DIA EDGE
TOOL NEWS
2023.4 Update
B266G

CVD Coated Grade for Steel Turning

Environmentally Friendly Product

MC6100 Series

Series Addition

Bringing the Ultimate High Speed Cutting Performance

For High Speed Turning
MC6115

First Recommendation
MC6125

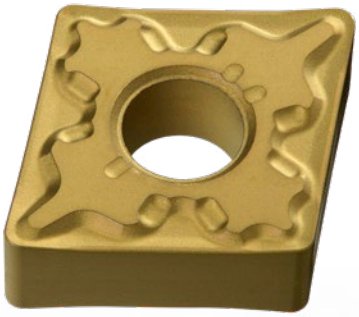
MITSUBISHI MATERIALS CORPORATION

CVD Coated Grade for Steel Turning

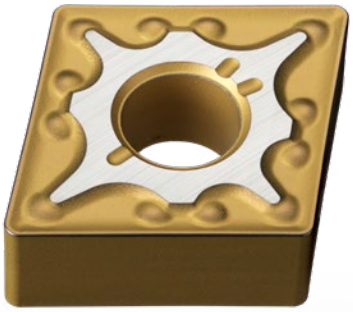
MC6100 Series

Dramatic increase in stability and wear resistance, enabled by utilising the improved coating adhesion and crystal orientation technology.

For High Speed Turning
MC6115



First Recommendation
MC6125

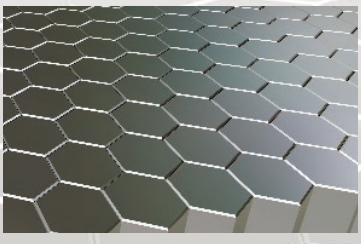


Features

"Super" Nano Texture Technology

The standard Nano Texture Technology has been improved and developed to be an industry leading standard for crystal growth of Al_2O_3 coatings. This Super Nano Texture Technology increases tool life and wear resistance due to the fine, dense crystal growth process.

The ratio of Al_2O_3 crystal grains with the same orientation



*By Image

Conventional CVD inserts

Grain size and growth direction are uneven.

Nano Texture

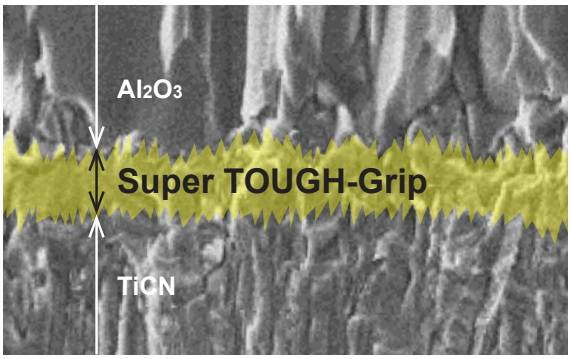
Uniformity of the grain size and growth direction has improved.

"Super" Nano Texture

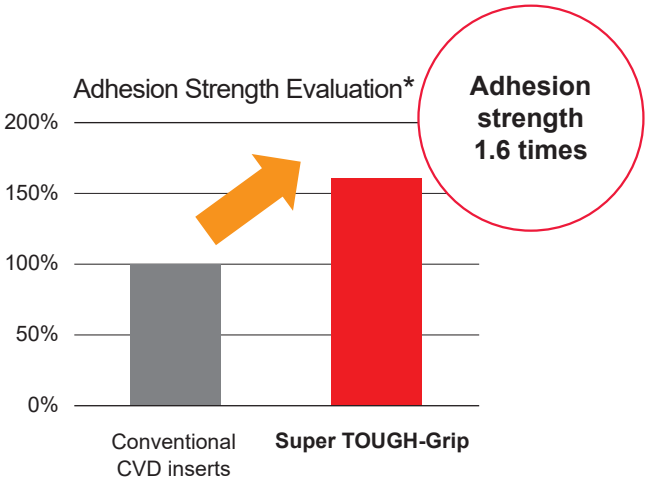
Uniformity of the growth direction has drastically improved.

Super TOUGH-Grip

The Super TOUGH-Grip layer has finer crystal grains that enhance the strength of the adhesion between the coating layers.



*By Image



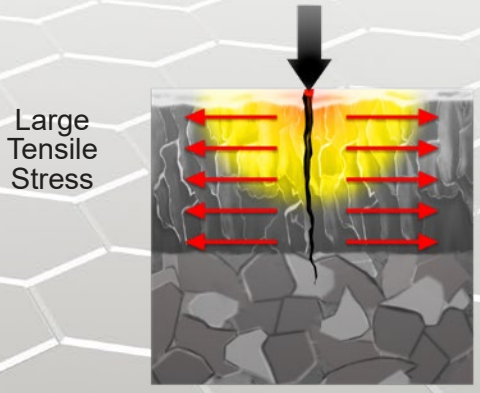
*Adhesion strength measurement is obtained from a scratch test that records the force needed to peel the coating layers.

Protection Against Sudden Fracturing

Cracks that occur during unstable machining are prevented due to the relaxing of the tensile stress in the coating. MC6100 series has an 80% reduction in coating tensile stress compared to conventional CVD inserts.

Relaxing of the Tensile Stress

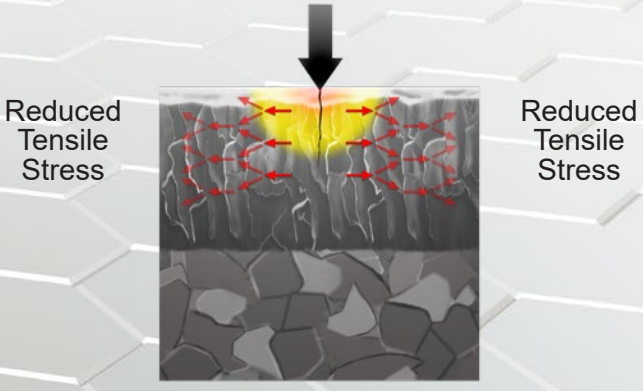
Impact Stress During Machining



Conventional CVD inserts

Cracks are generated in the surface of coatings during machining. They propagate through the coating into the substrate due to the large tensile stress in the coating structure. This creates one of the main causes of sudden insert breakage.

Impact Stress During Machining



MC6100 Series

MC6100 series has a much lower level of stress than conventional CVD coatings due to the surface treatment. This divides the force of impacts during machining and protects from sudden fracturing.

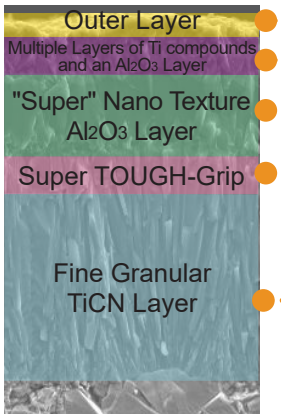
CVD Coated Grade for Steel Turning

MC6125

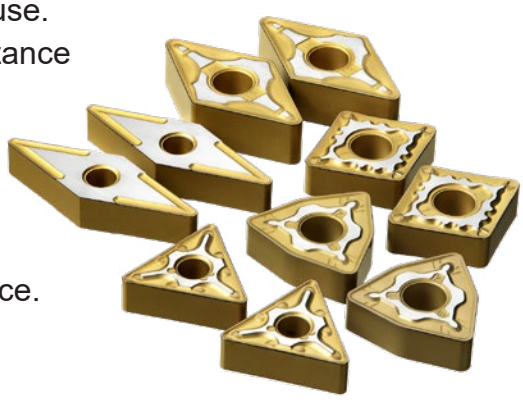
2021-012 JTA ECO PRODUCT (一社) 日本機械工具工業会 (JTA) 環境調和製品 ☆☆☆

Please refer to the last page for more information on certified environmentally friendly products.

First recommended grade for steel turning. Increasing tool life with stable performance over a wider range of applications.



- Better identification of corner use.
- Achieves excellent wear resistance
- Outstanding wear resistance especially at high temperatures.
- Strong adhesion between the tough coating layers.
- Coating for high wear resistance.

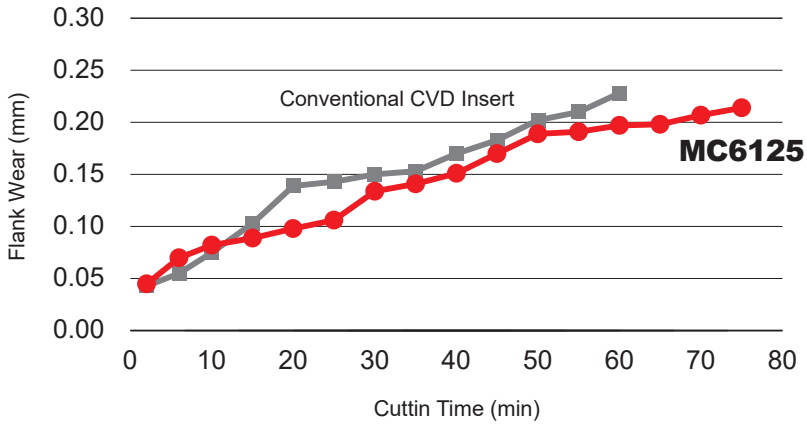


Special Smooth Surface Treatment

MC6125 uses a new surface treatment for the cutting edge for increased stability. Additionally, the seating faces also have a special smooth surface treatment that provides improved clamping stability to enable a wider range of applications.

Machining S45C : Comparison of Wear Resistance

The surface treatment has improved stability and provided longer tool life.



<Cutting Conditions>

Workpiece Material	: JIS S45C
Inserts	: CNMG120408-MA
Cutting Speed	: vc = 200 m/min
Feed per Rev.	: f =0.3 mm/rev
Depth of Cut	: ap = 1.5 mm
Cutting Mode	: Wet Cutting

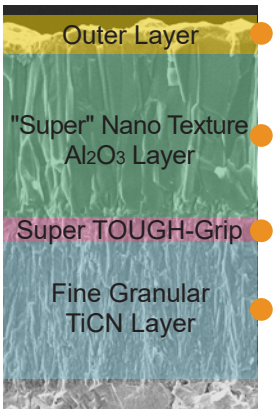
CVD Coated Grade for Steel Turning

MC6115

2021-002 JTA ECO PRODUCT (一社) 日本機械工具工業会 (JTA) 環境調和製品 ☆☆☆

Please refer to the last page for more information on certified environmentally friendly products.

MC6115 improves high speed machining and process efficiency with a dramatic increase in resistance to wear and heat.



Better identification of corner use.

Outstanding wear resistance especially at high temperatures.

Strong adhesion between the tough coating layers.

Coating for high wear resistance.

Improved Outer Coating (Layer)

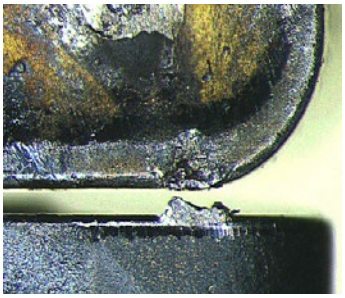
The outer layer of MC6115 restricts chip welding thereby improving the dimensional accuracy and surface roughness of components. This also enables easy recognition of whether the corner can continue machining.

Example when machining Scr420H

When comparing the high edge strength MH breaker with a conventional low resistance chip breaker, it shows that MC6115 accomplishes both high welding and wear resistance.

After 2 Minutes Machining

MC6115 MH Breaker

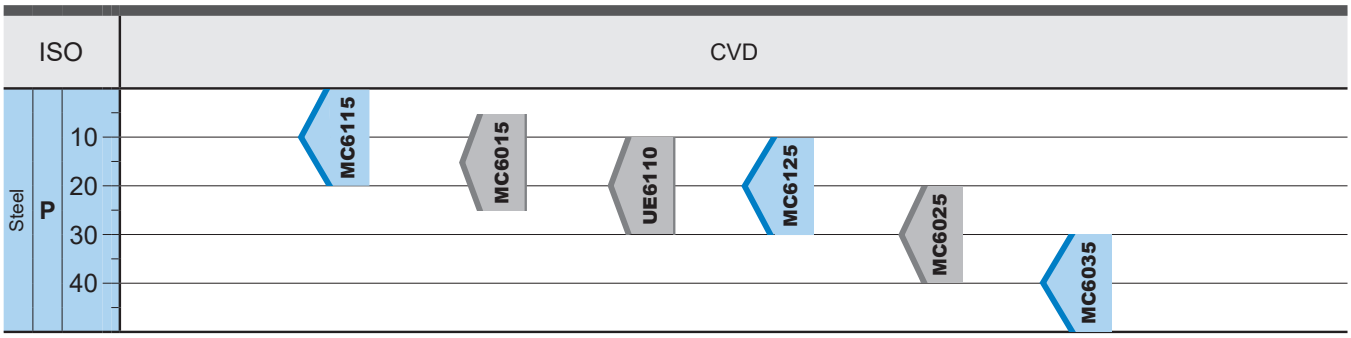


Conventional CVD Insert

<Cutting Conditions>

Workpiece Material	: JIS SCr420H 170HB
Inserts	: CNMG120408-MH
Cutting Speed	: vc = 200 m/min
Feed per Rev.	: f =0.3 mm/rev
Depth of Cut	: ap = 1.5 mm
Cutting Mode	: Dry Cutting

Application Range

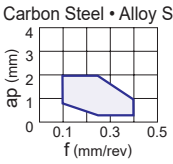
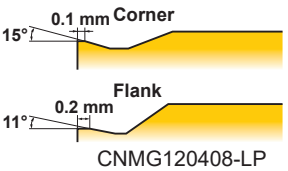
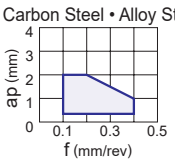
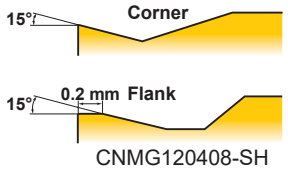
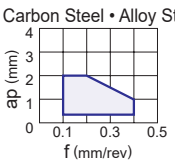
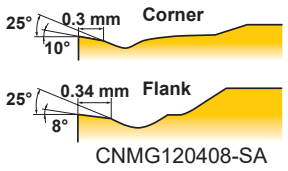
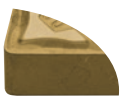
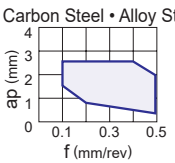
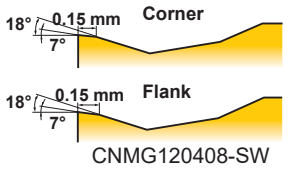


