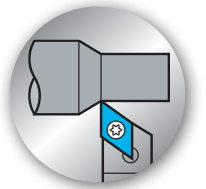
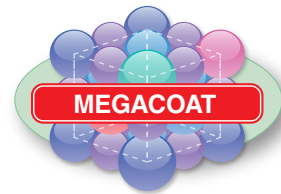


THE NEW VALUE FRONTIER



The
MEGACOAT
Series

PR1225

New PVD Coating for Small Tools

Effective for
Stainless Steel

Ideal for small part machining demanding high quality and stable cutting

ADVANCING PRODUCTIVITY

The MEGACOAT Series

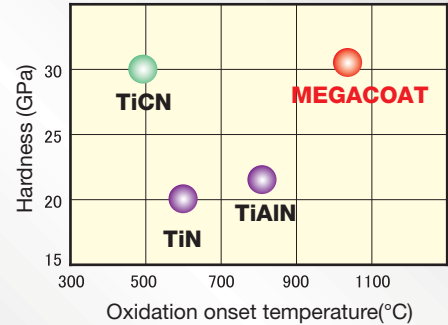
PR1225



High quality small tool grade

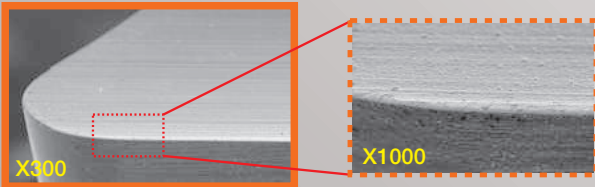
Advantages

- With superior anti-oxidation resistance and an extra hard coating, PR1225 covers a wide application range.
- Improved coating adherence provides increased stability and longer tool life.
- New thin coating technology greatly reduces adhesion to the work piece providing more effective machining in stainless steel.
- New sharp-edge series chipbreakers provide stable cutting and superior chip evacuation.

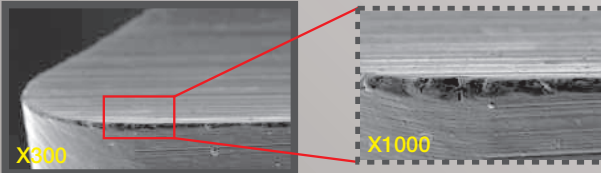


Edge Quality Comparison

PR1225 <Sharp edge and a flat surface>

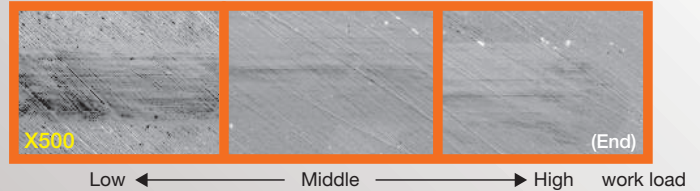


Competitor A <Rough edge and uneven surface>

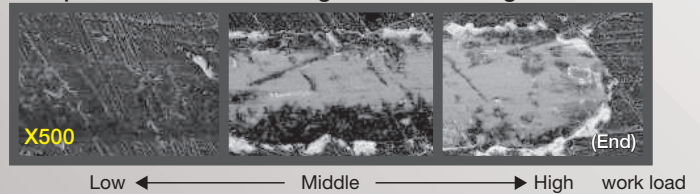


Coating Adhesion Comparison

PR1225 <Superior Coating Adhesion>



Competitor B <Deteriorating Surface Coating>



Application Range

High speed [150m/min]			PR1025
Medium speed [100m/min]			MEGACOAT PR1225
Low speed [50m/min]	PR930		
Application	Continuous 	Light interruption 	Heavy interruption

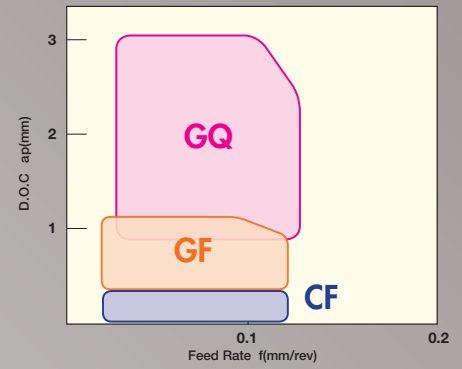
Recommended Cutting Conditions

Workpiece material	Classification	Vc:m/min
Carbon Steel / Alloy Steel		50~80~120
Stainless Steel		50~80~120

