0.750	4.500	1.250	1.000	-	0.210	2			
	12-3C	●	●		0.750	-	0.465	0.750	5.000	1.250	1.000	-	0.210	2			
	16-3C	●	●		1.000	-	0.465	1.000	5.000	1.250	1.250	-	0.210	2			
	16-3D	●	●	inch	1.000	-	0.465	1.000	6.000	1.250	1.250	-	0.210	2	CKC-3	SKC-3	(LW-156)
	20-3D	●	●		1.250	-	0.465	1.250	6.000	1.250	1.500	-	0.210	2			
	16-4D	●	●		1.000	-	0.465	1.000	6.000	1.380	1.250	-	0.294	2			
	20-4D	●	●		1.250	-	0.465	1.250	6.000	1.380	1.500	-	0.294	2			

Right-hand holders require right-hand inserts and clamps
Left-hand holders require left-hand inserts and clamps

Items marked in ( ) are not included with toolholder

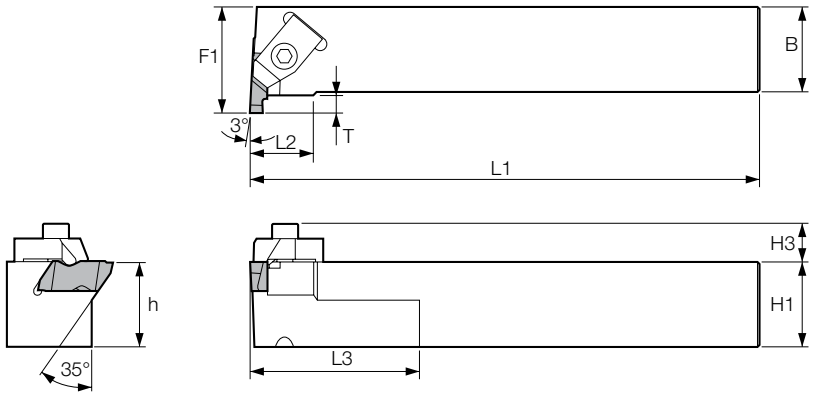
Applicable Inserts

Toolholder	Insert
KKC...2	KC_2...
KKC...3	KC_3...
KKC...4	KC_4...

● : U.S. Stock

FACE GROOVING
TOOLHOLDERS

KKCE
KCF INSERT



Part Number		Stock R	Stock L	Dimensions (inch) H1=h	H3	B	L1	L2	F1	L3	T	Spare Parts Clamp	Clamp Screw	Wrench
KKCE R/L	12-3B	●	●	0.750	0.465	0.750	4.500	0.750	1.125	2.000	0.210	CKC-3R/L	SKC-3	LW-156
	16-3D	●	●	1.000	0.465	1.000	6.000	0.750	1.250	2.000	0.210			
	20-3D	●	●	1.250	0.465	1.250	6.000	0.750	1.500	2.000	0.210			

Right-hand holders require left-hand inserts and clamps
Left-hand holders require right-hand inserts and clamps

Applicable Inserts

Toolholder	Insert
KKCE...3	KCF_3...

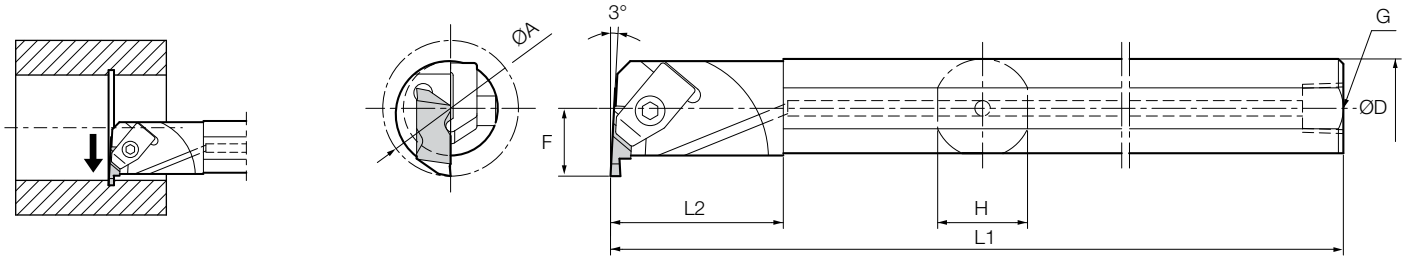
Face Grooving Limits

Insert	MAX Groove Depth	MIN Groove Diameter
KCFP3...	0.060	0.940
	0.094	1.200
	0.125	1.420
	0.150	1.630

