MC6115

ULTIMATE PERFORMANCE CVD COATED GRADE FOR HIGH SPEED TURNING OF STEELS

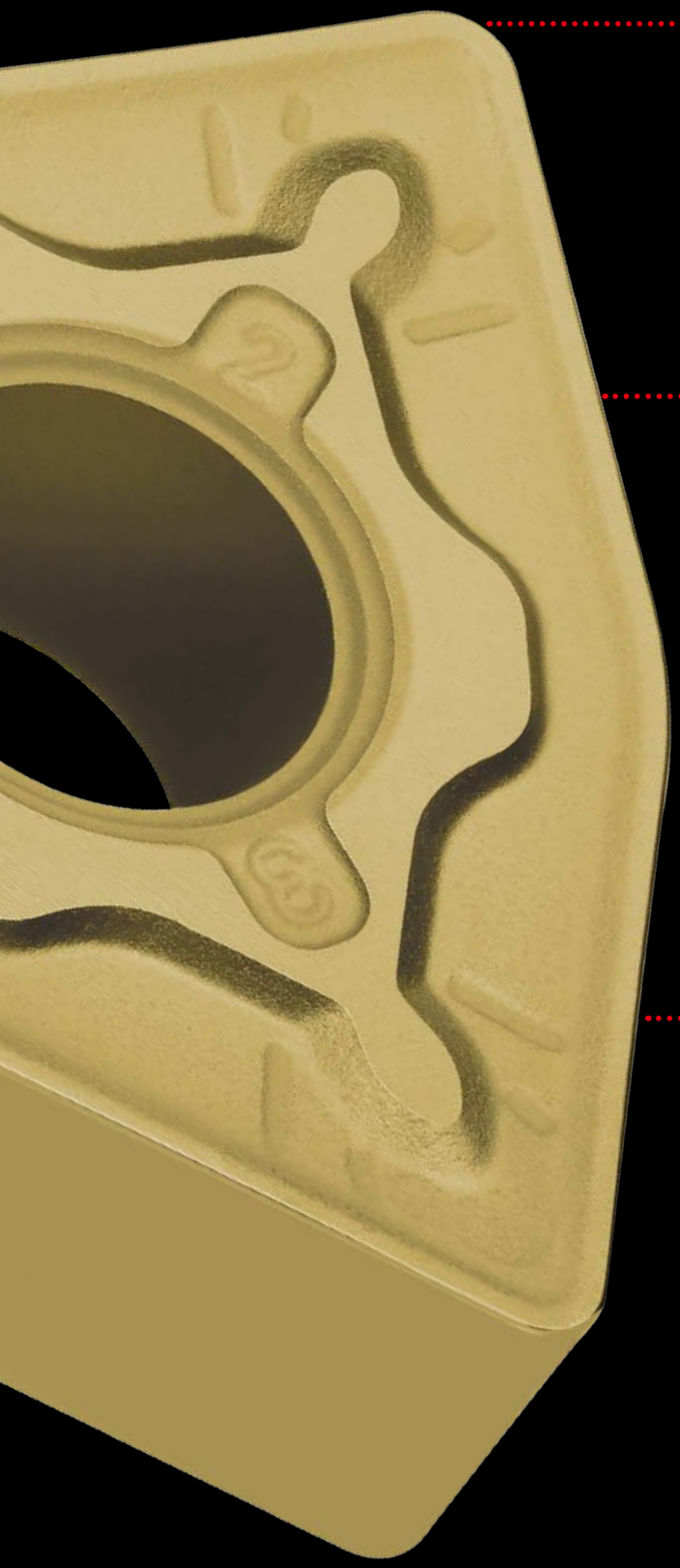
DIAEDGE

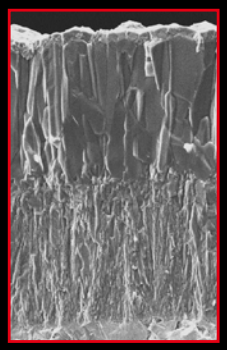
MITSUBISHI MATERIALS

MC6115

ULTIMATE PERFORMANCE IN HIGH SPEED CUTTING

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

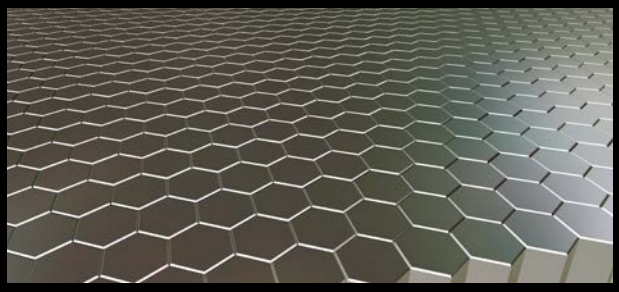




Thick Al_2O_3 coating improves wear resistance at high temperatures

"SUPER" NANO TEXTURE TECHNOLOGY

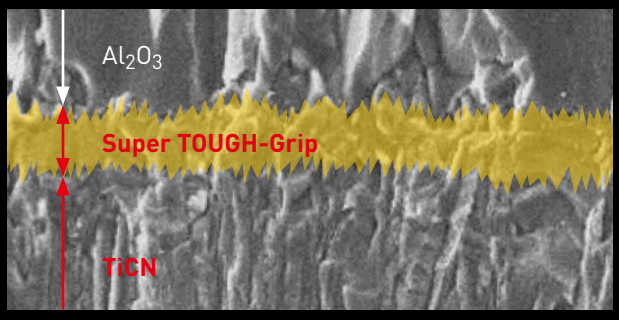
The outstanding crystal orientation of Al_2O_3 coatings has been developed by improving the conventional Nano Texture Technology. These technological improvements increase wear resistance and tool life.



CRYSTAL ORIENTATION
(Image)

SUPER TOUGH-GRIP

MC6115 has higher peeling resistance due to the improvement of the TOUGH-Grip interlayer. This technology provides the ultimate enhancement of the adhesion between the coating layers.



(Image)

MC6115

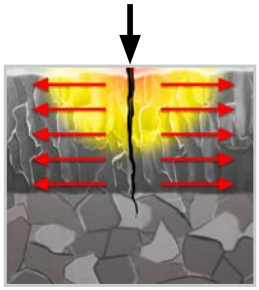
PROTECTION AGAINST SUDDEN FRACTURING

STRENGTHENED COATINGS

Cracks that occur due to the impacts in unstable cutting is prevented by the relaxation of the tensile stress in each coating. MC6115 decreases the tensile stress by 80 % compared to our conventional CVD inserts.