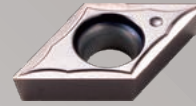
:Light Interruption / 1st Choice
 :Light Interruption / 2nd Choice

Sharp edge chipbreaker

- New chipbreaker series delivers excellent chip control in wide range of cutting.
- Excellent for use when high precision cutting is required.
- The mirror polished insert provides improved adhesion resistance and surface finish.



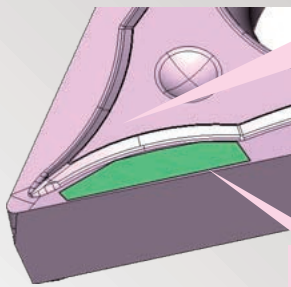
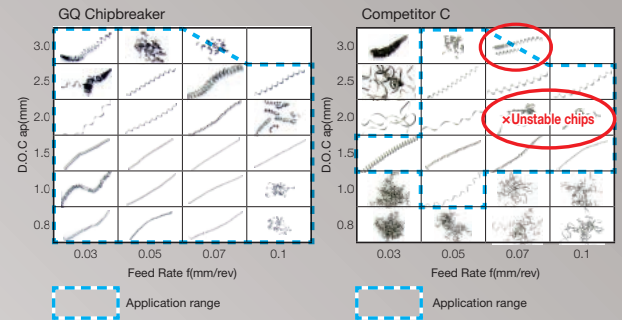
Applicable to both small and large D.O.C **GQ** Chipbreaker



- Applicable to a wide D.O.C. range (ap=0.8~3mm)

Chip Evacuation Comparison

[SUS304 Vc=80m/min Wet DCGT11T302type]



- Low cutting force design with small chipbreaker gap
- Achieves chip control at low cutting depths with a dot that overhangs to the edge

Enables cutting over a wide range of conditions by using the optimum chipbreaker width according to the cutting depth

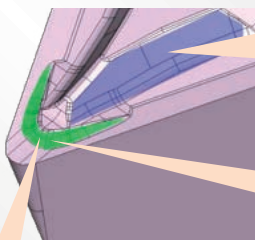
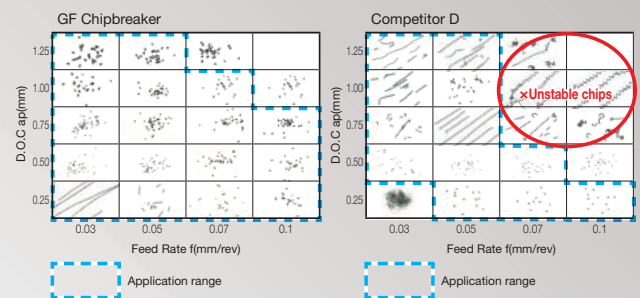
For finishing **GF** Chipbreaker



- Applicable D.O.C. range from 0.25 to 1.25mm

Chip Evacuation Comparison

[S45C(φ10) Vc=100m/min Wet DCGT11T302type]



- High breaker dot apart from ridge line of cutting edge
- Good heat resistance and chip control in cutting of high D.O.C

- Increased sharpness through the use of a large rake angle

Dot located close to ridge line of cutting edge on corner
→ Chips fragmented in small pieces in cutting of small D.O.C

Applicable to minute D.O.C **CF** Chipbreaker



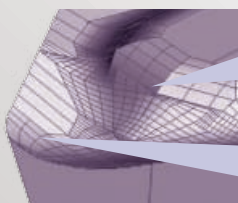
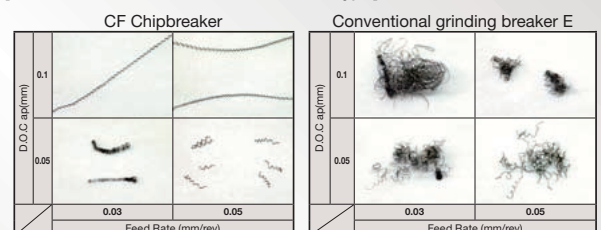
Specially designed CCGT and WBGT inserts for minute-diameter boring