Selection Criteria

Work Material		Cutting Mode	Grade
P	Steel	Continuous Cutting ↑ Low Medium ↓ High Interrupted Cutting	**MC6115**
			MC6125
			MC6035

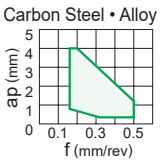
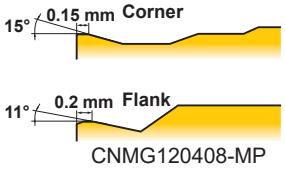
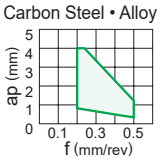
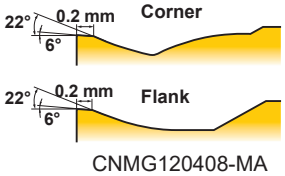
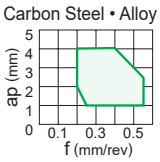
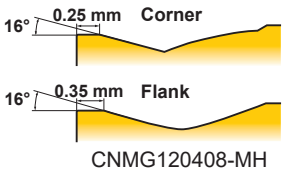
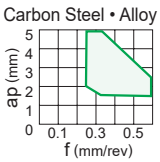
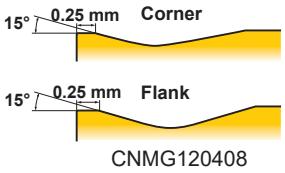
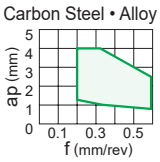
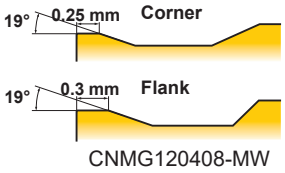
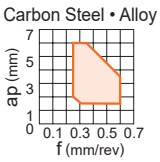
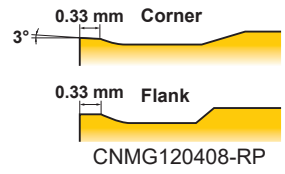
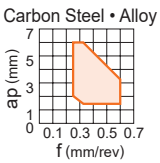
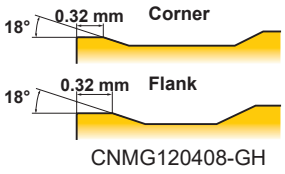
Chip Breaker System for Steel Turning

Negative Inserts

Application	Tolerance	Chip Breaker Name and Picture	Features	Cross Section Geometry
Light Cutting	M	**LP** 	**First recommendation for light cutting of carbon steel and alloy steel** Stable chip control in the light cutting range. The curved edge allows smooth chip discharge.	  CNMG120408-LP
		SH 	**Alternative chip breaker for light cutting of carbon steel and alloy steel** Can be used at low depth of cuts and high feed rates. The curved edge allows smooth chip discharge. Recommended for workpieces in the 160—250HB range.	  CNMG120408-SH
		SA 	**Alternative chip breaker for light cutting of carbon steel and alloy steel** Superior chip control at small depth of cuts. Covers copying and back turning with wavy edge. Recommended for workpieces in the 200—300HB range.	  CNMG120408-SA
		SW 	**Wiper insert for light cutting of carbon steel, alloy steel, stainless steel and cast iron** In comparison to conventional chip breakers, the surface finish is maintained even if the feed per revolution is doubled. Wiper design for increased productivity and improved surface finish.	  CNMG120408-SW

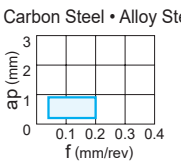
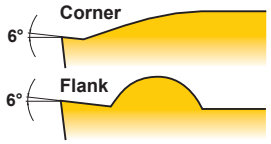
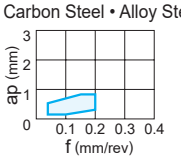
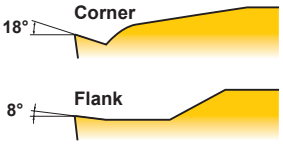
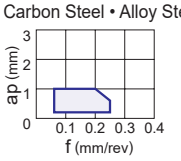
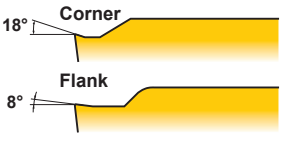
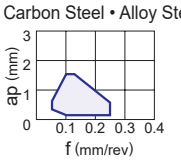
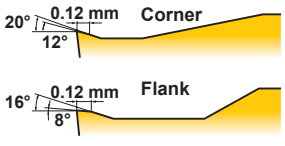
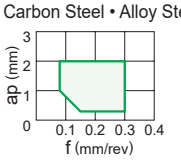
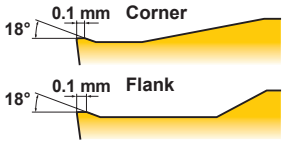
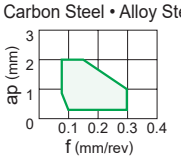
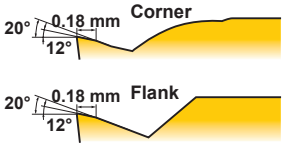
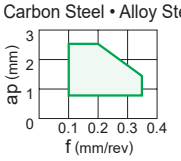
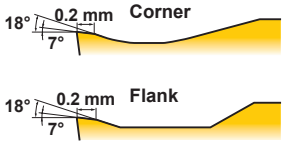
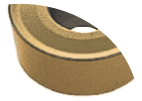
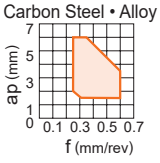
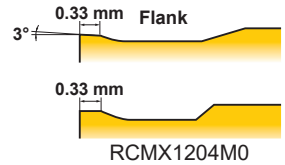
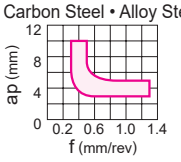
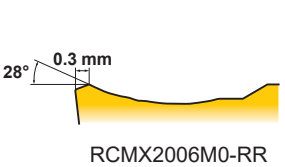
Chip Breaker System for Steel Turning

Negative Inserts

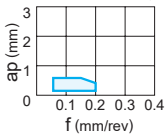
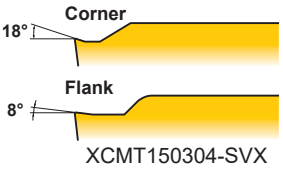
Application	Tolerance	Chip Breaker Name and Picture	Features	Cross Section Geometry
Medium Cutting	M	**MP** 	**First recommendation for medium cutting of carbon steel and alloy steel** Suitable for medium to light cutting. Chip breaker geometry appropriate for copying and back turning. Cutting edge geometry for an optimum balance of sharpness and fracture resistance.	  CNMG120408-MP
		MA 	**First recommendation for medium cutting of carbon steel and alloy steel** Ideal for general cutting applications. Positive land provides sharp cutting action.	  CNMG120408-MA
		MH 	**Alternative chip breaker for medium cutting of carbon steel and alloy steel** Flat land offers high edge strength. Good chip control with suitable chip pocket.	  CNMG120408-MH
		Standard 	**Alternative chip breaker for medium cutting of carbon steel and alloy steel** Flat land offers high edge strength. Flat top breaker shape offers high edge strength.	  CNMG120408
		MW 	**Wiper insert for medium cutting carbon steel, alloy steel, stainless steel and cast iron** The wiper allows up to two times higher feed. A wide chip pocket prevents chip jamming.	  CNMG120408-MW
Rough Cutting	M	**RP** 	**First recommendation for rough cutting of carbon steel and alloy steel** For interrupted cuts and removing scale. Good balance of cutting edge strength and low cutting resistance because of suitable rake angle.	  CNMG120408-RP
		GH 	**Alternative chip breaker for rough cutting of carbon steel, alloy steel and cast iron** For interrupted cuts and removing scale. A combination of wide land and a large chip pocket allows high feed rates.	  CNMG120408-GH

Chip Breaker System for Steel Turning

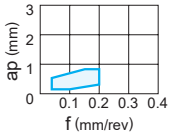
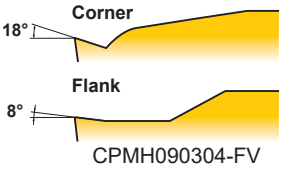
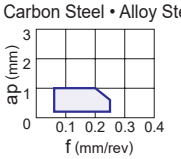
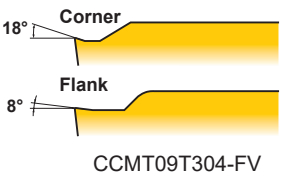
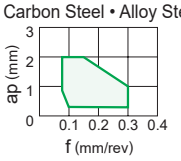
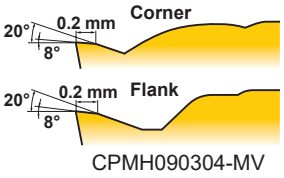
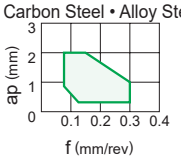
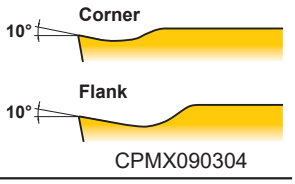
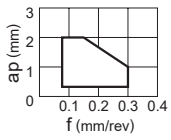
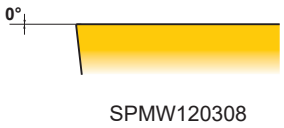
5°, 7° Positive Inserts

Application	Tolerance	Chip Breaker Name and Picture	Features	Cross Section Geometry
Finish Cutting	M	**FP** 	**First recommendation for finishing carbon steel, alloy steel and mild steel** Chip breaker protrusion at the corner tip controls chips even at small depth of cut. Maintains the edge strength at the corner and prevents sudden fractures.	  CCMT09T304-FP
		FV 	**Alternative chip breaker for finishing carbon steel, alloy steel, mild steel and stainless steel** Suitable for low depths of cut and low feed rates. Sharp cutting edge and low resistance design achieves excellent cutting performance.	  CCMT09T304-FV
Light Cutting	M	**LP** 	**First recommendation for light cutting of carbon steel, alloy steel and mild steel** Sharp cutting edge due to a large rake angle. Prevents welding of the insert and controls white turbidity of the surface finish. Chip breaker protrusion suitable for depth of cut area achieves a wide range of chip control.	  CCMT09T308-LP
		SW 	**Wiper insert for light cutting of carbon steel, alloy steel, mild steel and stainless steel** In comparison to conventional chip breakers, the surface finish is maintained even if the feed per revolution is doubled. Positive land improves sharpness.	  CCMT09T304-SW
Medium Cutting	M	**MP** 	**First recommendation for medium cutting of carbon steel, alloy steel and mild steel** Good balance of wear resistance and fracture resistance because of the flat land cutting edge. A wide chip pocket controls increasing of the cutting resistance and reduces vibration and chip jamming even at large depths of cut.	  CCMT09T308-MP
		MV 	**Alternative chip breaker for medium cutting of carbon steel, alloy steel, mild steel and stainless steel** A positive insert and the large rake angle achieve sharp cutting edge performance. The double breakers and round shape in the rake face achieve a wide range of chip discharge.	  CCMH060204-MV
		MW 	**Wiper insert for medium cutting of carbon steel, alloy steel, mild steel and stainless steel** The wiper allows up to two times higher feed. A wide chip pocket prevents chip jamming.	  CCMT09T308-MW
		Standard 	**Alternative chip breaker for medium cutting of carbon steel, alloy steel, mild steel, stainless steel and cast iron** Balance of edge strength and sharpness due to a combination of a flat land and large rake angle.	  RCMX1204M0
Heavy Cutting	M	**RR** 	**Chip breaker for heavy cutting of carbon steel and alloy steel** A wide groove chip breaker prevents chips from jamming at large depths of cut. Small dimples improve chip control at small depths of cut.	  RCMX2006M0-RR

7° Positive Inserts

Application	Tolerance	Chip Breaker Name and Picture	Features	Cross Section Geometry
Finish Cutting	M	**SVX** 	**Alternative chip breaker for light cutting of carbon steel and alloy steel** Chip control is improved by having a chip breaker geometry suitable for copying.	Carbon Steel • Alloy Steel   XCMT150304-SVX

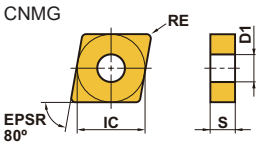
11° Positive Inserts

Application	Tolerance	Chip Breaker Name and Picture	Features	Cross Section Geometry
Finish Cutting	M	**FV** 	**First recommendation for finishing carbon steel, alloy steel, mild steel and stainless steel** Suitable for low depths of cut and low feed rates. Sharp cutting edge and low resistance design achieves excellent cutting performance.	Carbon Steel • Alloy Steel   CPMH090304-FV
Light Cutting	M	**LP** 	**First recommendation for light cutting of carbon steel, alloy steel and mild steel** Sharp cutting edge due to a large rake angle. Prevents welding of the insert and controls white turbidity of the surface finish. Chip breaker protrusion suitable for depth of cut area achieves a wide range of chip control.	Carbon Steel • Alloy Steel   CCMT09T304-FV
Medium Cutting	M	**MV** 	**First recommendation for medium cutting of carbon steel, alloy steel, mild steel, stainless steel and cast iron** A positive insert and large rake angle achieves sharp cutting edge performance. Double chip breaker in the rake face achieve a wide range of chip discharge.	Carbon Steel • Alloy Steel   CPMH090304-MV
		Standard 	**Alternative chip breaker for medium cutting of carbon steel, alloy steel and stainless steel** Standard, general purpose chip breaker.	Carbon Steel • Alloy Steel   CPMX090304
For Cast Iron	M	**Flat Top** 	**Chip breaker for Heavy cutting of cast iron** Flat top. Most effective for unstable machining due to its high edge strength.	Cast Iron   SPMW120308