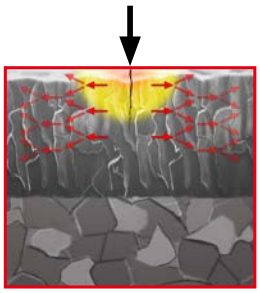
RELAXING THE TENSILE STRESS

Impact stress during machining



Large tensile stress

Conventional CVD inserts



Lower tensile stress

MC6115

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.

MC6115 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.

IMPROVED OUTER COATING (LAYER)

The outer layer of MC6115 restricts chip welding thereby improving the dimensions and surface roughness of components. This also enables easy recognition of whether the corner can continue to be used.

Workpiece material	DIN 20MnCr5 170HB
Insert	CNMG120408-MH
Vc (m/min)	200
f (mm/rev)	0.3
ap (mm)	1.5
Cutting mode	Dry cutting

AFTER 2 MINUTES OF MACHINING CHROME STEEL

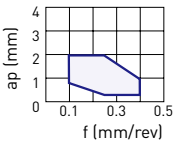
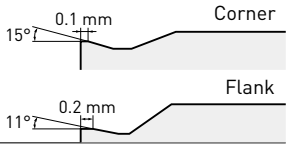
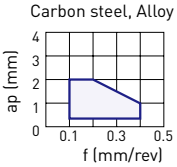
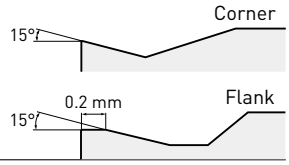
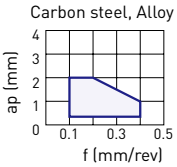
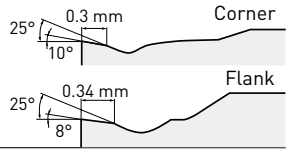
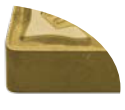
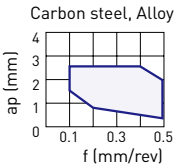
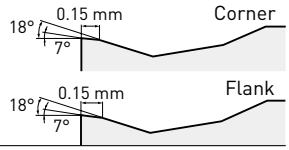
Conventional CVD insert