- Applicable D.O.C. range from 0.02 to 0.2mm

Chip Evacuation Comparison

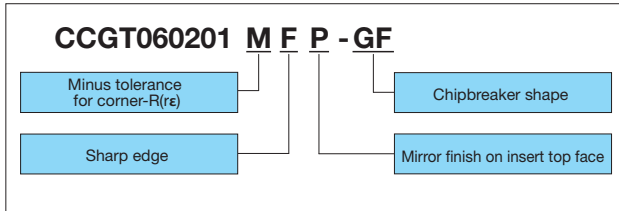
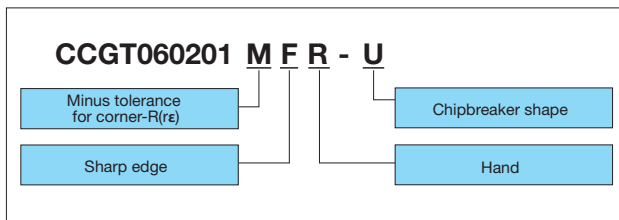
[SUS304 Vc=100m/min Wet CCGT030102type]



- Consistent curled chips through the use of special dots

- Increase sharpness by large rake angle
- Prevents work piece adhesion and reduces burrs

Positive Insert Identification System



Use of minus tolerance for corner-R(rε)

The actual corner-R of the workpiece may become larger than R0.2mm when machined by the insert whose corner-R(rε) is 0.2. In such case, insert with minus tolerance for corner-R(rε) is recommended.

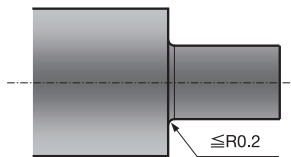


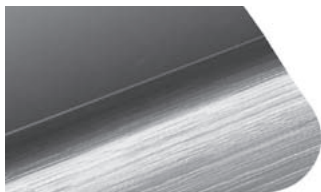
Fig. 1 Corner-R on the drawing

"Super Fine" Edge for High Quality and Long Tool Life

- Recommended for mechatronics, electronics and high precision machined parts
- Sub-micron accuracy possible

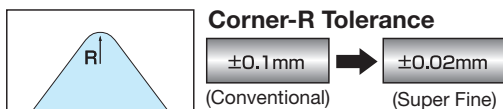
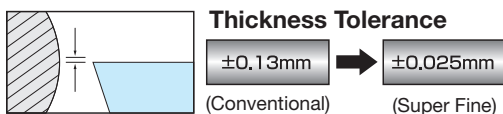
High Quality Ground Insert

- Reduction of micro-chipping at ground edge
- Less edge build-up
- Long tool life





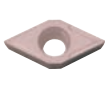
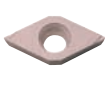

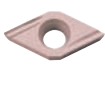

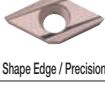


E-class Turning Insert



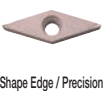
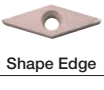
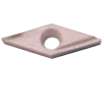




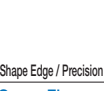

- Accuracy of index position after insert replacement



Stock Items(Positive)