MC6100 Series

Negative Inserts (With Hole)

M Class



Light	Light	Light	Light	Medium	Medium
LP	SH	SA	SW	MP	MA
			 (Wiper)		
Medium	**Medium**	**Medium**	**Rough**	**Rough**	
MH	Standard	MW	RP	GH	
		 (Wiper)			

(mm)

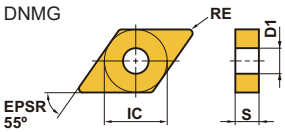
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
CNMG120404-LP	L	●	●	12.7	4.76	0.4	5.16
CNMG120408-LP	L	●	●	12.7	4.76	0.8	5.16
CNMG120412-LP	L	●	●	12.7	4.76	1.2	5.16
CNMG120404-SH	L	●	●	12.7	4.76	0.4	5.16
CNMG120408-SH	L	●	●	12.7	4.76	0.8	5.16
CNMG120412-SH	L	●	●	12.7	4.76	1.2	5.16
CNMG120404-SA	L	●	●	12.7	4.76	0.4	5.16
CNMG120408-SA	L	●	●	12.7	4.76	0.8	5.16
CNMG120412-SA	L	●	●	12.7	4.76	1.2	5.16
CNMG120404-SW	L	●	●	12.7	4.76	0.4	5.16
CNMG120408-SW	L	●	●	12.7	4.76	0.8	5.16
CNMG120412-SW	L	●	●	12.7	4.76	1.2	5.16
CNMG120404-MP	M	●	●	12.7	4.76	0.4	5.16
CNMG120408-MP	M	●	●	12.7	4.76	0.8	5.16
CNMG120412-MP	M	●	●	12.7	4.76	1.2	5.16
CNMG120416-MP	M	●	●	12.7	4.76	1.6	5.16
CNMG160608-MP	M	●	●	15.875	6.35	0.8	6.35
CNMG160612-MP	M	●	●	15.875	6.35	1.2	6.35
CNMG160616-MP	M	●	●	15.875	6.35	1.6	6.35
CNMG120404-MA	M	●	●	12.7	4.76	0.4	5.16
CNMG120408-MA	M	●	●	12.7	4.76	0.8	5.16
CNMG120412-MA	M	●	●	12.7	4.76	1.2	5.16
CNMG120416-MA	M	●	●	12.7	4.76	1.6	5.16
CNMG160608-MA	M	●	●	15.875	6.35	0.8	6.35
CNMG160612-MA	M	●	●	15.875	6.35	1.2	6.35
CNMG160616-MA	M	●	●	15.875	6.35	1.6	6.35
CNMG190612-MA	M	●	●	19.05	6.35	1.2	7.93
CNMG190616-MA	M	●	●	19.05	6.35	1.6	7.93

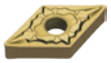
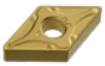
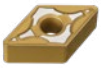
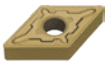
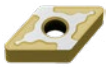
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
CNMG120404-MH	M	●	●	12.7	4.76	0.4	5.16
CNMG120408-MH	M	●	●	12.7	4.76	0.8	5.16
CNMG120412-MH	M	●	●	12.7	4.76	1.2	5.16
CNMG120416-MH	M	●	●	12.7	4.76	1.6	5.16
CNMG160608-MH	M	●	●	15.875	6.35	0.8	6.35
CNMG160612-MH	M	●	●	15.875	6.35	1.2	6.35
CNMG160616-MH	M	●	●	15.875	6.35	1.6	6.35
CNMG190612-MH	M	●	●	19.05	6.35	1.2	7.93
CNMG190616-MH	M	●	●	19.05	6.35	1.6	7.93
CNMG120404	M	●	●	12.7	4.76	0.4	5.16
CNMG120408	M	●	●	12.7	4.76	0.8	5.16
CNMG120412	M	●	●	12.7	4.76	1.2	5.16
CNMG120416	M	●	●	12.7	4.76	1.6	5.16
CNMG160608	M	●	●	15.875	6.35	0.8	6.35
CNMG160612	M	●	●	15.875	6.35	1.2	6.35
CNMG160616	M	●	●	15.875	6.35	1.6	6.35
CNMG190608	M	●	●	19.05	6.35	0.8	7.93
CNMG190612	M	●	●	19.05	6.35	1.2	7.93
CNMG190616	M	●	●	19.05	6.35	1.6	7.93
CNMG120408-MW	M	●	●	12.7	4.76	0.8	5.16
CNMG120412-MW	M	●	●	12.7	4.76	1.2	5.16
CNMG120408-RP	R	●	●	12.7	4.76	0.8	5.16
CNMG120412-RP	R	●	●	12.7	4.76	1.2	5.16
CNMG120416-RP	R	●	●	12.7	4.76	1.6	5.16
CNMG160612-RP	R	●	●	15.875	6.35	1.2	6.35
CNMG160616-RP	R	●	●	15.875	6.35	1.6	6.35
CNMG190612-RP	R	●	●	19.05	6.35	1.2	7.93
CNMG190616-RP	R	●	●	19.05	6.35	1.6	7.93
CNMG120408-GH	R	●	●	12.7	4.76	0.8	5.16
CNMG120412-GH	R	●	●	12.7	4.76	1.2	5.16
CNMG120416-GH	R	●	●	12.7	4.76	1.6	5.16
CNMG160612-GH	R	●	●	15.875	6.35	1.2	6.35
CNMG160616-GH	R	●	●	15.875	6.35	1.6	6.35
CNMG190612-GH	R	●	●	19.05	6.35	1.2	7.93
CNMG190616-GH	R	●	●	19.05	6.35	1.6	7.93

● : Inventory maintained in Japan.
(10 inserts in one case)

Negative Inserts (With Hole)

M Class



Light	Light	Light			
LP	SH	SA			
					
Medium	**Medium**	**Medium**	**Medium**	**Rough**	**Rough**
MP	MA	MH	Standard	RP	GH
					

(mm)

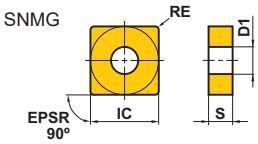
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
DNMG150404-LP	L	●	●	12.7	4.76	0.4	5.16
DNMG150408-LP	L	●	●	12.7	4.76	0.8	5.16
DNMG150412-LP	L	●	●	12.7	4.76	1.2	5.16
DNMG150604-LP	L	●	●	12.7	6.35	0.4	5.16
DNMG150608-LP	L	●	●	12.7	6.35	0.8	5.16
DNMG150612-LP	L	●	●	12.7	6.35	1.2	5.16
DNMG150404-SH	L	●	●	12.7	4.76	0.4	5.16
DNMG150408-SH	L	●	●	12.7	4.76	0.8	5.16
DNMG150412-SH	L	●	●	12.7	4.76	1.2	5.16
DNMG150604-SH	L	●	●	12.7	6.35	0.4	5.16
DNMG150608-SH	L	●	●	12.7	6.35	0.8	5.16
DNMG150612-SH	L	●	●	12.7	6.35	1.2	5.16
DNMG150404-SA	L	●	●	12.7	4.76	0.4	5.16
DNMG150408-SA	L	●	●	12.7	4.76	0.8	5.16
DNMG150412-SA	L	●	●	12.7	4.76	1.2	5.16
DNMG150604-SA	L	●	●	12.7	6.35	0.4	5.16
DNMG150608-SA	L	●	●	12.7	6.35	0.8	5.16
DNMG150612-SA	L	●	●	12.7	6.35	1.2	5.16

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
DNMG150404-MP	M	●	●	12.7	4.76	0.4	5.16
DNMG150408-MP	M	●	●	12.7	4.76	0.8	5.16
DNMG150412-MP	M	●	●	12.7	4.76	1.2	5.16
DNMG150416-MP	M	●	●	12.7	4.76	1.6	5.16
DNMG150604-MP	M	●	●	12.7	6.35	0.4	5.16
DNMG150608-MP	M	●	●	12.7	6.35	0.8	5.16
DNMG150612-MP	M	●	●	12.7	6.35	1.2	5.16
DNMG150616-MP	M	●	●	12.7	6.35	1.6	5.16
DNMG150404-MA	M	●	●	12.7	4.76	0.4	5.16
DNMG150408-MA	M	●	●	12.7	4.76	0.8	5.16
DNMG150412-MA	M	●	●	12.7	4.76	1.2	5.16
DNMG150604-MA	M	●	●	12.7	6.35	0.4	5.16
DNMG150608-MA	M	●	●	12.7	6.35	0.8	5.16
DNMG150612-MA	M	●	●	12.7	6.35	1.2	5.16
DNMG150404-MH	M	●	●	12.7	4.76	0.4	5.16
DNMG150408-MH	M	●	●	12.7	4.76	0.8	5.16
DNMG150412-MH	M	●	●	12.7	4.76	1.2	5.16
DNMG150604-MH	M	●	●	12.7	6.35	0.4	5.16
DNMG150608-MH	M	●	●	12.7	6.35	0.8	5.16
DNMG150612-MH	M	●	●	12.7	6.35	1.2	5.16
DNMG150404	M	●	●	12.7	4.76	0.4	5.16
DNMG150408	M	●	●	12.7	4.76	0.8	5.16
DNMG150412	M	●	●	12.7	4.76	1.2	5.16
DNMG150604	M	●	●	12.7	6.35	0.4	5.16
DNMG150608	M	●	●	12.7	6.35	0.8	5.16
DNMG150612	M	●	●	12.7	6.35	1.2	5.16
DNMG150408-RP	R	●	●	12.7	4.76	0.8	5.16
DNMG150412-RP	R	●	●	12.7	4.76	1.2	5.16
DNMG150416-RP	R	●	●	12.7	4.76	1.6	5.16
DNMG150608-RP	R	●	●	12.7	6.35	0.8	5.16
DNMG150612-RP	R	●	●	12.7	6.35	1.2	5.16
DNMG150616-RP	R	●	●	12.7	6.35	1.6	5.16
DNMG150408-GH	R	●	●	12.7	4.76	0.8	5.16
DNMG150412-GH	R	●	●	12.7	4.76	1.2	5.16
DNMG150608-GH	R	●	●	12.7	6.35	0.8	5.16
DNMG150612-GH	R	●	●	12.7	6.35	1.2	5.16

MC6100 Series

Negative Inserts (With Hole)

M Class



Light	Light	Light			
LP	SH	SA			
					
Medium	**Medium**	**Medium**	**Medium**	**Rough**	**Rough**
MP	MA	MH	Standard	RP	GH
					

(mm)

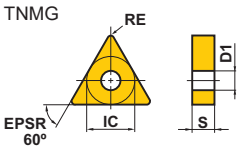
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
SNMG120404-LP	L	●	●	12.7	4.76	0.4	5.16
SNMG120408-LP	L	●	●	12.7	4.76	0.8	5.16
SNMG120412-LP	L	●	●	12.7	4.76	1.2	5.16
SNMG120408-SH	L	●	●	12.7	4.76	0.8	5.16
SNMG120408-SA	L	●	●	12.7	4.76	0.8	5.16

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
SNMG120404-MP	M	●	●	12.7	4.76	0.4	5.16
SNMG120408-MP	M	●	●	12.7	4.76	0.8	5.16
SNMG120412-MP	M	●	●	12.7	4.76	1.2	5.16
SNMG120404-MA	M	●	●	12.7	4.76	0.4	5.16
SNMG120408-MA	M	●	●	12.7	4.76	0.8	5.16
SNMG120412-MA	M	●	●	12.7	4.76	1.2	5.16
SNMG150608-MA	M	●	●	15.875	6.35	0.8	6.35
SNMG150612-MA	M	●	●	15.875	6.35	1.2	6.35
SNMG190612-MA	M	●	●	19.05	6.35	1.2	7.93
SNMG190616-MA	M	●	●	19.05	6.35	1.6	7.93
SNMG120408-MH	M	●	●	12.7	4.76	0.8	5.16
SNMG120412-MH	M	●	●	12.7	4.76	1.2	5.16
SNMG190612-MH	M	●	●	19.05	6.35	1.2	7.93
SNMG190616-MH	M	●	●	19.05	6.35	1.6	7.93
SNMG120404	M	●	●	12.7	4.76	0.4	5.16
SNMG120408	M	●	●	12.7	4.76	0.8	5.16
SNMG120412	M	●	●	12.7	4.76	1.2	5.16
SNMG150612	M	●	●	15.875	6.35	1.2	6.35
SNMG190612	M	●	●	19.05	6.35	1.2	7.93
SNMG190616	M	●	●	19.05	6.35	1.6	7.93
SNMG120408-RP	R	●	●	12.7	4.76	0.8	5.16
SNMG120412-RP	R	●	●	12.7	4.76	1.2	5.16
SNMG120416-RP	R	●	●	12.7	4.76	1.6	5.16
SNMG150612-RP	R	●	●	15.875	6.35	1.2	6.35
SNMG150616-RP	R	●	●	15.875	6.35	1.6	6.35
SNMG190612-RP	R	●	●	19.05	6.35	1.2	7.93
SNMG190616-RP	R	●	●	19.05	6.35	1.6	7.93
SNMG120408-GH	R	●	●	12.7	4.76	0.8	5.16
SNMG120412-GH	R	●	●	12.7	4.76	1.2	5.16
SNMG120416-GH	R	●	●	12.7	4.76	1.6	5.16
SNMG150612-GH	R	●	●	15.875	6.35	1.2	6.35
SNMG190612-GH	R	●	●	19.05	6.35	1.2	7.93
SNMG190616-GH	R	●	●	19.05	6.35	1.6	7.93