MC6115
MH Breaker

MC6115

CHIP BREAKER SYSTEM FOR STEEL TURNING

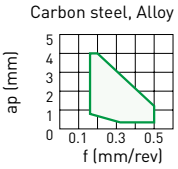
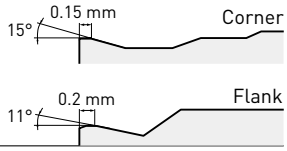
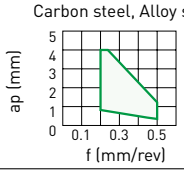
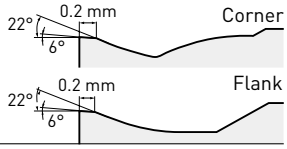
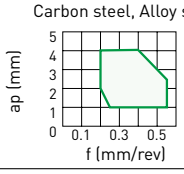
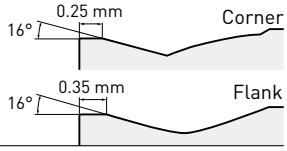
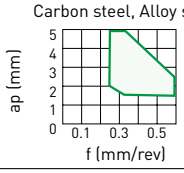
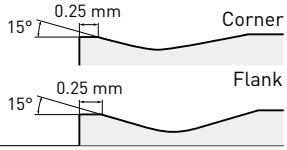
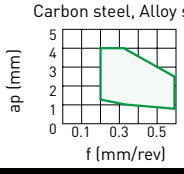
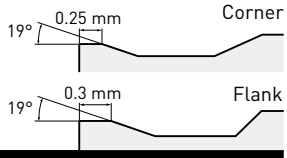
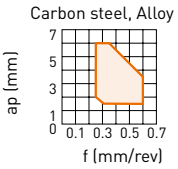
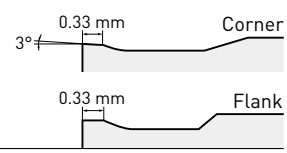
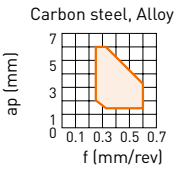
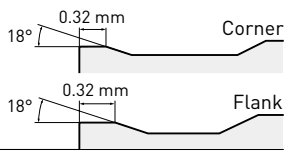
NEGATIVE INSERTS

Tolerance		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.		
	 SH	**Alternative chipbreaker 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.		
	 SA	**Alternative chipbreaker for light cutting of carbon steel and alloy steel** Superior chip control at small depths of cuts. Covers copying and back turning with a wavy edge. Recommended for workpieces in the 200–300HB range.		
	 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 finishes.		

MC6115

CHIP BREAKER SYSTEM FOR STEEL TURNING

NEGATIVE INSERTS

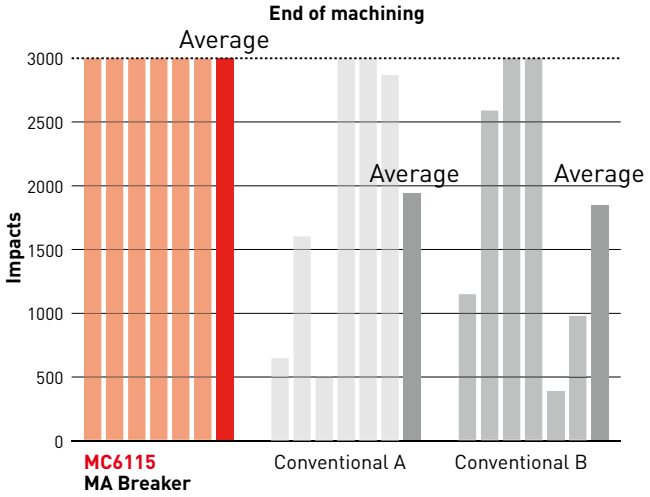
Tolerance		Features		Cross section geometry
MEDIUM CUTTING				
M	 MP	**First recommendation for medium cutting of carbon steel and alloy steel** Suitable for medium to light cutting. Breaker geometry appropriate for copying and back turning. Cutting edge geometry for an optimum balance of sharpness and fracture resistance.		
	 MA	**First recommendation for medium cutting of carbon steel and alloy steel** Ideal for general cutting applications. Positive land provides sharp cutting action.		
	 MH	**Alternative chipbreaker for medium cutting of carbon steel and alloy steel** Flat land offers high edge strength. Good chip control with a suitable chip pocket.		
	 Standard	**Alternative chipbreaker for medium cutting of carbon steel and alloy steel** Flat land offers high edge strength. Flat top breaker shape offers high edge strength.		
	 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.		
ROUGH CUTTING				
M	 RP	**First recommendation for rough cutting of carbon steel and alloy steel** For interrupted cutting and removing scale. Good balance of cutting edge strength and low cutting resistance because of a suitable rake angle.		
	 GH	**Alternative chip breaker for rough cutting of carbon steel, alloy steel and cast iron** For interrupted cutting and removing scale. A combination of a wide land and a large chip pocket allows high feed rates.		