Shape	Description	Dimension(mm)					Stock Grades
		I.C.	Thickness	Hole	Corner-R (rε)	Relief Angle	
Minute ap Shape Edge / Polished	CCGT 030101MP-CF	3.5	1.4	1.9	<0.1	7°	●
	030102MP-CF				<0.2		●
	CCGT 040101MP-CF	4.3	1.8	2.3	<0.1	7°	●
	040102MP-CF				<0.2		●
Finishing Shape Edge / Polished	CCGT 060201MFP-GF	6.35	2.38	2.8	<0.1	7°	●
	060202MFP-GF				<0.2		●
	CCGT 09T301MFP-GF	9.525	3.97	4.4	<0.1	7°	●
	09T302MFP-GF				<0.2		●
Finishing-Medium Shape Edge / Polished	CCGT 060201MFP-GQ	6.35	2.38	2.8	<0.1	7°	●
	060202MFP-GQ				<0.2		●
	CCGT 09T301MFP-GQ	9.525	3.97	4.4	<0.1	7°	●
	09T302MFP-GQ				<0.2		●
Medium cutting Shape Edge	CCGT 0602005MF	6.35	2.38	2.8	<0.05	7°	●
	060201MF				<0.1		●
	CCGT 09T3005MF	9.525	3.97	4.4	<0.05	7°	●
	09T301MF				<0.1		●
Super Fine Shape Edge / Precision	CCET 0301005M%-FSF	3.5	1.4	1.9	<0.05	7°	●
	030101M%-FSF				<0.1		●
	CCET 0401005M%-FSF	4.3	1.8	2.3	<0.05	7°	●
	040101M%-FSF				<0.1		●
Finishing Shape Edge	CCGT 0301005M%-F	3.5	1.4	1.9	<0.05	7°	●
	030101M%-F				<0.1		●
	CCGT 0401005M%-F	4.3	1.8	2.3	<0.05	7°	●
	040101M%-F				<0.1		●
Low Feed Shape Edge / Precision	CCET 0602005M%-USF	6.35	2.38	2.8	<0.05	7°	●
	060201M%-USF				<0.1		●
	CCET 09T3005M%-USF	9.525	3.97	4.4	<0.05	7°	●
	09T301M%-USF				<0.1		●
Low Feed Shape Edge	CCGT 0602005M%-U	6.35	2.38	2.8	<0.05	7°	●
	060201M%-U				<0.1		●
	CCGT 09T3005M%-U	9.525	3.97	4.4	<0.05	7°	●
	09T301M%-U				<0.1		●
Minute ap Shape Edge / Polished	DCGT 070201MP-CF	6.35	2.38	2.8	<0.1	7°	●
	070202MP-CF				<0.2		●
Finishing Shape Edge / Polished	DCGT 070201MFP-GF	6.35	2.38	2.8	<0.1	7°	●
	070202MFP-GF				<0.2		●
	DCGT 11T301MFP-GF	9.525	3.97	4.4	<0.1	7°	●
	11T302MFP-GF				<0.2		●
Finishing Shape Edge / Polished	DCGT 11T301MFP-GF	9.525	3.97	4.4	<0.1	7°	●
	11T302MFP-GF				<0.2		●

Shape		Description	Dimension(mm)					Stock Grades		
			I.C.	Thickness	Hole	Corner-R (re)	Relief Angle		PR1225	
Finishing		DCGT 070201MP-CK 070202MP-CK	6.35	2.38	2.8	<0.1 <0.2	7°	●		
		DCGT 11T301MP-CK 11T302MP-CK	9.525	3.97	4.4	<0.1 <0.2	7°	●		
Finishing-Medium		DCGT 070201MFP-GQ 070202MFP-GQ 070204MFP-GQ	6.35	2.38	2.8	<0.1 <0.2 <0.4	7°	●		
		DCGT 11T301MFP-GQ 11T302MFP-GQ 11T304MFP-GQ	9.525	3.97	4.4	<0.1 <0.2 <0.4	7°	●		
		DCGT 0702005MF 070201MF 070202MF 070204MF	6.35	2.38	2.8	<0.05 <0.1 <0.2 <0.4	7°	●		
Medium cutting		DCGT 11T3005MF 11T301MF 11T302MF 11T304MF	9.525	3.97	4.4	<0.05 <0.1 <0.2 <0.4	7°	●		
		Finishing		DCET 0702005M%-FSF 070201M%-FSF 070202M%-FSF 070204M%-FSF	6.35	2.38	2.8	<0.05 <0.1 <0.2 <0.4	7°	●
				DCET 11T3005M%-FSF 11T301M%-FSF 11T302M%-FSF 11T304M%-FSF	9.525	3.97	4.4	<0.05 <0.1 <0.2 <0.4	7°	●
				DCGT 0702005M%-F 070201M%-F 070202M%-F 070204M%-F	6.35	2.38	2.8	<0.05 <0.1 <0.2 <0.4	7°	●
Finishing		DCGT 11T3005M%-F 11T301M%-F 11T302M%-F 11T304M%-F	9.525	3.97	4.4	<0.05 <0.1 <0.2 <0.4	7°	●		
		Low Feed		DCET 0702005MF%-USF 070201MF%-USF 070202MF%-USF	6.35	2.38	2.8	<0.05 <0.1 <0.2	7°	●
DCET 11T3005MF%-USF 11T301MF%-USF 11T302MF%-USF	9.525			3.97	4.4	<0.05 <0.1 <0.2	7°	●		
Low Feed				DCGT 0702005MF%-U 070201MF%-U 070202MF%-U 070204MF%-U	6.35	2.38	2.8	<0.05 <0.1 <0.2 <0.4	7°	●
		DCGT 11T3005MF%-U 11T301MF%-U 11T302MF%-U 11T304MF%-U	9.525	3.97	4.4	<0.05 <0.1 <0.2 <0.4	7°	●		
		Low Feed		DCET 11T3005MF%-JSF 11T301MF%-JSF 11T302MF%-JSF	9.525	3.97	4.4	<0.05 <0.1 <0.2	7°	●
Low Feed				DCGT 11T3005MF%-J 11T301MF%-J 11T302MF%-J 11T304MF%-J	9.525	3.97	4.4	<0.05 <0.1 <0.2 <0.4	7°	●
		Minute ap		TBGT 060101MP-CF 060102MP-CF	3.97	1.59	2.3	<0.1 <0.2	5°	●