● : Inventory maintained in Japan.
(10 inserts in one case)

Negative Inserts (With Hole)

M Class



Light	Light	Light			
LP	SH	SA			
					
Medium	**Medium**	**Medium**	**Medium**	**Rough**	**Rough**
MP	MA	MH	Standard	RP	GH
					

(mm)

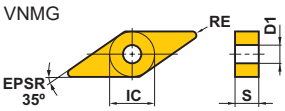
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
TNMG160404-LP	L	●	●	9.525	4.76	0.4	3.81
TNMG160408-LP	L	●	●	9.525	4.76	0.8	3.81
TNMG160412-LP	L	●	●	9.525	4.76	1.2	3.81
TNMG220408-LP	L	●	●	12.7	4.76	0.8	5.16
TNMG220412-LP	L	●	●	12.7	4.76	1.2	5.16
TNMG160404-SH	L	●	●	9.525	4.76	0.4	3.81
TNMG160408-SH	L	●	●	9.525	4.76	0.8	3.81
TNMG220408-SH	L	●	●	12.7	4.76	0.8	5.16
TNMG160404-SA	L	●	●	9.525	4.76	0.4	3.81
TNMG160408-SA	L	●	●	9.525	4.76	0.8	3.81
TNMG160412-SA	L	●	●	9.525	4.76	1.2	3.81
TNMG220408-SA	L	●	●	12.7	4.76	0.8	5.16

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
TNMG160404-MP	M	●	●	9.525	4.76	0.4	3.81
TNMG160408-MP	M	●	●	9.525	4.76	0.8	3.81
TNMG160412-MP	M	●	●	9.525	4.76	1.2	3.81
TNMG220408-MP	M	●	●	12.7	4.76	0.8	5.16
TNMG220412-MP	M	●	●	12.7	4.76	1.2	5.16
TNMG160404-MA	M	●	●	9.525	4.76	0.4	3.81
TNMG160408-MA	M	●	●	9.525	4.76	0.8	3.81
TNMG160412-MA	M	●	●	9.525	4.76	1.2	3.81
TNMG220408-MA	M	●	●	12.7	4.76	0.8	5.16
TNMG220412-MA	M	●	●	12.7	4.76	1.2	5.16
TNMG270608-MA	M	●	●	15.875	6.35	0.8	6.35
TNMG270612-MA	M	●	●	15.875	6.35	1.2	6.35
TNMG160404-MH	M	●	●	9.525	4.76	0.4	3.81
TNMG160408-MH	M	●	●	9.525	4.76	0.8	3.81
TNMG160412-MH	M	●	●	9.525	4.76	1.2	3.81
TNMG220408-MH	M	●	●	12.7	4.76	0.8	5.16
TNMG220412-MH	M	●	●	12.7	4.76	1.2	5.16
TNMG160404	M	●	●	9.525	4.76	0.4	3.81
TNMG160408	M	●	●	9.525	4.76	0.8	3.81
TNMG160412	M	●	●	9.525	4.76	1.2	3.81
TNMG220404	M	●	●	12.7	4.76	0.4	5.16
TNMG220408	M	●	●	12.7	4.76	0.8	5.16
TNMG220412	M	●	●	12.7	4.76	1.2	5.16
TNMG160408-RP	R	●	●	9.525	4.76	0.8	3.81
TNMG160412-RP	R	●	●	9.525	4.76	1.2	3.81
TNMG220408-RP	R	●	●	12.7	4.76	0.8	5.16
TNMG220412-RP	R	●	●	12.7	4.76	1.2	5.16
TNMG220416-RP	R	●	●	12.7	4.76	1.6	5.16
TNMG270612-RP	R	●	●	15.875	6.35	1.2	6.35
TNMG270616-RP	R	●	●	15.875	6.35	1.6	6.35
TNMG160408-GH	R	●	●	9.525	4.76	0.8	3.81
TNMG160412-GH	R	●	●	9.525	4.76	1.2	3.81
TNMG220408-GH	R	●	●	12.7	4.76	0.8	5.16
TNMG220412-GH	R	●	●	12.7	4.76	1.2	5.16
TNMG220416-GH	R	●	●	12.7	4.76	1.6	5.16
TNMG270612-GH	R	●	●	15.875	6.35	1.2	6.35
TNMG270616-GH	R	●	●	15.875	6.35	1.6	6.35

MC6100 Series

Negative Inserts (With Hole)

M Class



Light	Light		
LP	SH		
			
Medium	**Medium**	**Medium**	**Medium**
MP	MA	MH	Standard
			

(mm)

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
VNMG160404-LP	L	●	●	9.525	4.76	0.4	3.81
VNMG160408-LP	L	●	●	9.525	4.76	0.8	3.81
VNMG160404-SH	L	●	●	9.525	4.76	0.4	3.81
VNMG160408-SH	L	●	●	9.525	4.76	0.8	3.81

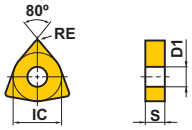
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
VNMG160404-MP	M	●	●	9.525	4.76	0.4	3.81
VNMG160408-MP	M	●	●	9.525	4.76	0.8	3.81
VNMG160412-MP	M	●	●	9.525	4.76	1.2	3.81
VNMG160404-MA	M	●	●	9.525	4.76	0.4	3.81
VNMG160408-MA	M	●	●	9.525	4.76	0.8	3.81
VNMG160404-MH	M	●	●	9.525	4.76	0.4	3.81
VNMG160408-MH	M	●	●	9.525	4.76	0.8	3.81
VNMG160404	M	●	●	9.525	4.76	0.4	3.81
VNMG160408	M	●	●	9.525	4.76	0.8	3.81
VNMG160412	M	●	●	9.525	4.76	1.2	3.81

● : Inventory maintained in Japan.
(10 inserts in one case)

Negative Inserts (With Hole)

M Class

WNMG EPSR 80° RE



Light	Light	Light	Light	Medium	Medium
LP	SH	SA	SW	MP	MA
			 (Wiper)		
Medium	**Medium**	**Medium**	**Rough**	**Rough**	
MH	Standard	MW	RP	GH	
		 (Wiper)			

(mm)

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
WNMG080404-LP	L	●	●	12.7	4.76	0.4	5.16
WNMG080408-LP	L	●	●	12.7	4.76	0.8	5.16
WNMG080412-LP	L	●	●	12.7	4.76	1.2	5.16
WNMG080404-SH	L	●	●	12.7	4.76	0.4	5.16
WNMG080408-SH	L	●	●	12.7	4.76	0.8	5.16
WNMG080412-SH	L	●	●	12.7	4.76	1.2	5.16
WNMG080404-SA	L	●	●	12.7	4.76	0.4	5.16
WNMG080408-SA	L	●	●	12.7	4.76	0.8	5.16
WNMG080412-SA	L	●	●	12.7	4.76	1.2	5.16
WNMG080404-SW	L	●	●	12.7	4.76	0.4	5.16
WNMG080408-SW	L	●	●	12.7	4.76	0.8	5.16
WNMG080412-SW	L	●	●	12.7	4.76	1.2	5.16
WNMG080404-MP	M	●	●	12.7	4.76	0.4	5.16
WNMG080408-MP	M	●	●	12.7	4.76	0.8	5.16
WNMG080412-MP	M	●	●	12.7	4.76	1.2	5.16
WNMG080416-MP	M	●	●	12.7	4.76	1.6	5.16
WNMG080404-MA	M	●	●	12.7	4.76	0.4	5.16
WNMG080408-MA	M	●	●	12.7	4.76	0.8	5.16
WNMG080412-MA	M	●	●	12.7	4.76	1.2	5.16
WNMG080416-MA	M	●	●	12.7	4.76	1.6	5.16

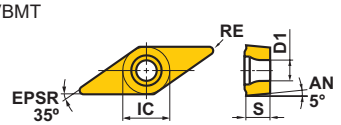
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
WNMG080404-MH	M	●	●	12.7	4.76	0.4	5.16
WNMG080408-MH	M	●	●	12.7	4.76	0.8	5.16
WNMG080412-MH	M	●	●	12.7	4.76	1.2	5.16
WNMG080404	M	●	●	12.7	4.76	0.4	5.16
WNMG080408	M	●	●	12.7	4.76	0.8	5.16
WNMG080412	M	●	●	12.7	4.76	1.2	5.16
WNMG080408-MW	M	●	●	12.7	4.76	0.8	5.16
WNMG080412-MW	M	●	●	12.7	4.76	1.2	5.16
WNMG080408-RP	R	●	●	12.7	4.76	0.8	5.16
WNMG080412-RP	R	●	●	12.7	4.76	1.2	5.16
WNMG080408-GH	R	●	●	12.7	4.76	0.8	5.16
WNMG080412-GH	R	●	●	12.7	4.76	1.2	5.16

MC6100 Series

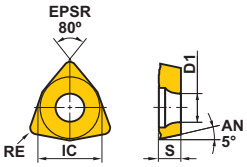
5° Positive Inserts (With Hole)

M Class

VBMT



WBMT



Finish	Light	Light	Medium	Medium
FP	FV	LP	MP	MV
				
Medium				
MV				
				

(mm)

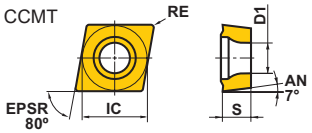
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **VBMT110302-FP**	F	●	●	6.35	3.18	0.2	2.9
NEW **VBMT110304-FP**	F	●	●	6.35	3.18	0.4	2.9
NEW **VBMT110308-FP**	F	●	●	6.35	3.18	0.8	2.9
NEW **VBMT160404-FP**	F	●	●	9.525	4.76	0.4	2.9
NEW **VBMT160408-FP**	F	●	●	9.525	4.76	0.8	2.9
NEW **VBMT110304-FV**	F		●	6.35	3.18	0.4	2.9
NEW **VBMT110308-FV**	F		●	6.35	3.18	0.8	2.9
NEW **VBMT160404-FV**	F		●	9.525	4.76	0.4	4.4
NEW **VBMT160408-FV**	F		●	9.525	4.76	0.8	4.4
NEW **VBMT110304-LP**	L	●	●	6.35	3.18	0.4	2.9
NEW **VBMT110308-LP**	L	●	●	6.35	3.18	0.8	2.9
NEW **VBMT160404-LP**	L	●	●	9.525	4.76	0.4	4.4
NEW **VBMT160408-LP**	L	●	●	9.525	4.76	0.8	4.4
NEW **VBMT160404-MP**	M	●	●	9.525	4.76	0.4	4.4
NEW **VBMT160408-MP**	M	●	●	9.525	4.76	0.8	4.4
NEW **VBMT110304-MV**	M		●	6.35	3.18	0.4	2.9
NEW **VBMT110308-MV**	M		●	6.35	3.18	0.8	2.9
NEW **VBMT160404-MV**	M		●	9.525	4.76	0.4	4.4
NEW **VBMT160408-MV**	M		●	9.525	4.76	0.8	4.4

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **WBMTL30202L-MV**	M		●	4.76	2.38	0.2	2.3
NEW **WBMTL30202R-MV**	M		●	4.76	2.38	0.2	2.3
NEW **WBMTL30204L-MV**	M		●	4.76	2.38	0.4	2.3
NEW **WBMTL30204R-MV**	M		●	4.76	2.38	0.4	2.3

● : Inventory maintained in Japan.
(10 inserts in one case)

7° Positive Inserts (With Hole)

M Class



Finish	Finish	Light	Light
FP	FV	LP	SW
			 (Wiper)
Medium	**Medium**	**Medium**	
MP	MV	MW	
		 (Wiper)	

(mm)

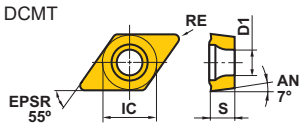
	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	CCMT060202-FP	F	●	●	6.35	2.38	0.2	2.8
NEW	CCMT060204-FP	F	●	●	6.35	2.38	0.4	2.8
NEW	CCMT09T302-FP	F	●	●	9.525	3.97	0.2	4.4
NEW	CCMT09T304-FP	F	●	●	9.525	3.97	0.4	4.4
NEW	CCMT09T308-FP	F	●	●	9.525	3.97	0.8	4.4
NEW	CCMT060202-FV	F		●	6.35	2.38	0.2	2.8
NEW	CCMT060204-FV	F		●	6.35	2.38	0.4	2.8
NEW	CCMT09T302-FV	F		●	9.525	3.97	0.2	4.4
NEW	CCMT09T304-FV	F		●	9.525	3.97	0.4	4.4
NEW	CCMT09T308-FV	F		●	9.525	3.97	0.8	4.4
NEW	CCMT060202-LP	L		●	6.35	2.38	0.2	2.8
NEW	CCMT060204-LP	L	●	●	6.35	2.38	0.4	2.8
NEW	CCMT060208-LP	L	●	●	6.35	2.38	0.8	2.8
NEW	CCMT09T304-LP	L	●	●	9.525	3.97	0.4	4.4
NEW	CCMT09T308-LP	L	●	●	9.525	3.97	0.8	4.4
NEW	CCMT060202-SW	L	●	●	6.35	2.38	0.2	2.8
NEW	CCMT060204-SW	L	●	●	6.35	2.38	0.4	2.8
NEW	CCMT09T302-SW	L	●	●	9.525	3.97	0.2	4.4
NEW	CCMT09T304-SW	L	●	●	9.525	3.97	0.4	4.4