MC6115

CUTTING PERFORMANCE

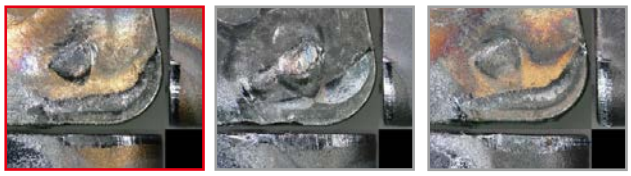
COMPARISON OF TOUGHNESS DURING INTERRUPTED CUTTING

Workpiece material	DIN 41CrMo4
Insert	CNMG120408-○○
Vc (m/min)	200
f (mm/rev)	0.25
ap (mm)	1.5
Cutting mode	Wet cutting
Results	MC6115 has good toughness and shows no fracturing even during unstable cutting.



MACHINING S45C: COMPARISON OF WEAR RESISTANCE DURING CONTINUOUS DRY CUTTING

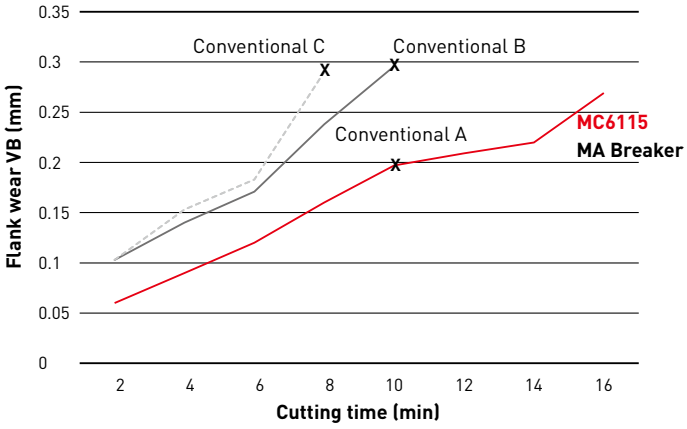
Workpiece material	DIN Ck45
Insert	CNMG120408-○○
Vc (m/min)	300
f (mm/rev)	0.3
ap (mm)	1.5
Cutting mode	Dry cutting



MC6115
10 min.

Conventional A
10 min.

Conventional B
8 min.



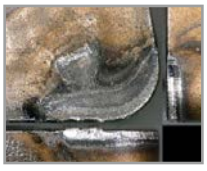
MC6115

CUTTING PERFORMANCE

MACHINING SUJ2: COMPARISON OF WEAR RESISTANCE DURING CONTINUOUS WET CUTTING

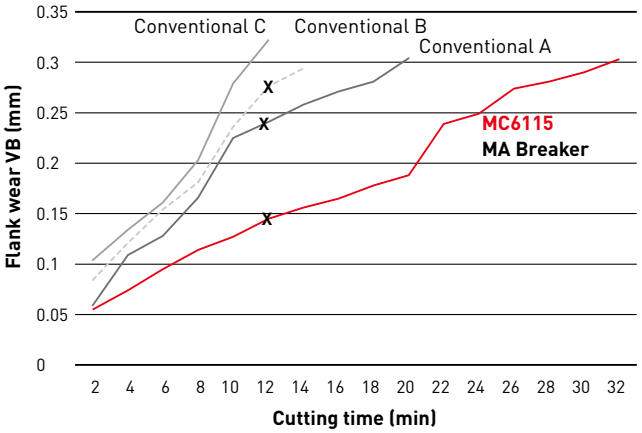
Workpiece material	DIN 100Cr6
Insert	CNMG120408-○○
Vc (m/min)	300
f (mm/rev)	0.3
ap (mm)	1.5
Cutting mode	Wet cutting

MC6115
12 min.



Conventional A
12 min.

Conventional B
12 min.



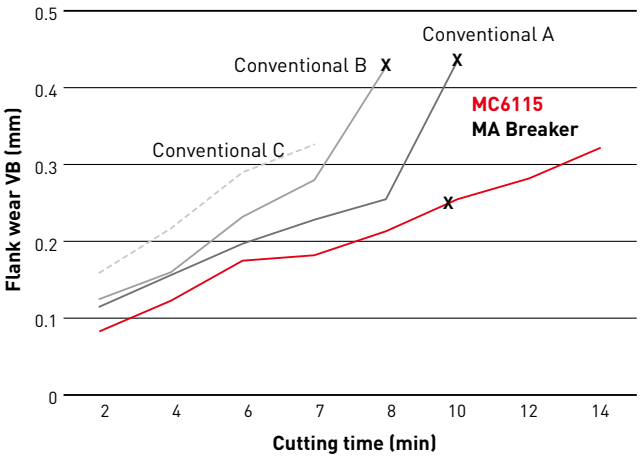
MACHINING SCM440: COMPARISON OF WEAR RESISTANCE DURING CONTINUOUS WET CUTTING

Workpiece material	DIN 41CrMo4
Insert	CNMG120408-○○
Vc (m/min)	350
f (mm/rev)	0.3
ap (mm)	1.5
Cutting mode	Wet cutting

MC6115
10 min.