● : U.S. Stock

INTERNAL GROOVING
T O O L H O L D E R S

A-KKC
KC INSERT



Part Number	Stock R	Stock L	Unit	ØA*	ØD	L1	F	G	Spare Parts: Clamp	Spare Parts: Clamp Screw	Spare Parts: Wrench
A10M-KKCR-2	●		inch	1.000	0.625	6.000	0.500	1/8-27NPT	CKC-2L	SKC-2	(7/64 hex)
A10S-KKCR-2	●			1.000	0.625	10.000	0.500				
A12R-KKCR-2	●			1.125	0.750	8.000	0.562				
A12S-KKCR-2	●			1.125	0.750	10.000	0.562				
A16T-KKCR/L-2	●	●		1.375	1.000	12.000	0.688		CKC-2R/L		
A16X-KKCR-3	●			1.375	1.000	9.000	0.688	1/4-18NPT	CKC-3R/L	SKC-3	(LW-156)
A16T-KKCR/L-3	●	●		1.375	1.000	12.000	0.688				
A20U-KKCR/L-3	●	●		1.750	1.250	14.000	0.875				
A24U-KKCR/L-3	●	●		2.000	1.500	14.000	1.000				
A28U-KKCR-3	●			2.250	1.750	14.000	1.125				
A32V-KKCR/L-3	●	●		2.500	2.000	16.000	1.250				
A28U-KKCR/L-4	●	●		2.500	1.750	14.000	1.250				
A32V-KKCR/L-4	●	●		2.750	2.000	16.000	1.375				

Right-hand holders require left-hand inserts and clamps
Left-hand holders require right-hand inserts and clamps

Items marked in ( ) are not included with toolholder

*Minimum bore varies with groove depth. See chart on **P11**

Applicable Inserts

Toolholder	Insert
KKC...2	KC_2...
KKC...3	KC_3...
KKC...4	KC_4...

● : U.S. Stock

Technical Information

Maximum Internal Groove Depth & Corresponding Minimum Bore Diameter

Insert	MAX Groove Depth	MIN Bore Diameter
KCGP 2031 ~ 2047	0.050	0.730
KCGP 2058 ~ 2125	0.110	2.500
	0.102	1.750
	0.098	1.500
	0.080	1.000
	0.055	0.730
KCGP 3047 ~ 3088	0.094	1.750
	0.090	1.625
	0.075	1.375
KCGP 3094 ~ 3189	0.150	2.375
	0.145	2.125
	0.138	1.875
	0.125	1.625
	0.110	1.375
KCGP 4125	0.150	2.750
KCGP 4189 ~ 4250	0.250	5.750
	0.245	5.000
	0.240	4.500
	0.218	3.250
	0.200	2.500

Cera-Notch Cutting Conditions

Workpiece Material	Cermet Feeds (ipr)	Carbide Feeds (ipr)	Insert Grade (sfm)						
			TC40	TC60	PR660	PR930	PR1215	KW10	A65
Stainless Steel	0.002~0.005	0.002~0.010	-	200~600	100~550	100~550	300~600	-	-
Carbon Steel	0.002~0.005	0.002~0.010	300~900	250~900	200~550	250~650	300~800	-	-
Alloy Steel	0.002~0.005	0.002~0.010	250~800	250~800	100~500	150~550	300~750	-	-
Tool Steel	0.002~0.005	0.002~0.010	200~650	200~650	-	100~550	300~600	-	-
Hardened Steel (>45Rc)	-	-	-	-	-	-	-	-	250~500*
Gray Cast Iron	0.003~0.006	0.002~0.012	200~700	-	-	-	300~700	-	500~1000
Ductile Iron	0.003~0.006	0.002~0.012	-	150~600	-	-	300~600	-	500~1000
Aluminum	0.002~0.008	0.002~0.012	150~1600	-	-	-	-	500~1600	-

Speeds & Feeds listed are for external grooving. Reduce parameters by 10% for internal grooving.
*Feeds = 0.003~0.008ipr

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