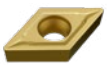
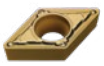
	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	CCMT060202-MP	M	●	●	6.35	2.38	0.2	2.8
NEW	CCMT060204-MP	M	●	●	6.35	2.38	0.4	2.8
NEW	CCMT060208-MP	M	●	●	6.35	2.38	0.8	2.8
NEW	CCMT080302-MP	M	●	●	7.94	3.18	0.2	3.4
NEW	CCMT080304-MP	M	●	●	7.94	3.18	0.4	3.4
NEW	CCMT080308-MP	M	●	●	7.94	3.18	0.8	3.4
NEW	CCMT09T302-MP	M	●	●	9.525	3.97	0.2	4.4
NEW	CCMT09T304-MP	M	●	●	9.525	3.97	0.4	4.4
NEW	CCMT09T308-MP	M	●	●	9.525	3.97	0.8	4.4
NEW	CCMT120404-MP	M	●	●	12.7	4.76	0.4	5.5
NEW	CCMT120408-MP	M	●	●	12.7	4.76	0.8	5.5
NEW	CCMT120412-MP	M	●	●	12.7	4.76	1.2	5.5
NEW	CCMH060202-MV	M		●	6.35	2.38	0.2	2.8
NEW	CCMH060204-MV	M		●	6.35	2.38	0.4	2.8
NEW	CCMT060204-MW	M	●	●	6.35	2.38	0.4	2.8
NEW	CCMT060208-MW	M	●	●	6.35	2.38	0.8	2.8
NEW	CCMT09T304-MW	M	●	●	9.525	3.97	0.4	4.4
NEW	CCMT09T308-MW	M	●	●	9.525	3.97	0.8	4.4
NEW	CCMT120404-MW	M	●	●	12.7	4.76	0.4	5.5
NEW	CCMT120408-MW	M	●	●	12.7	4.76	0.8	5.5

MC6100 Series

7° Positive Inserts (With Hole)

M Class



Finish	Finish	Light
FP	FV	LP
		
Medium	**Medium**	
MP	MV	
		

(mm)

	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	DCMT070202-FP	F	●	●	6.35	2.38	0.2	2.8
NEW	DCMT070204-FP	F	●	●	6.35	2.38	0.4	2.8
NEW	DCMT11T302-FP	F	●	●	9.525	3.97	0.2	4.4
NEW	DCMT11T304-FP	F	●	●	9.525	3.97	0.4	4.4
NEW	DCMT11T308-FP	F	●	●	9.525	3.97	0.8	4.4
NEW	DCMT070202-FV	F	●	●	6.35	2.38	0.2	2.8
NEW	DCMT070204-FV	F	●	●	6.35	2.38	0.4	2.8
NEW	DCMT070208-FV	F		●	6.35	2.38	0.8	2.8
NEW	DCMT11T302-FV	F		●	9.525	3.97	0.2	4.4
NEW	DCMT11T304-FV	F	●	●	9.525	3.97	0.4	4.4
NEW	DCMT11T308-FV	F	●	●	9.525	3.97	0.8	4.4
NEW	DCMT070202-LP	L		●	6.35	2.38	0.2	2.8
NEW	DCMT070204-LP	L	●	●	6.35	2.38	0.4	2.8
NEW	DCMT070208-LP	L	●	●	6.35	2.38	0.8	2.8
NEW	DCMT11T302-LP	L	●	●	9.525	3.97	0.2	4.4
NEW	DCMT11T304-LP	L	●	●	9.525	3.97	0.4	4.4
NEW	DCMT11T308-LP	L	●	●	9.525	3.97	0.8	4.4
NEW	DCMT070202-MP	M	●	●	6.35	2.38	0.2	2.8
NEW	DCMT070204-MP	M	●	●	6.35	2.38	0.4	2.8
NEW	DCMT070208-MP	M	●	●	6.35	2.38	0.8	2.8
NEW	DCMT11T302-MP	M	●	●	9.525	3.97	0.2	4.4
NEW	DCMT11T304-MP	M	●	●	9.525	3.97	0.4	4.4
NEW	DCMT11T308-MP	M	●	●	9.525	3.97	0.8	4.4
NEW	DCMT11T312-MP	M	●	●	9.525	3.97	1.2	4.4
NEW	DCMT150404-MP	M	●	●	12.7	4.76	0.4	5.5
NEW	DCMT150408-MP	M	●	●	12.7	4.76	0.8	5.5
NEW	DCMT150412-MP	M	●	●	12.7	4.76	1.2	5.5

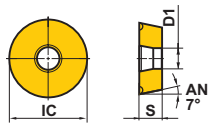
	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	DCMT070202-MV	M	●	●	6.35	2.38	0.2	2.8
NEW	DCMT070204-MV	M	●	●	6.35	2.38	0.4	2.8
NEW	DCMT070208-MV	M	●	●	6.35	2.38	0.8	2.8
NEW	DCMT11T302-MV	M	●	●	9.525	3.97	0.2	4.4
NEW	DCMT11T304-MV	M	●	●	9.525	3.97	0.4	4.4
NEW	DCMT11T308-MV	M	●	●	9.525	3.97	0.8	4.4

● : Inventory maintained in Japan.
(10 inserts in one case)

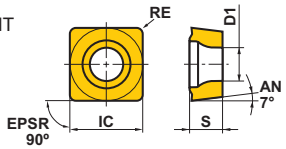
7° Positive Inserts (With Hole)

M Class

RCMT
RCMX



SCMT



Finish	Rough	
Standard	RR	
		
Medium	**Medium**	
FP	FV	MP
		

(mm)

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **RCMT0602M0**	M	●	●	6	2.38	-	2.8
NEW **RCMT0803M0**	M	●	●	8	3.18	-	2.8
NEW **RCMX1003M0**	M	●	●	10	3.18	-	3.6
NEW **RCMX1204M0**	M	●	●	12	4.76	-	4.2
NEW **RCMX1606M0**	M	●	●	16	6.35	-	5.2
NEW **RCMX2006M0**	M	●	●	20	6.35	-	6.5
NEW **RCMX1606M0-RR**	R	●	●	16	6.35	-	5.2
NEW **RCMX2006M0-RR**	R	●	●	20	6.35	-	6.5

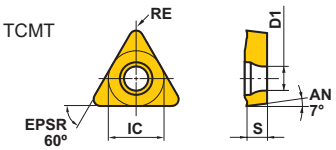
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **SCMT09T304-FP**	F	●	●	9.525	3.97	0.4	4.4
NEW **SCMT09T308-FP**	F	●	●	9.525	3.97	0.8	4.4
NEW **SCMT09T304-FV**	F		●	9.525	3.97	0.4	4.4
NEW **SCMT09T304-LP**	L	●	●	9.525	3.97	0.4	4.4
NEW **SCMT09T308-LP**	L	●	●	9.525	3.97	0.8	4.4
NEW **SCMT09T304-MP**	M	●	●	9.525	3.97	0.4	4.4
NEW **SCMT09T308-MP**	M	●	●	9.525	3.97	0.8	4.4
NEW **SCMT120404-MP**	M	●	●	12.7	4.76	0.4	5.5
NEW **SCMT120408-MP**	M	●	●	12.7	4.76	0.8	5.5
NEW **SCMT120412-MP**	M	●	●	12.7	4.76	1.2	5.5

MC6100 Series

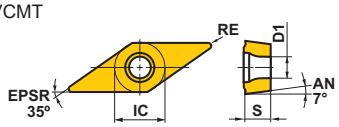
7° Positive Inserts (With Hole)

M Class

TCMT



VCMT



Finish	Light	Light	Medium	
FP	FV	LP	MP	
				

Finish	Finish	Light	Medium	Medium
FP	FV	LP	MP	MV
				

(mm)

	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	TCMT090202-FP	F	●	○	5.56	2.38	0.2	2.5
NEW	TCMT090204-FP	F	●	○	5.56	2.38	0.4	2.5
NEW	TCMT110202-FP	F	●	○	6.35	2.38	0.2	2.8
NEW	TCMT110204-FP	F	●	○	6.35	2.38	0.4	2.8
NEW	TCMT16T304-FP	F	●	●	9.525	3.97	0.4	4.4
NEW	TCMT110204-FV	F		○	6.35	2.38	0.4	2.8
NEW	TCMT16T304-FV	F		●	9.525	3.97	0.4	4.4
NEW	TCMT090204-LP	L	●	○	5.56	2.38	0.4	2.5
NEW	TCMT090208-LP	L	●	○	5.56	2.38	0.8	2.5
NEW	TCMT110204-LP	L	●	○	6.35	2.38	0.4	2.8
NEW	TCMT110208-LP	L	●	○	6.35	2.38	0.8	2.8
NEW	TCMT16T304-LP	L	●	●	9.525	3.97	0.4	4.4
NEW	TCMT16T308-LP	L	●	●	9.525	3.97	0.8	4.4
NEW	TCMT090204-MP	M	●	○	5.56	2.38	0.4	2.5
NEW	TCMT090208-MP	M	●	○	5.56	2.38	0.8	2.5
NEW	TCMT110202-MP	M	●	○	6.35	2.38	0.2	2.8
NEW	TCMT110204-MP	M	●	○	6.35	2.38	0.4	2.8
NEW	TCMT110208-MP	M	●	○	6.35	2.38	0.8	2.8
NEW	TCMT130304-MP	M	●	○	7.94	3.18	0.4	3.4
NEW	TCMT16T304-MP	M	●	●	9.525	3.97	0.4	4.4
NEW	TCMT16T308-MP	M	●	●	9.525	3.97	0.8	4.4
NEW	TCMT16T312-MP	M	●	●	9.525	3.97	1.2	4.4

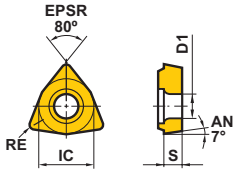
	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	VCMT110302-FP	F	●	●	6.35	3.18	0.2	2.8
NEW	VCMT110304-FP	F	●	●	6.35	3.18	0.4	2.8
NEW	VCMT160404-FP	F	●	●	9.525	4.76	0.4	4.4
NEW	VCMT160408-FP	F	●	●	9.525	4.76	0.8	4.4
NEW	VCMT080202-FV	F		●	4.76	2.38	0.2	2.4
NEW	VCMT080204-FV	F		●	4.76	2.38	0.4	2.4
NEW	VCMT160404-FV	F	●	●	9.525	4.76	0.4	4.4
NEW	VCMT160408-FV	F	●	●	9.525	4.76	0.8	4.4
NEW	VCMT080202-LP	L		●	4.76	2.38	0.2	2.4
NEW	VCMT080204-LP	L		●	4.76	2.38	0.4	2.4
NEW	VCMT110304-LP	L	●	●	6.35	3.18	0.4	2.8
NEW	VCMT110308-LP	L	●	●	6.35	3.18	0.8	2.8
NEW	VCMT160404-LP	L	●	●	9.525	4.76	0.4	4.4
NEW	VCMT160408-LP	L	●	●	9.525	4.76	0.8	4.4
NEW	VCMT110304-MP	M	●	●	6.35	3.18	0.4	2.8
NEW	VCMT160404-MP	M	●	●	9.525	4.76	0.4	4.4
NEW	VCMT160408-MP	M	●	●	9.525	4.76	0.8	4.4
NEW	VCMT160412-MP	M	●	●	9.525	4.76	1.2	4.4
NEW	VCMT080202-MV	M		●	4.76	2.38	0.2	2.4
NEW	VCMT080204-MV	M		●	4.76	2.38	0.4	2.4

● : Inventory maintained in Japan.
(10 inserts in one case)

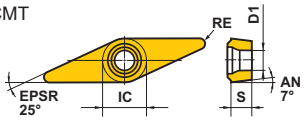
7° Positive Inserts (With Hole)

M Class

WCMT



XCMT



Medium

MP

Finish

SVX

(mm)

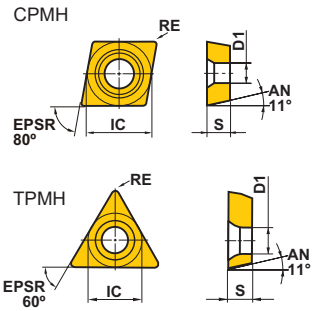
Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **WCMT020102-MP**	M	●	●	3.97	1.59	0.2	2.3
NEW **WCMT020104-MP**	M	●	●	3.97	1.59	0.4	2.3
NEW **WCMT040202-MP**	M	●	●	6.35	2.38	0.2	2.8
NEW **WCMT040204-MP**	M	●	●	6.35	2.38	0.4	2.8
NEW **WCMT040208-MP**	M		●	6.35	2.38	0.8	2.8
NEW **WCMT06T304-MP**	M	●	●	9.525	3.97	0.4	4.4
NEW **WCMT06T308-MP**	M	●	●	9.525	3.97	0.8	4.4
NEW **WCMTL30202-MP**	M	●	●	4.76	2.38	0.2	2.3
NEW **WCMTL30204-MP**	M	●	●	4.76	2.38	0.4	2.3

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **XCMT150304-SVX**	F		●	6.35	3.18	0.4	2.8
NEW **XCMT150308-SVX**	F		●	6.35	3.18	0.8	2.8

MC6100 Series

11° Positive Inserts (With Hole)

M Class



Finish	Light	Medium	Medium
FV	LP	Standard	MV
			

Finish	Light	Medium	
FV	LP	MV	
			

(mm)

	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	CPMH080202-FV	F		●	7.94	2.38	0.2	3.5
NEW	CPMH080204-FV	F		●	7.94	2.38	0.4	3.5
NEW	CPMH090302-FV	F		●	9.525	3.18	0.2	4.5
NEW	CPMH090304-FV	F		●	9.525	3.18	0.4	4.5
NEW	CPMH090308-FV	F		●	9.525	3.18	0.8	4.5
NEW	CPMH080202-LP	L		●	7.94	2.38	0.2	3.5
NEW	CPMH080204-LP	L		●	7.94	2.38	0.4	3.5
NEW	CPMH090302-LP	L		●	9.525	3.18	0.2	4.5
NEW	CPMH090304-LP	L		●	9.525	3.18	0.4	4.5
NEW	CPMH090308-LP	L		●	9.525	3.18	0.8	4.5
NEW	CPMH080204	M	●	●	7.94	2.38	0.4	3.5
NEW	CPMH080208	M	●	●	7.94	2.38	0.8	3.5
NEW	CPMH090304	M	●	●	9.525	3.18	0.4	4.5
NEW	CPMH090308	M	●	●	9.525	3.18	0.8	4.5
NEW	CPMH080204-MV	M		●	7.94	2.38	0.4	3.5
NEW	CPMH080208-MV	M		●	7.94	2.38	0.8	3.5
NEW	CPMH090304-MV	M		●	9.525	3.18	0.4	4.5
NEW	CPMH090308-MV	M		●	9.525	3.18	0.8	4.5

	Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	TPMH080202-FV	F		○	4.76	2.38	0.2	2.4
NEW	TPMH080204-FV	F		○	4.76	2.38	0.4	2.4
NEW	TPMH090202-FV	F		○	5.56	2.38	0.2	2.9
NEW	TPMH090204-FV	F		○	5.56	2.38	0.4	2.9
NEW	TPMH110302-FV	F		○	6.35	3.18	0.2	3.4
NEW	TPMH110304-FV	F		○	6.35	3.18	0.4	3.4
NEW	TPMH110308-FV	F		○	6.35	3.18	0.8	3.4
NEW	TPMH160302-FV	F		○	9.525	3.18	0.2	4.4
NEW	TPMH160304-FV	F		○	9.525	3.18	0.4	4.4
NEW	TPMH160308-FV	F		○	9.525	3.18	0.8	4.4
NEW	TPMH080202-LP	L		○	4.76	2.38	0.2	2.4
NEW	TPMH080204-LP	L		○	4.76	2.38	0.4	2.4
NEW	TPMH090202-LP	L		○	5.56	2.38	0.2	2.9
NEW	TPMH090204-LP	L		○	5.56	2.38	0.4	2.9
NEW	TPMH110302-LP	L		○	6.35	3.18	0.2	3.4
NEW	TPMH110304-LP	L		○	6.35	3.18	0.4	3.4
NEW	TPMH110308-LP	L		○	6.35	3.18	0.8	3.4
NEW	TPMH160302-LP	L		○	9.525	3.18	0.2	4.4
NEW	TPMH160304-LP	L		○	9.525	3.18	0.4	4.4
NEW	TPMH160308-LP	L		○	9.525	3.18	0.8	4.4
NEW	TPMH080202-MV	M		○	4.76	2.38	0.2	2.4
NEW	TPMH080204-MV	M		○	4.76	2.38	0.4	2.4
NEW	TPMH090202-MV	M		○	5.56	2.38	0.2	2.9
NEW	TPMH090204-MV	M		○	5.56	2.38	0.4	2.9
NEW	TPMH090208-MV	M		○	5.56	2.38	0.8	2.9
NEW	TPMH110302-MV	M		○	6.35	3.18	0.2	3.4
NEW	TPMH110304-MV	M		○	6.35	3.18	0.4	3.4
NEW	TPMH110308-MV	M		○	6.35	3.18	0.8	3.4
NEW	TPMH160304-MV	M		○	9.525	3.18	0.4	4.4
NEW	TPMH160308-MV	M		○	9.525	3.18	0.8	4.4

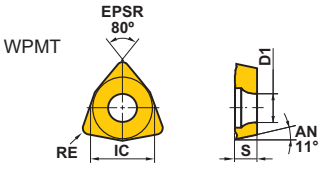
● : Inventory maintained in Japan.
(10 inserts in one case)

11° Positive Inserts (With Hole)

M Class

Medium

MV



(mm)

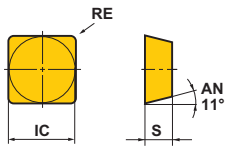
Order Number		Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW	**WPMT040202-MV**	M		●	6.35	2.38	0.2	2.8
NEW	**WPMT040204-MV**	M		●	6.35	2.38	0.4	2.8
NEW	**WPMT060304-MV**	M		●	9.525	3.18	0.4	4.4
NEW	**WPMT060308-MV**	M		●	9.525	3.18	0.8	4.4

MC6100 Series

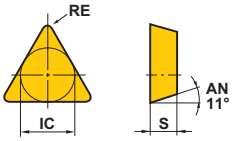
11° Positive Inserts (Without Hole)

M Class

SPMR
SPMN



TPMR
TPMN



Light to Medium — Flat Top

Light to Medium — Flat Top

(mm)

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **SPMR090304**	L	●	●	9.525	3.18	0.4	-
NEW **SPMR090308**	L	●	●	9.525	3.18	0.8	-
NEW **SPMR120304**	L	●	●	12.7	3.18	0.4	-
NEW **SPMR120308**	L	●	●	12.7	3.18	0.8	-
NEW **SPMN090308**	-	●		9.525	3.18	0.8	-
NEW **SPMN120304**	-	●		12.7	3.18	0.4	-
NEW **SPMN120308**	-	●		12.7	3.18	0.8	-
NEW **SPMN120312**	-	●		12.7	3.18	1.2	-

Order Number	Cutting Area	MC6115	MC6125	IC	S	RE	D1
NEW **TPMR110304**	L	●	○	6.35	3.18	0.4	-
NEW **TPMR110308**	L	●	○	6.35	3.18	0.8	-
NEW **TPMR160304**	L	●	○	9.525	3.18	0.4	-
NEW **TPMR160308**	L	●	○	9.525	3.18	0.8	-
NEW **TPMR160312**	L	●	○	9.525	3.18	1.2	-
NEW **TPMN110304**	-	●		6.35	3.18	0.4	-
NEW **TPMN110308**	-	●		6.35	3.18	0.8	-
NEW **TPMN160304**	-	●		9.525	3.18	0.4	-
NEW **TPMN160308**	-	●		9.525	3.18	0.8	-
NEW **TPMN160312**	-	●		9.525	3.18	1.2	-
NEW **TPMN220404**	-	●		12.7	4.76	0.4	-
NEW **TPMN220408**	-	●		12.7	4.76	0.8	-
NEW **TPMN220412**	-	●		12.7	4.76	1.2	-

● : Inventory maintained in Japan.
(10 inserts in one case)

Recommended Cutting Conditions

Negative Inserts (For External Turning)

(mm)

Workpiece Material	Properties	Cutting Range		Priority	Grade	Chip Breaker	Cutting Speed **vc** (m/min)	Feed **f** (mm/rev)	Depth of Cut **ap**
P									
Carbon Steel Alloy Steel	Hardness 180–280HB	●	L	1	**MC6115**	**LP**	250–480	0.10–0.40	0.30–2.00
		●	L	2	**MC6125**	**LP**	275–425	0.10–0.40	0.30–2.00
		●	L	3	**MC6115**	**SH**	250–480	0.10–0.40	0.30–2.00
		●	L	4	**MC6125**	**SH**	275–425	0.10–0.40	0.30–2.00
		●	L	5	**MC6115**	**SA**	250–480	0.10–0.40	0.30–2.00
		●	L	6	**MC6125**	**SA**	275–425	0.10–0.40	0.30–2.00
		●	L	7	**MC6115**	**SW**	250–480	0.10–0.50	0.30–2.50
		●	L	8	**MC6125**	**SW**	275–425	0.10–0.50	0.30–2.50
		●	M	1	**MC6115**	**MP**	230–440	0.16–0.50	0.30–4.00
		●	M	2	**MC6125**	**MP**	250–390	0.16–0.50	0.30–4.00
		●	M	3	**MC6115**	**MA**	230–440	0.20–0.50	0.30–4.00
		●	M	4	**MC6125**	**MA**	250–390	0.20–0.50	0.30–4.00
		●	M	5	**MC6115**	**Std**	230–440	0.25–0.60	1.50–5.00
		●	M	6	**MC6125**	**Std**	250–390	0.25–0.60	1.50–5.00
		●	M	7	**MC6115**	**MW**	230–440	0.20–0.60	0.90–4.00
		●	M	8	**MC6125**	**MW**	250–390	0.20–0.60	0.90–4.00
		●	R	1	**MC6115**	**RP**	215–415	0.25–0.60	1.50–6.00
		●	R	2	**MC6125**	**RP**	235–370	0.25–0.60	1.50–6.00
		●	R	3	**MC6115**	**GH**	215–415	0.25–0.60	1.50–6.00
		●	R	4	**MC6125**	**GH**	235–370	0.25–0.60	1.50–6.00
		◐	L	1	**MC6115**	**LP**	250–480	0.10–0.40	0.30–2.00
		◐	L	2	**MC6125**	**LP**	275–425	0.10–0.40	0.30–2.00
		◐	L	3	**MC6115**	**SH**	250–480	0.10–0.40	0.30–2.00
		◐	L	4	**MC6125**	**SH**	275–425	0.10–0.40	0.30–2.00
		◐	L	5	**MC6115**	**SA**	250–480	0.10–0.40	0.30–2.00
		◐	L	6	**MC6125**	**SA**	275–425	0.10–0.40	0.30–2.00
		◐	L	7	**MC6115**	**SW**	250–480	0.10–0.50	0.30–2.50
		◐	L	8	**MC6125**	**SW**	275–425	0.10–0.50	0.30–2.50
		◐	M	1	**MC6125**	**MP**	250–390	0.16–0.50	0.30–4.00
		◐	M	2	**MC6115**	**MP**	230–440	0.16–0.50	0.30–4.00
		◐	M	3	**MC6125**	**MA**	250–390	0.20–0.50	0.30–4.00
		◐	M	4	**MC6115**	**MA**	230–440	0.20–0.50	0.30–4.00
		◐	M	5	**MC6125**	**MH**	250–390	0.20–0.55	1.00–4.00
		◐	M	6	**MC6115**	**MH**	230–440	0.20–0.55	1.00–4.00
		◐	M	7	**MC6125**	**Std**	250–390	0.25–0.60	1.50–5.00
		◐	M	8	**MC6115**	**Std**	230–440	0.25–0.60	1.50–5.00
		◐	M	9	**MC6125**	**MW**	250–390	0.20–0.60	0.90–4.00
		◐	M	10	**MC6115**	**MW**	230–440	0.20–0.60	0.90–4.00
		◐	R	1	**MC6125**	**RP**	235–370	0.25–0.60	1.50–6.00
		◐	R	2	**MC6115**	**RP**	215–415	0.25–0.60	1.50–6.00
		◐	R	3	**MC6125**	**GH**	235–370	0.25–0.60	1.50–6.00
		◐	R	4	**MC6115**	**GH**	215–415	0.25–0.60	1.50–6.00
		✣	L	1	**MC6125**	**LP**	275–425	0.10–0.40	0.30–2.00
		✣	L	2	**MC6125**	**SH**	275–425	0.10–0.40	0.30–2.00
		✣	L	3	**MC6125**	**SA**	275–425	0.10–0.40	0.30–2.00
		✣	M	1	**MC6125**	**MP**	250–390	0.16–0.50	0.30–4.00
		✣	M	2	**MC6125**	**MA**	250–390	0.20–0.50	0.30–4.00
		✣	M	3	**MC6125**	**MH**	250–390	0.20–0.55	1.00–4.00
		✣	M	4	**MC6125**	**Std**	250–390	0.25–0.60	1.50–5.00
		✣	M	5	**MC6125**	**MW**	250–390	0.20–0.60	0.90–4.00
		✣	R	1	**MC6125**	**RP**	235–370	0.25–0.60	1.50–6.00
		✣	R	2	**MC6125**	**GH**	235–370	0.25–0.60	1.50–6.00

Note 1) Recommended cutting conditions for 5º/7º/11º positive inserts are provided as a guideline only.
Verify the recommended conditions for each boring bar as cutting conditions for internal machining will vary depending on the length of overhang.

Cutting Conditions : ● : Stable Cutting ◐ : General Cutting ✣ : Unstable Cutting
Cutting Area : **L** : Light Cutting **M** : Medium Cutting **R** : Rough Cutting

Recommended Cutting Conditions

5° 7° Positive Inserts (For External Turning)

(mm)