Conventional A
10 min.

Conventional B
8 min.



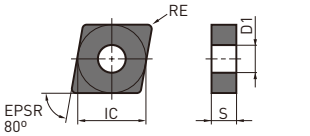
NEW

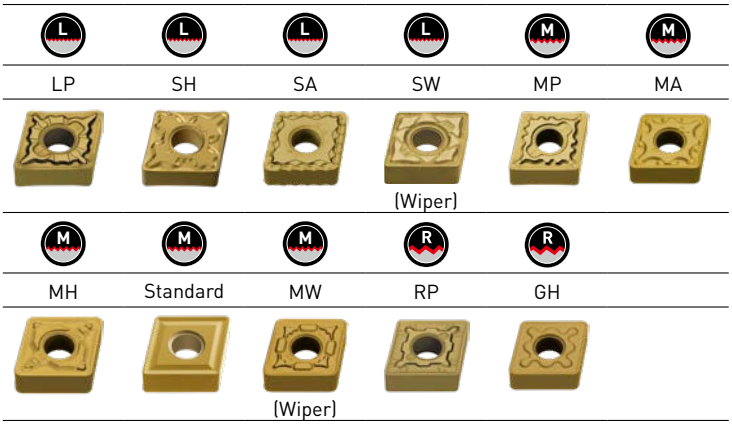
MC6115

NEGATIVE INSERTS (WITH HOLE)

M Class

CNMG





Order number		NEW MC6115	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
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

(10 inserts in one case)

● : Inventory maintained. ★ : Inventory maintained in Japan.

NEW

MC6115

NEGATIVE INSERTS (WITH HOLE)

Order number	L M R	NEW MC6115	IC	S	RE	D1
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

(10 inserts in one case)

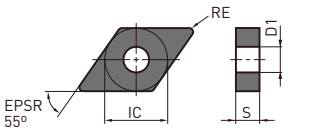
NEW

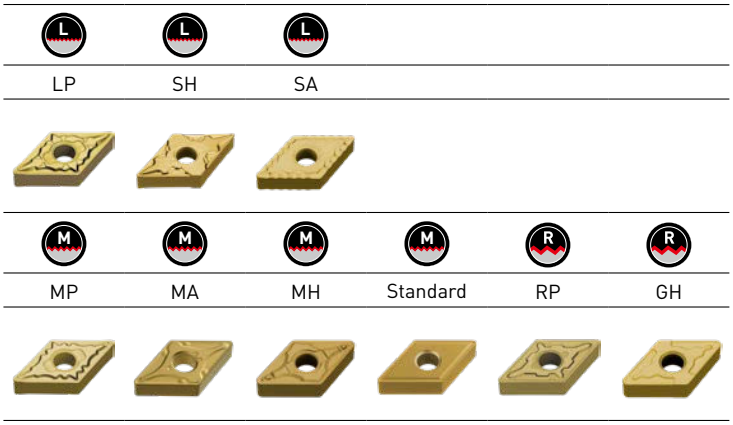
MC6115

NEGATIVE INSERTS (WITH HOLE)

M Class

DNMG





Order number	L M R	NEW MC6115	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
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

(10 inserts in one case)

● : Inventory maintained. ★ : Inventory maintained in Japan.

NEW

MC6115

NEGATIVE INSERTS (WITH HOLE)

Order number	L M R	NEW MC6115	IC	S	RE	D1
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

(10 inserts in one case)

19 Vc

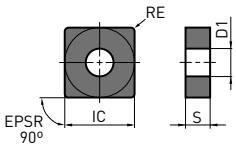
NEW

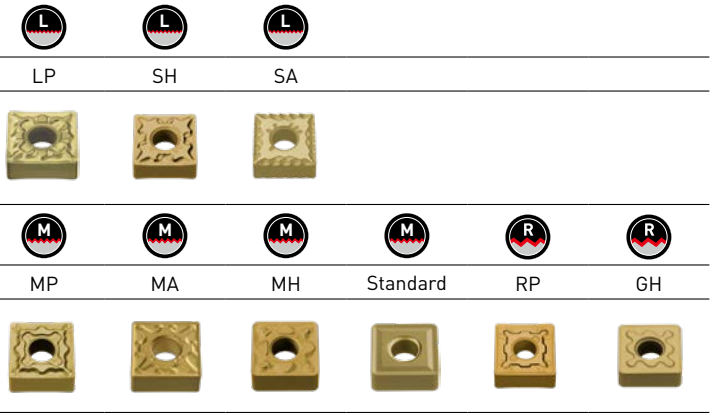
MC6115

NEGATIVE INSERTS (WITH HOLE)

M Class

SNMG





Order number	L M R	NEW MC6115	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
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

(10 inserts in one case)

● : Inventory maintained. ★ : Inventory maintained in Japan.