Shape		Description	Dimension(mm)					Stock Grades		
			I.C.	Thickness	Hole	Corner-R (re)	Relief Angle		PR1225	
Low Feed		TCGT 0802005MF%-U 080201MF%-U 080202MF%-U	4.76	2.38	2.3	<0.05 <0.1 <0.2	7°	●		
		TCGT 1103005MF%-U 110301MF%-U 110302MF%-U 110304MF%-U	6.35	3.18	2.8	<0.05 <0.1 <0.2 <0.4	7°	●		
		Minute ap		TPGT 080201MP-CF 080202MP-CF	4.76	2.38	2.3	<0.1 <0.2	11°	●
TPGT 090201MP-CF 090202MP-CF	5.56			2.38	3.0	<0.1 <0.2	11°	●		
Finishing		VBET 1103005M%-FSF 110301M%-FSF 110302M%-FSF	6.35	3.18	2.8	<0.05 <0.1 <0.2	5°	●		
		Finishing		VBGT 1103005M%-F 110301M%-F 110302M%-F	6.35	3.18	2.8	<0.05 <0.1 <0.2	5°	●
Finishing-Medium				VBGT 1103005M%-Y 110301M%-Y 110302M%-Y 110304M%-Y 110308M%-Y	6.35	3.18	2.8	<0.05 <0.1 <0.2 <0.4 <0.8	5°	●
				VBGT 160402M%-Y 160404M%-Y 160408M%-Y	9.525	4.76	4.4	<0.2 <0.4 <0.8	5°	●
		Minute ap		VPGT 110301MP-CF 110302MP-CF	6.35	3.18	2.8	<0.1 <0.2	11°	●
Finishing				VPGT 110301MFP-GF 110302MFP-GF	6.35	3.18	2.8	<0.1 <0.2	11°	●
		Finishing		VPGT 080201MP-CK 080202MP-CK	4.76	2.38	2.3	<0.1 <0.2	11°	●
VPGT 110301MP-CK 110302MP-CK	6.35			3.18	2.8	<0.1 <0.2	11°	●		
Finishing				VPET 080201M%-FSF 080202M%-FSF	4.76	2.38	2.3	<0.1 <0.2	11°	●
		VPET 1103005M%-FSF 110301M%-FSF 110302M%-FSF	6.35	3.18	2.8	<0.05 <0.1 <0.2	11°	●		
		Low Feed		VPET 080201MF%-USF 080202MF%-USF	4.76	2.38	2.3	<0.1 <0.2	11°	●
VPET 1103005MF%-USF 110301MF%-USF 110302MF%-USF	6.35			3.18	2.8	<0.05 <0.1 <0.2	11°	●		
Minute ap				WGBT 060101MP%-CF 060102MP%-CF	3.97	1.59	2.3	<0.1 <0.2	5°	●