Workpiece Material	Properties	Cutting Range		Priority	Grade	Chip Breaker	Cutting Speed **vc** (m/min)	Feed **f** (mm/rev)	Depth of Cut **ap**
P									
Mild Steel	Hardness ≤180HB	◐	F	1	**MC6115**	**FP**	295–570	0.04–0.20	0.20–0.90
		◐	F	2	**MC6115**	**FV**	295–570	0.04–0.20	0.20–0.90
		◐	L	1	**MC6115**	**LP**	295–570	0.06–0.25	0.20–1.00
		◐	L	2	**MC6115**	**SW**	295–570	0.06–0.24	0.20–1.50
		◐	M	1	**MC6115**	**MP**	245–475	0.08–0.30	0.30–2.00
		◐	M	2	**MC6115**	**MV**	245–475	0.08–0.30	0.30–2.00
		◐	M	3	**MC6115**	**MW**	245–475	0.10–0.35	0.80–2.50
		✣	F	1	**MC6125**	**FP**	320–505	0.04–0.20	0.20–0.90
		✣	F	2	**MC6125**	**FV**	320–505	0.04–0.20	0.20–0.90
		✣	L	1	**MC6125**	**LP**	320–505	0.06–0.25	0.20–1.00
		✣	L	2	**MC6125**	**SV**	320–505	0.06–0.25	0.20–1.00
		✣	L	3	**MC6125**	**SW**	320–505	0.06–0.24	0.20–1.50
		✣	M	1	**MC6125**	**MP**	270–420	0.08–0.30	0.30–2.00
		✣	M	2	**MC6125**	**MV**	270–420	0.08–0.30	0.30–2.00
		✣	M	3	**MC6125**	**MW**	270–420	0.10–0.35	0.80–2.50
Carbon Steel Alloy Steel	Hardness 180–280HB	◐	F	1	**MC6115**	**FP**	220–420	0.04–0.20	0.20–0.90
		◐	F	2	**MC6115**	**FV**	220–420	0.04–0.20	0.20–0.90
		◐	L	1	**MC6115**	**LP**	220–420	0.06–0.25	0.20–1.00
		◐	L	2	**MC6115**	**SW**	220–420	0.06–0.24	0.20–1.50
		◐	M	1	**MC6125**	**MP**	200–310	0.08–0.30	0.30–2.00
		◐	M	2	**MC6115**	**MP**	180–350	0.08–0.30	0.30–2.00
		◐	M	3	**MC6125**	**MV**	200–310	0.08–0.30	0.30–2.00
		◐	M	4	**MC6115**	**MV**	180–350	0.08–0.30	0.30–2.00
		◐	M	5	**MC6115**	**MW**	180–350	0.10–0.35	0.80–2.50
		✣	F	1	**MC6125**	**FP**	240–370	0.04–0.20	0.20–0.90
		✣	F	2	**MC6125**	**FV**	240–370	0.04–0.20	0.20–0.90
		✣	L	1	**MC6125**	**LP**	240–370	0.06–0.25	0.20–1.00
		✣	L	2	**MC6125**	**SV**	240–370	0.06–0.25	0.20–1.00
		✣	L	3	**MC6125**	**SW**	240–370	0.06–0.24	0.20–1.50
		✣	M	1	**MC6125**	**MP**	200–310	0.08–0.30	0.30–2.00
		✣	M	2	**MC6125**	**MV**	200–310	0.08–0.30	0.30–2.00
		✣	M	2	**MC6125**	**MW**	200–310	0.10–0.35	0.80–2.50
Carbon Steel Alloy Steel	Hardness 280–350HB	◐	F	1	**MC6115**	**FP**	155–295	0.04–0.20	0.20–0.90
		◐	F	2	**MC6115**	**FV**	155–295	0.04–0.20	0.20–0.90
		◐	L	1	**MC6115**	**LP**	155–295	0.06–0.25	0.20–1.00
		◐	M	1	**MC6115**	**MP**	130–245	0.08–0.30	0.30–2.00
		◐	M	2	**MC6115**	**MV**	130–245	0.08–0.30	0.30–2.00
		✣	F	1	**MC6125**	**FP**	170–265	0.04–0.20	0.20–0.90
		✣	F	2	**MC6125**	**FV**	170–265	0.04–0.20	0.20–0.90
		✣	L	1	**MC6125**	**LP**	170–265	0.06–0.25	0.20–1.00
		✣	M	1	**MC6125**	**MP**	140–220	0.08–0.30	0.30–2.00
		✣	M	2	**MC6125**	**MV**	140–220	0.08–0.30	0.30–2.00

Note 1) Recommended cutting conditions for 5º/7º/11º positive inserts are provided as a guideline only.
Verify the recommended conditions for each boring bar as cutting conditions for internal machining will vary depending on the length of overhang.
Note 2) Please scan the QR code for a pamphlet of the recommended conditions for the XCMT profile holder insert.

Cutting Conditions : ● : Stable Cutting ◐ : General Cutting ✣ : Unstable Cutting
Cutting Area : **L** : Light Cutting **M** : Medium Cutting **R** : Rough Cutting

11° Positive Inserts (For External Turning)

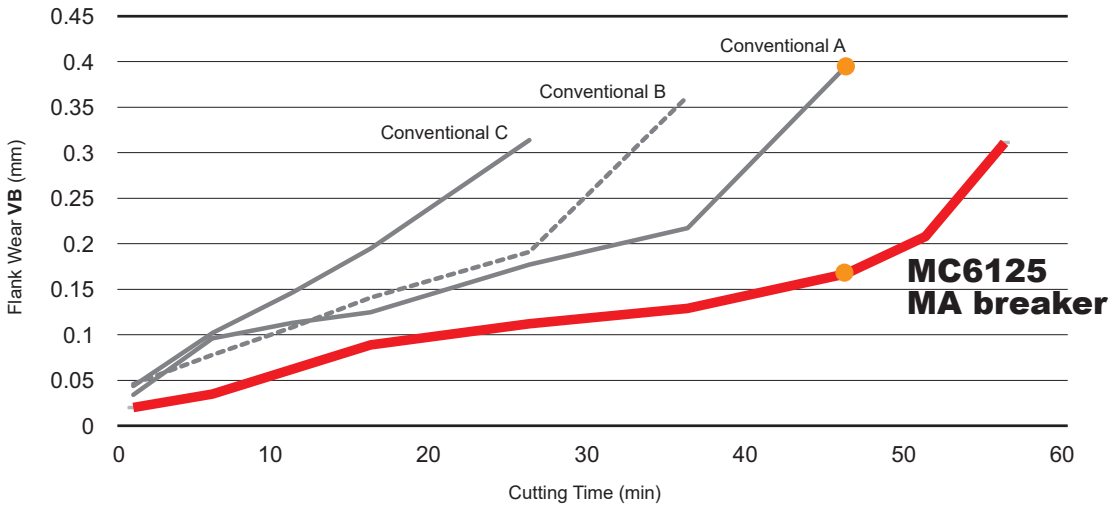
(mm)

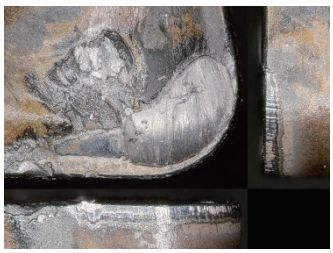
Workpiece Material	Properties	Cutting Range		Priority	Grade	Chip Breaker	Cutting Speed **vc** (m/min)	Feed **f** (mm/rev)	Depth of Cut **ap**
P									
Mild Steel	Hardness ≤180HB		F	1	**MC6125**	**FV**	320–505	0.04–0.20	0.20–0.90
			L	1	**MC6125**	**LP**	320–505	0.06–0.25	0.20–1.00
			L	2	**MC6115**	**R-Std**	245–475	0.08–0.30	0.30–2.00
			M	1	**MC6125**	**MV**	270–420	0.08–0.30	0.30–2.00
			M	2	**MC6115**	**MV**	245–475	0.08–0.30	0.30–2.00
			M	3	**MC6125**	**R-Std**	270–420	0.08–0.30	0.30–2.00
			L	1	**MC6125**	**LP**	320–505	0.06–0.25	0.20–1.00
			L	2	**MC6125**	**R-Std**	270–420	0.08–0.30	0.30–2.00
			M	1	**MC6125**	**MV**	270–420	0.08–0.30	0.30–2.00
			M	2	**MC6125**	**R-Std**	270–420	0.08–0.30	0.30–2.00
Carbon Steel Alloy Steel	Hardness 180–280HB		F	1	**MC6125**	**FV**	240–370	0.04–0.20	0.20–0.90
			L	1	**MC6125**	**LP**	240–370	0.06–0.25	0.20–1.00
			L	2	**MC6115**	**R-Std**	180–350	0.08–0.30	0.30–2.00
			L	3	**MC6125**	**R-Std**	200–310	0.08–0.30	0.30–2.00
			M	1	**MC6125**	**MV**	200–310	0.08–0.30	0.30–2.00
			M	2	**MC6115**	**R-Std**	180–350	0.08–0.30	0.30–2.00
			M	3	**MC6125**	**R-Std**	200–310	0.08–0.30	0.30–2.00
			L	1	**MC6125**	**LP**	240–370	0.06–0.25	0.20–1.00
			L	2	**MC6125**	**R-Std**	200–310	0.08–0.30	0.30–2.00
			M	1	**MC6125**	**MV**	200–310	0.08–0.30	0.30–2.00
			M	2	**MC6125**	**R-Std**	200–310	0.08–0.30	0.30–2.00

Cutting Performance

Machining SCr420H : Comparison of Wear Resistance During Continuous Wet Cutting

The thick coating exclusively for MC6125 highly suppresses early wear.





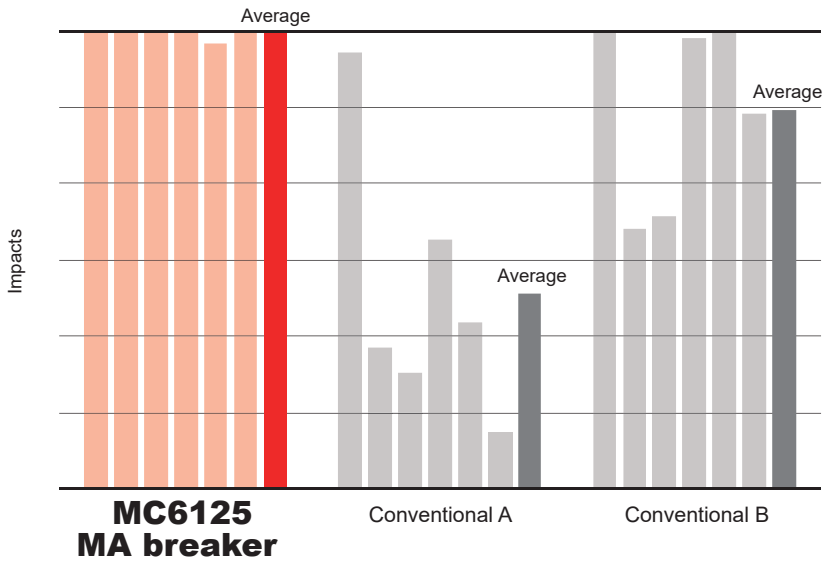
MC6125 MA Br 46 min.

Conventional A 46 min.

<Cutting Conditions>
Work Material : JIS SCr420H
Inserts : CNMG120408-○○
Cutting Speed : vc=300m/min
Feed per Rev. : f=0.3mm/rev
Depth of Cut : ap=1.5mm
Cutting Mode : Wet Cutting

Comparison of Toughness During Interrupted Cutting

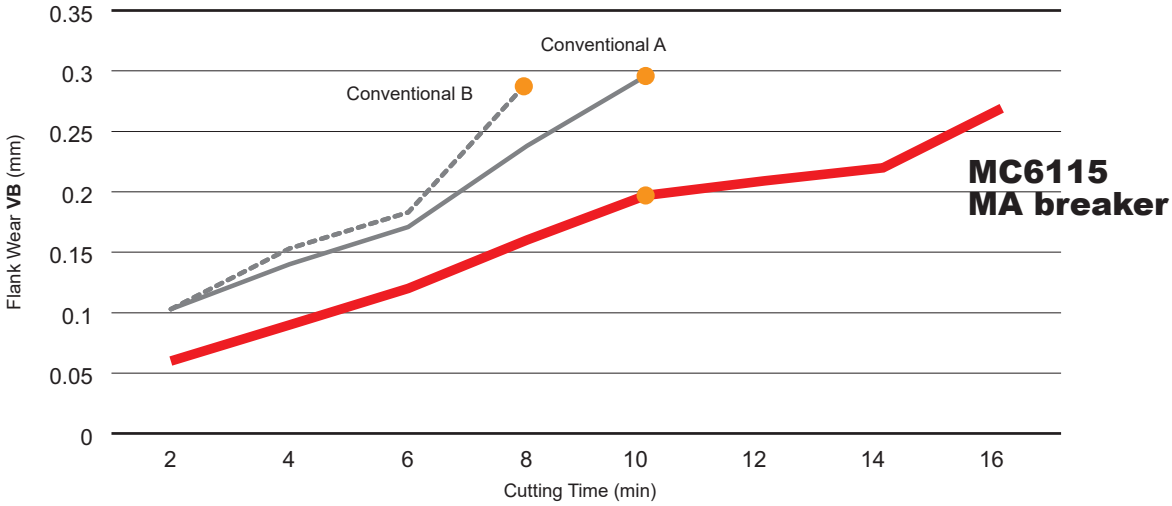
Provides stable cutting under severe cutting conditions that are likely to cause sudden fracturing.

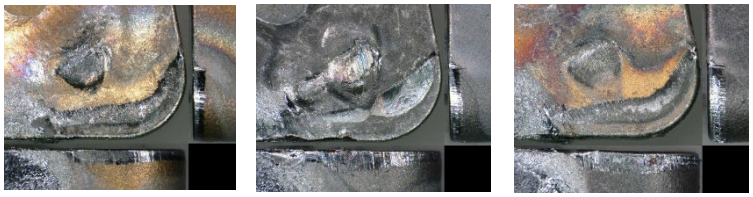


<Cutting Conditions>
Work Material : JIS SCM440
Inserts : CNMG120408-○○
Cutting Speed : vc=200m/min
Feed per Rev. : f=0.25mm/rev
Depth of Cut : ap=1.5mm
Cutting Mode : Wet Cutting

Machining S45C : Comparison of Wear Resistance During Continuous Dry Cutting

The "Super" Nano Texture Technology increases tool life even when dry cutting by suppressing crater wear.



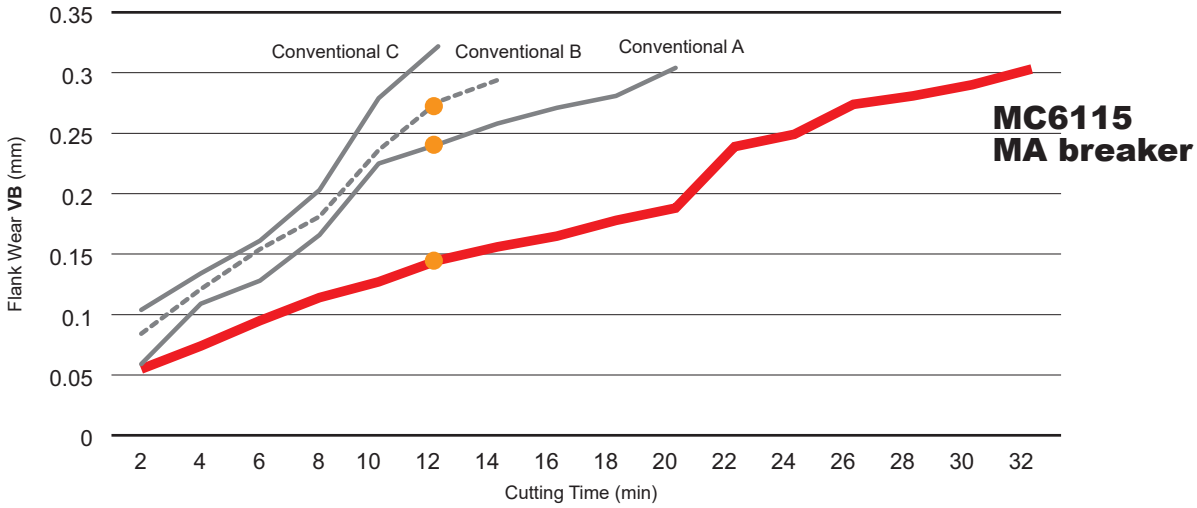


MC6115 10 min. Conventional A 10 min. Conventional B 8 min.