NEW

MC6115

NEGATIVE INSERTS (WITH HOLE)

Order number	L M R	NEW MC6115	IC	S	RE	D1
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

(10 inserts in one case)

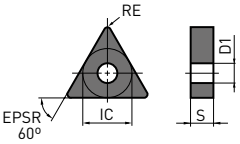
NEW

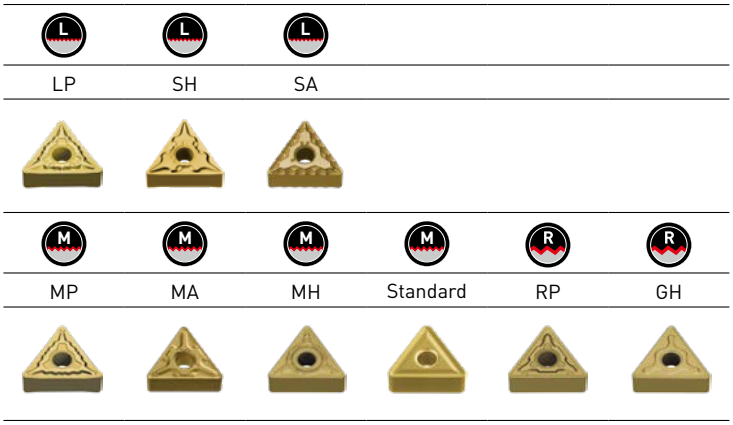
MC6115

NEGATIVE INSERTS (WITH HOLE)

M Class

TNMG





Order number		NEW MC6115	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
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

(10 inserts in one case)

● : Inventory maintained. ★ : Inventory maintained in Japan.

NEW

MC6115

NEGATIVE INSERTS (WITH HOLE)

Order number	L M R	NEW MC6115	IC	S	RE	D1
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

(10 inserts in one case)

19 Vc

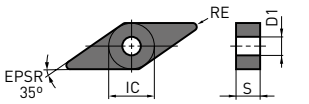
NEW

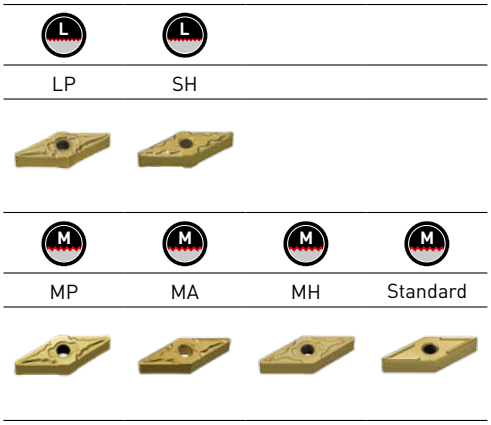
MC6115

NEGATIVE INSERTS (WITH HOLE)

M Class

VNMG





Order number		NEW MC6115	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
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

(10 inserts in one case)

19 Vc

● : Inventory maintained. ★ : Inventory maintained in Japan.

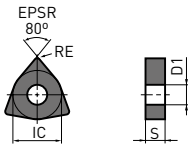
NEW

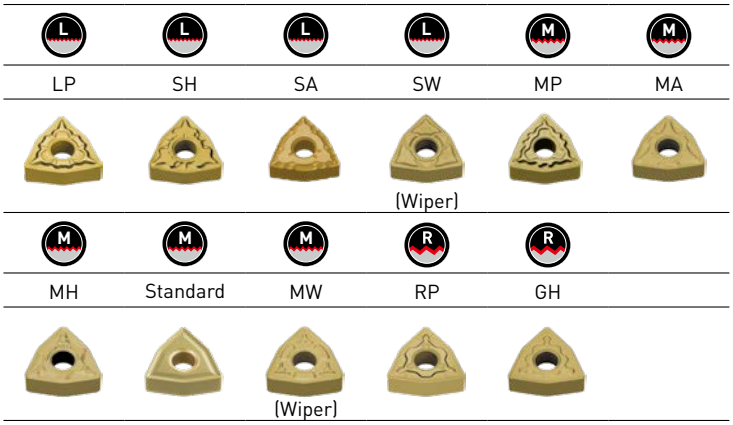
MC6115

NEGATIVE INSERTS (WITH HOLE)