-An insert which corner R(re) dimension is shown with inequality sign (Ex:<0.05,<0.1,<0.2) indicates minus tolerance of corner R(re).
●:Standard Stock

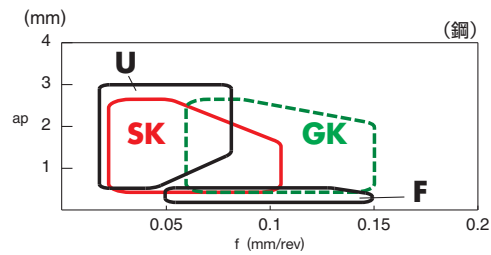
Stock Items (Small Double Sided Tooling)

Shape	Description	Dimension(mm)					Stock Grades
		I.C.	Thickness	Hole	Corner-R (re)	Relief Angle	
Finishing-Medium Shape Edge / Polished	CNGU 070301MFP-SK 070302MFP-SK	7.5	3.18	3.6	<0.1 <0.2	● ●	
Medium-Roughing With Honing	CNMU 070302E-GK 070304E-GK	7.5	3.18	3.6	0.2 0.4	● ●	
Finishing Sharp Edge	CNGU 0703005MFR-F 070301MFR-F 070302MFR-F 070304MFR-F	7.5	3.18	3.6	<0.05 <0.1 <0.2 <0.4	● ● ● ●	
Low Feed Sharp Edge	CNGU 0703005MFR-U 070301MFR-U 070302MFR-U 070304MFR-U	7.5	3.18	3.6	<0.05 <0.1 <0.2 <0.4	● ● ● ●	
Finishing-Medium Shape Edge / Polished	DNGU 080301MFP-SK 080302MFP-SK 080304MFP-SK	7.0	3.18	3.6	<0.1 <0.2 <0.4	● ● ●	
Medium-Roughing With Honing	DNMU 080302E-GK 080304E-GK	7.0	3.18	3.6	0.2 0.4	● ●	
Finishing Sharp Edge	DNGU 0803005MFR-F 080301MFR-F 080302MFR-F 080304MFR-F	7.0	3.18	3.6	<0.05 <0.1 <0.2 <0.4	● ● ● ●	
Low Feed Sharp Edge	DNGU 0803005MFR-U 080301MFR-U 080302MFR-U 080304MFR-U	7.0	3.18	3.6	<0.05 <0.1 <0.2 <0.4	● ● ● ●	

Shape	Description	Dimension(mm)					Stock Grades
		I.C.	Thickness	Hole	Corner-R (re)	Relief Angle	
Finishing Sharp Edge	TNGU 0903005MFR-F 090301MFR-F 090302MFR-F 090304MFR-F	5.56	3.18	3.0	<0.05 <0.1 <0.2 <0.4	● ● ● ●	
Low Feed Sharp Edge	TNGU 0903005MFR-U 090301MFR-U 090302MFR-U 090304MFR-U	5.56	3.18	3.0	<0.05 <0.1 <0.2 <0.4	● ● ● ●	

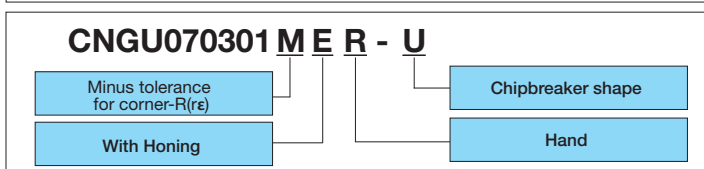
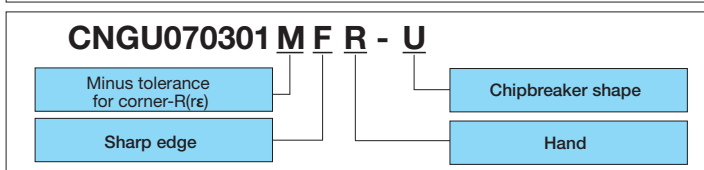
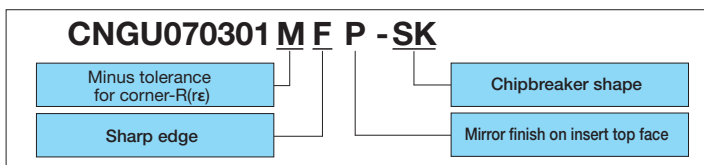
*An insert which corner R(re) dimension is shown with inequality sign (Ex:<0.05,<0.1,<0.2) indicates minus tolerance of corner R(re).