<Cutting Conditions>
Work Material : JIS S45C
Inserts : CNMG120408-○○
Cutting Speed : vc=300m/min
Feed per Rev. : f=0.3mm/rev
Depth of Cut : ap=1.5mm
Cutting Mode : Dry Cutting

Machining SUJ2 : Comparison of Wear Resistance During Continuous Wet Cutting

The thick coating provides high flank wear resistance.



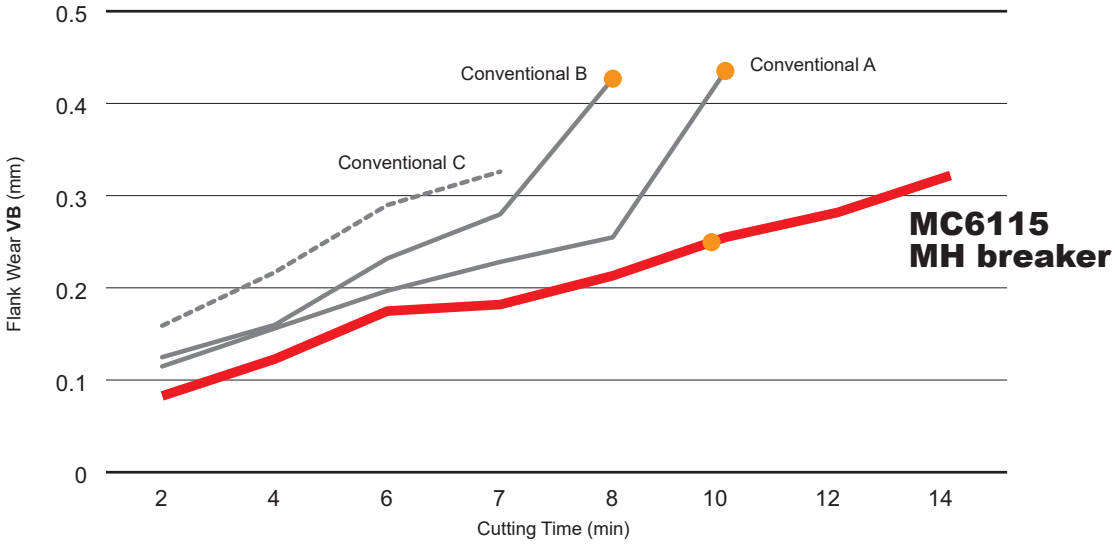
MC6115 12 min. Conventional A 12 min. Conventional B 12 min.

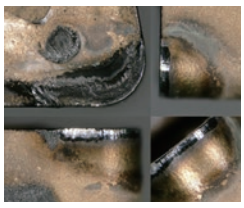
<Cutting Conditions>
Work Material : JIS SUJ2
Inserts : CNMG120408-○○
Cutting Speed : vc=300m/min
Feed per Rev. : f=0.3mm/rev
Depth of Cut : ap=1.5mm
Cutting Mode : Wet Cutting

Cutting Performance

Machining SCM440 : Comparison of Wear Resistance During Continuous Wet Cutting

MC6115 with high edge strength chip breaker can also enable excellent wear resistance during high speed turning.





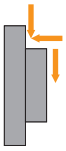
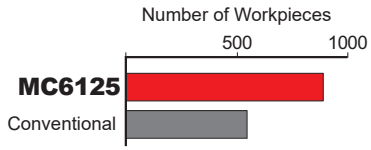
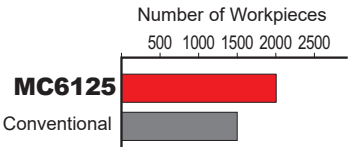
MC6115 10 min.

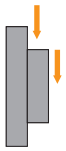
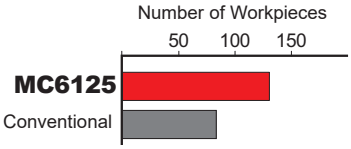
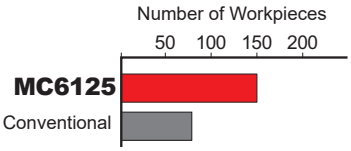
Conventional A 10 min.

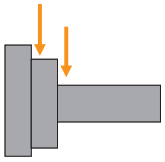
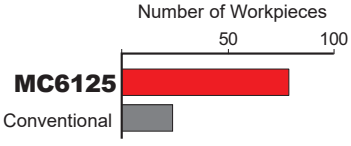
Conventional B 8 min.

<Cutting Conditions>
Work Material : JIS SCM440
Inserts : CNMG120408-◯◯
Cutting Speed : vc=350m/min
Feed per Rev. : f=0.3mm/rev
Depth of Cut : ap=1.5mm
Cutting Mode : Wet Cutting

Examples of Usage

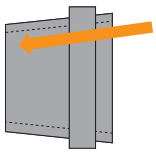
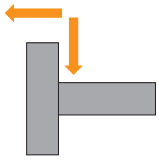
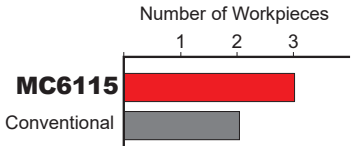
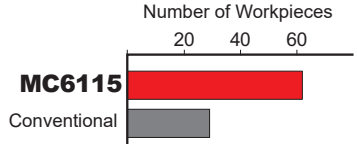
Insert		CNMG120408-MA	WNMG080408-MP
Workpiece Material		JIS S45C 	Carbon Steel 
Component		Hex Bar Parts	Automotive Parts
Application		Interrupted Finish Turning	External Turning and Facing
Cutting Conditions	Cutting Speed vc (m/min)	150	80
	Feed per Rev. f (mm/rev)	0.2	0.1-0.5
	Depth of Cut ap (mm)	2.0, 1.6	0.5
Cutting Mode		Wet Cutting	Wet Cutting
Results		 Conventional products fractured after chipping but MC6125 formed good chip shapes and achieved a longer tool life.	 MC6125 achieved more than 1.3 times longer tool life due to its high wear resistance.

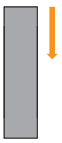
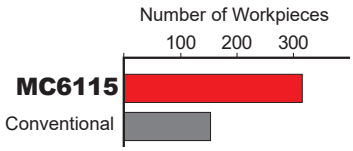
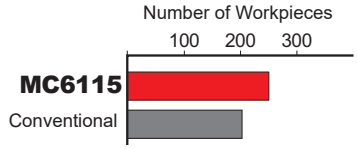
Insert		DNMG150412-SH	CNMG120408-MH
Workpiece Material		JIS S53C 	General Structural Steel 
Component		–	Hun Parts
Application		Interrupted Finish Turning	Face Turning
Cutting Conditions	Cutting Speed vc (m/min)	200	200→240
	Feed per Rev. f (mm/rev)	0.3	0.25
	Depth of Cut ap (mm)	1.2	2.0
Cutting Mode		Wet Cutting	Wet Cutting
Results		 MC6125 provided a stable cutting action and achieved 1.5 times more tool life than conventional products.	 MC6125 improved efficiency and tool life by increasing the cutting speed.

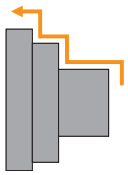
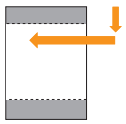
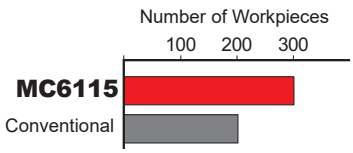
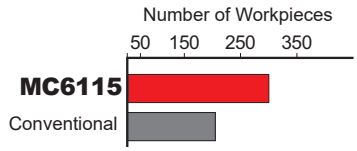
Insert		CNMG120412-RP
Workpiece Material		JIS SCM435 
Component		Flange Parts
Application		External Turning and Facing
Cutting Conditions	Cutting Speed vc (m/min)	200
	Feed per Rev. f (mm/rev)	0.25
	Depth of Cut ap (mm)	1.5
Cutting Mode		Wet Cutting
Results		 Conventional products machined an inconsistent number of components. MC6125 was more consistent and improved tool life.

The application examples are from customers workpieces and can therefore differ from the recommended cutting conditions.

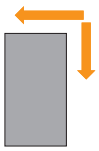
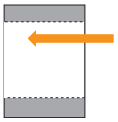
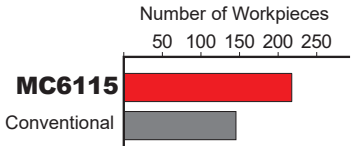
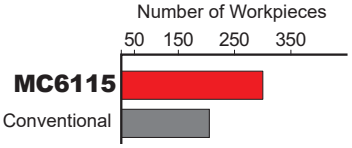
Examples of Usage

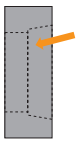
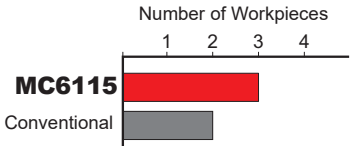
Insert		CNMG120408-MA	WNMG080408-MA
Workpiece Material		JIS SCM440 	JIS SCr440 
Component		Heavy Machinery Parts	Automotive Parts
Application		Internal Turning	External Face Turning
Cutting Conditions	Cutting Speed vc (m/min)	150	290
	Feed per Rev. f (mm/rev)	0.3	0.25
	Depth of Cut ap (mm)	1.5	1.0
Cutting Mode		Wet Cutting	Wet Cutting
Results		 Tool life increased x 1.5 on a large workpiece (inner diameter 430 mm)	 The excellent wear resistance of MC6115 helped achieve double tool life.

Insert		WNMG080408-MA	WNMG080412-MP
Workpiece Material		JIS SUJ2 	JIS SCr420H 
Component		Bearing Parts	Machine Parts
Application		External Face Turning	Face Turning
Cutting Conditions	Cutting Speed vc (m/min)	198-278	235
	Feed per Rev. f (mm/rev)	0.21-0.3	0.35
	Depth of Cut ap (mm)	1.0	1.0
Cutting Mode		Wet Cutting	Wet Cutting
Results		 The excellent wear resistance of MC6115 helped achieve double tool life.	 MC6115 achieved longer tool life compared to a conventional product.

Insert		WNMG080408-MP	WNMG080416-MA
Workpiece Material		JIS SCr440 	JIS S50C 
Component		Hub	Joint Parts
Application		External Turning and Facing	Internal Turning and Facing
Cutting Conditions	Cutting Speed vc (m/min)	300	215
	Feed per Rev. f (mm/rev)	0.25-0.35	0.25-0.27
	Depth of Cut ap (mm)	1-2.5	3.15
Cutting Mode		Wet Cutting	Wet Cutting
Results		 Superior wear resistance compared to conventional products meant tool life was extended.	 Excellent wear resistance during rough machining of forged product applications helped achieve 150% tool life.

The application examples are from customers workpieces and can therefore differ from the recommended cutting conditions.

Insert		DNMG150612-SA	CNMG120408-MP
Workpiece Material		Bearing Steel 	JIS SCr440 
Component		Bearing Parts	Shaft Parts
Application		External Turning and Facing	Internal Turning
Cutting Conditions	Cutting Speed vc (m/min)	260	280
	Feed per Rev. f (mm/rev)	0.3-0.35	0.29
	Depth of Cut ap (mm)	0.5	2.5
Cutting Mode		Wet Cutting	Wet Cutting
Results		 Extreme resistance to chipping achieved 150% tool life and enabled easy identification of wear.	 Number of components machined increased by 50% due to improved wear resistance.

Insert		WNMG080408-MP
Workpiece Material		Heated Tool Steel 
Component		Die Casting Parts
Application		Internal Turning
Cutting Conditions	Cutting Speed vc (m/min)	160
	Feed per Rev. f (mm/rev)	0.25
	Depth of Cut ap (mm)	2.0
Cutting Mode		Wet Cutting
Results		 MC6115 gave 1.5 x longer tool life even when machining heat treated materials.

The application examples are from customers workpieces and can therefore differ from the recommended cutting conditions.

Memo

Memo

CVD Coated Grade for Steel Turning

MC6100 Series

Environmentally Friendly Product

This product has been certified as an environmentally friendly product in the machine tool industry by the Japan Cutting & Wear-resistant Tool Association. This is a product unique to the industry, in harmony with the environment, and with the aim of fulfilling the social responsibilities of the machine tool industry.

The Japan Cutting & Wear-resistant Tool Association evaluates the product's environmental impact during the manufacturing and usage stages and issues a certification according to the evaluation score.

For People, Society and the Earth

More information about MITSUBISHI MATERIALS' efforts to address social and environmental issues can be found in the website below or by scanning the QR code.

https://mmc.disclosure.site/en/

For Your Safety
●Don't handle inserts and chips without gloves. ●Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ●Please use safety covers and wear safety glasses. ●When using compounded cutting oils, please take fire precautions. ●When attaching inserts or spare parts, please use only the correct wrench or driver. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

MITSUBISHI MATERIALS CORPORATION

MITSUBISHI MATERIALS CORPORATION

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http://www.mmc-carbide.com/
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