M Class

WNMG





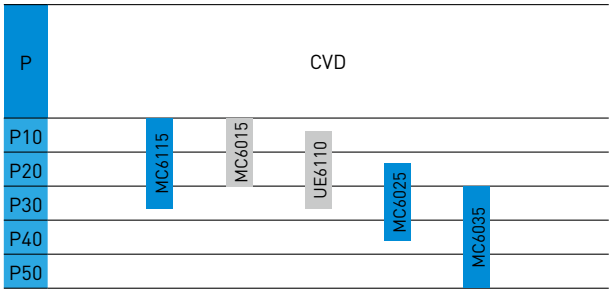
Order number	L M R	NEW MC6115	IC	S	RE	D1
WNMG080404-LP	L	●	12.7	4.76	0.4	5.16
WNMG080408-LP	L	●	12.7	4.76	0.8	5.16
WNMG080412-LP	L	●	12.7	4.76	1.2	5.16
WNMG080404-SH	L	★	12.7	4.76	0.4	5.16
WNMG080408-SH	L	★	12.7	4.76	0.8	5.16
WNMG080412-SH	L	★	12.7	4.76	1.2	5.16
WNMG080404-SA	L	★	12.7	4.76	0.4	5.16
WNMG080408-SA	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
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

(10 inserts in one case)

MC6115

SELECTION CRITERIA AND APPLICATION RANGE

	Material	Cutting mode		Grade
P	Carbon and alloy steels	Continuous cutting	*Low*	MC6115
			Medium	MC6025
		Interrupted cutting	*High*	MC6035



RECOMMENDED CUTTING CONDITIONS

NEGATIVE INSERTS (FOR EXTERNAL TURNING)

Cutting conditions: ●: Stable cutting ◔: General cutting ✱: Unstable cutting

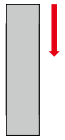
Material		Properties	Conditions		Grade		Vc	f	ap
P	Carbon and alloy steels	180–280HB	●	L	MC6115	LP	250–480	0.10–0.40	0.30–2.00
			●	L	MC6115	SH	250–480	0.10–0.40	0.30–2.00
			●	L	MC6115	SA	250–480	0.10–0.40	0.30–2.00
			●	L	MC6115	SW	250–480	0.10–0.50	0.30–2.50
			●	M	MC6115	MP	230–440	0.16–0.50	0.30–4.00
			●	M	MC6115	MA	230–440	0.20–0.50	0.30–4.00
			●	M	MC6115	Std	230–440	0.25–0.60	1.50–5.00
			●	M	MC6115	MW	230–440	0.20–0.60	0.90–4.00
			●	R	MC6115	RP	215–415	0.25–0.60	1.50–6.00
			●	R	MC6115	GH	215–415	0.25–0.60	1.50–6.00
			◔	L	MC6115	LP	250–480	0.10–0.40	0.30–2.00
			◔	L	MC6115	SH	250–480	0.10–0.40	0.30–2.00
			◔	L	MC6115	SA	250–480	0.10–0.40	0.30–2.00
			◔	L	MC6115	SW	250–480	0.10–0.50	0.30–2.50
			◔	M	MC6115	MP	230–440	0.16–0.50	0.30–4.00
			◔	M	MC6115	MA	230–440	0.20–0.50	0.30–4.00
			◔	M	MC6115	MH	230–440	0.20–0.55	1.00–4.00
			◔	M	MC6115	Std	230–440	0.25–0.60	1.50–5.00
			◔	M	MC6115	MW	230–440	0.20–0.60	0.90–4.00
			◔	R	MC6115	RP	215–415	0.25–0.60	1.50–6.00
			◔	R	MC6115	GH	215–415	0.25–0.60	1.50–6.00

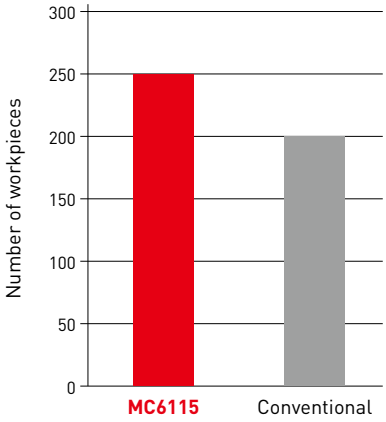
1. Verify the recommended conditions for each boring bar as cutting conditions for internal machining will vary depending on the length of overhang.