●:Standard Stock



Cutting Range	Name	Design	Advantages
Finishing-Medium	SK		Superior chip evacuation and low cutting force for machining steel and stainless steel. Cutting performance comparable to positive insert.
Medium-Roughing	GK		Good chip evacuation at wide range through chipbreaker dot and wide chip pocket.
Finishing	F		Good chip control for finishing to light cutting with low cutting force.
Low Feed	U		Good chip control at low feed rate and varied ap with low cutting force.

Small Double-Sided Tooling Identification System



Use of minus tolerance for corner-R(re)

The actual corner-R of the workpiece may become larger than R0.2mm when machined by the insert whose corner-R(re) is 0.2. In such case, insert with minus tolerance for corner-R(re) is recommended.

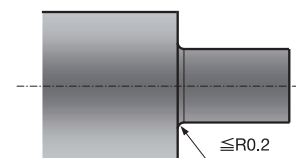
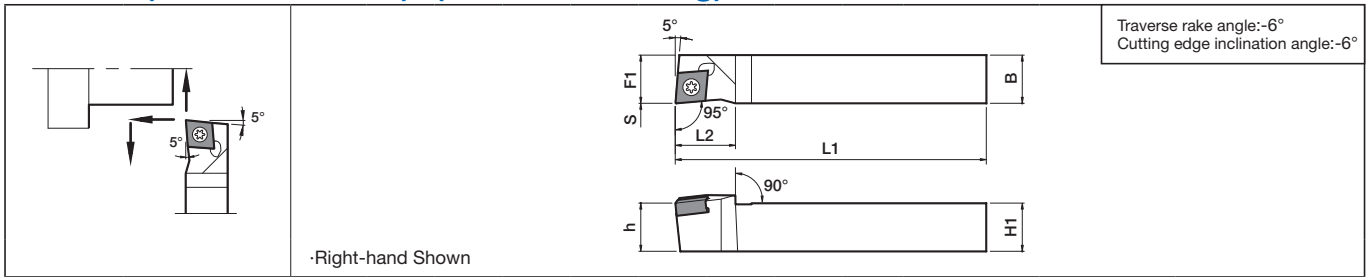


Fig. 1 Corner-R on the drawing

■ Small Double Sided Tooling

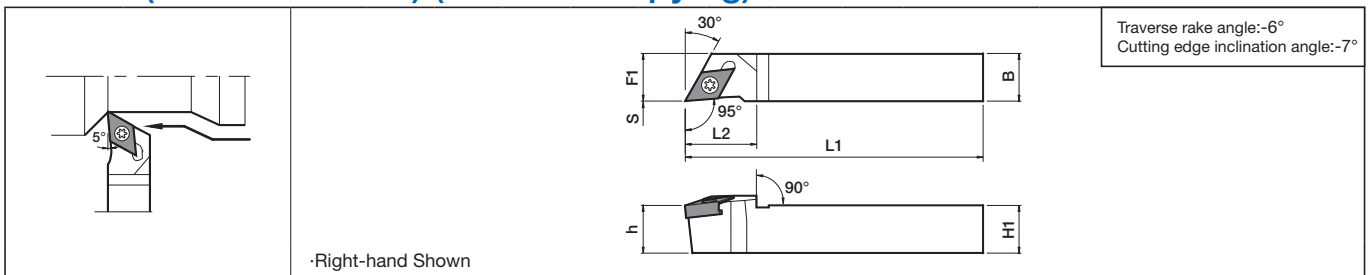
■ SCLN(Without Offset) (External/Facing)