MC6115

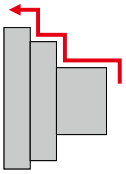
APPLICATION EXAMPLES

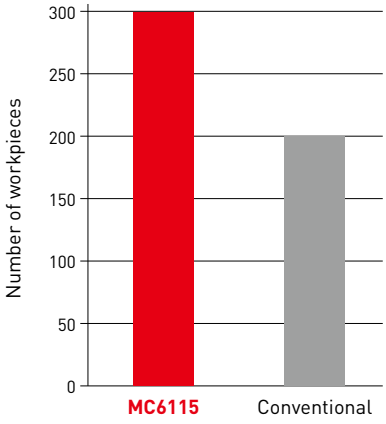
Tool	WNMG080412-MP
Material	JIS SCr420H
Component	Machine parts
Application	Face turning
Vc (m/min)	235
f (mm/rev)	0.35
ap (mm)	1.0
Cutting mode	Wet cutting
Results	MC6115 achieved long tool life with excellent wear resistance and stable cutting, compared with conventional product.



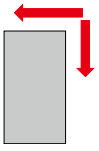


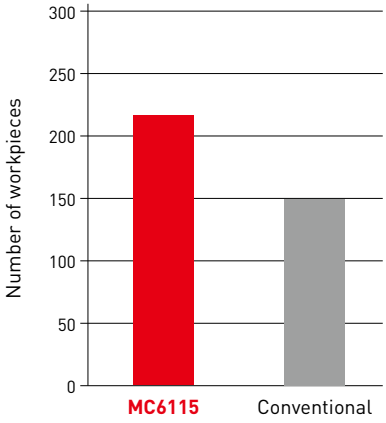
Tool	WNMG080408-MP
Material	JIS SCr440
Component	Hub
Application	External turning and facing
Vc (m/min)	300
f (mm/rev)	0.25-0.35
ap (mm)	1-2.5
Cutting mode	Wet cutting
Results	Superior wear resistance compared to conventional products mean tool life was extended.





Tool	DNMG150612-SA
Material	Bearing steel
Component	Bearing parts
Application	External turning and facing
Vc (m/min)	260
f (mm/rev)	0.3-0.35
ap (mm)	0.5
Cutting Mode	Wet cutting
Results	Extreme resistance to chipping achieved 150 % tool life and enabled easy identification of wear.



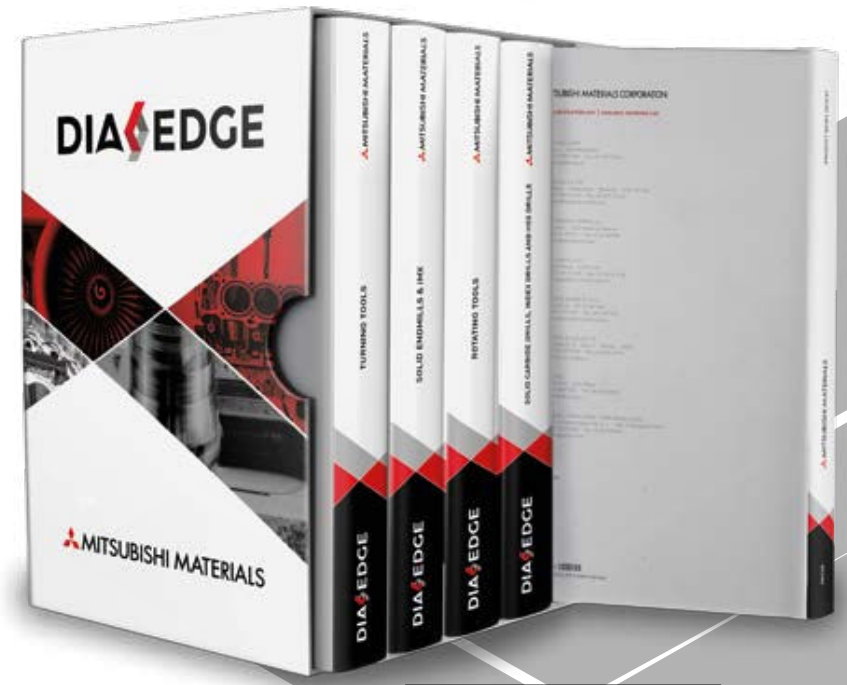


The above are customer's application examples.

MITSUBISHI MATERIALS

KOKO TUOTEVALIKOIMA:

- **SORVAUSTYÖKALUT**
- **PORAUSTYÖKALUT**
- **KOVAMETALLIJYRSIMET**
- **KÄÄNTÖTERÄJYRSIMET**
- **MPLUS**
- **UUTUUDET**



UUSI DESIGN

HELPPO KÄSITELLÄ

SELKEÄ TUOTEJAOTTELU

ERILLISKIRJAT TUOTEALUEITTAIN

DIA EDGE

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