● Toolholder Dimension

Description	Stock	Dimension (mm)							Std. Corner-R(re)	Spare Parts		Applicable Insert
		H1=h	B	L1	L2	F1	S	Clamp Screw		Wrench		
SCLNR 1010K-07FF	●	10	10	120	15	10	0	0.2	SB-3080TR	LTW-10SS	CNGU0703.. CNMU0703..	
	●	12	12	85								
	●	12	12	120								
	●	16	16	16								

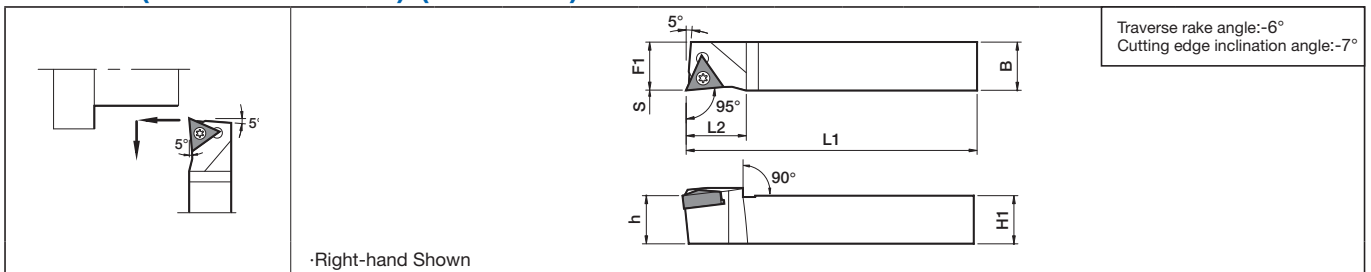
■ SDLN(Without Offset) (External/Copying)



● Toolholder Dimension

Description	Stock	Dimension (mm)							Std. Corner-R(re)	Spare Parts		Applicable Insert
		H1=h	B	L1	L2	F1	S	Clamp Screw		Wrench		
SDLNR 1010K-08FF	●	10	10	120	18	10	0	0.2	SB-3080TR	LTW-10SS	DNGU0803.. DNMU0803..	
	●	12	12	85								
	●	12	12	120								
	●	16	16	16								

■ STLN(Without Offset) (External)



● Toolholder Dimension

Description	Stock	Dimension (mm)							Std. Corner-R(re)	Spare Parts		Applicable Insert
		H1=h	B	L1	L2	F1	S	Clamp Screw		Wrench		
STLNR 1010K-09FF	●	10	10	120	15	10	0	0.2	SB-2570TR	LTW-8SS	TNGU0903..	
	●	12	12	85								
	●	12	12	120								
	●	16	16	16								

Case studies

SUS304	
<ul style="list-style-type: none"> ·Flange ·Vc= 85m/min ·ap≈1.5mm ·f=0.02~0.05mm/rev ·Wet ·DCGT11T302MFP-GQ (PR1225) 	
PR1225	14,500pcs/edge
Competitor F (3D chipbreaker and PVD coating)	4,000pcs/edge
<ul style="list-style-type: none"> ·Compared with competitor E (3D chipbreaker and PVD coating), PR1225 improves cutting performance by 260%. 	
Evaluation by the user	

SUS304	
<ul style="list-style-type: none"> ·Bulb guide ·Vc= 70~80m/min ·ap=0.6mm ·f=0.05~0.07mm/rev ·Wet ·DCGT11T302MFP-GF (PR1225) 	
PR1225	1,500pcs/edge
Competitor G (3D chipbreaker and PVD coating)	1,000pcs/edge
<ul style="list-style-type: none"> ·Compared with competitor F (3D chipbreaker and PVD coating), PR1225 improves cutting performance by 50%. 	
Evaluation by the user	

SUS440C	
<ul style="list-style-type: none"> ·Clutch axis ·Vc= 60m/min ·ap=0.25~1.3mm ·f=0.03mm/rev ·Wet ·CCGT0602005MFR-U (PR1225) 	
PR1225	400~450pcs/edge
Competitor H (Grinded chipbreaker and PVD coating)	250~300pcs/edge
<ul style="list-style-type: none"> ·Because of flat cut, partially interrupted cutting ·Compared with competitor G (Grinded chipbreaker and PVD coating), PR1225 improves cutting performance by more than 50%. 	
Evaluation by the user	