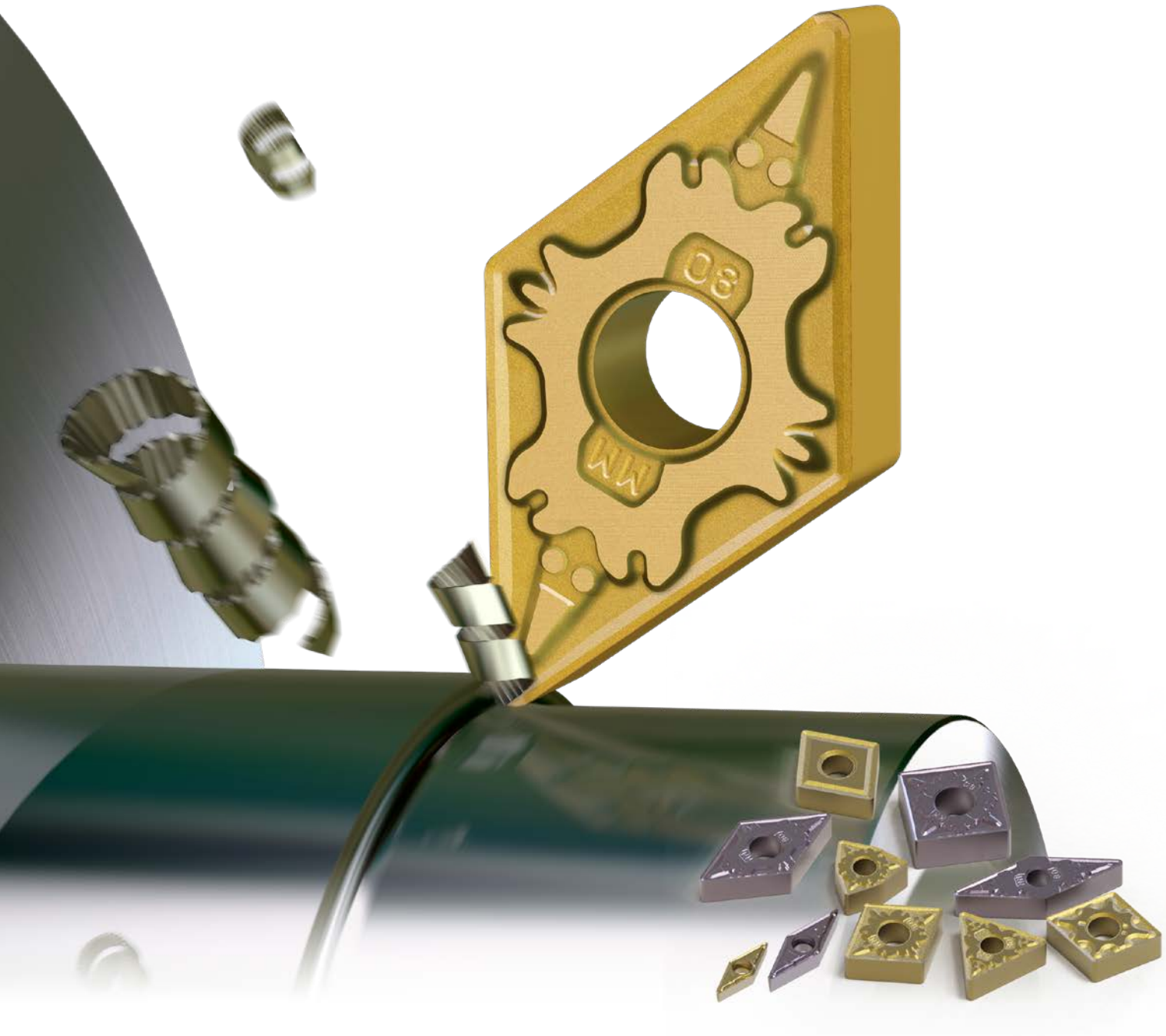
NEW

B277E

# MC/MP7100 SERIES

## DEDICATED CARBIDE SUBSTRATE
## NEW COATING TECHNOLOGY FOR STAINLESS STEEL TURNING



MITSUBISHI MATERIALS

NEW

# MC/MP7100 SERIES

## CREATION OF A NEW SERIES FOR A VARIETY OF STAINLESS STEEL APPLICATIONS

## MC7125

**THE ALL ROUND CHOICE FOR STAINLESS STEEL TURNING**

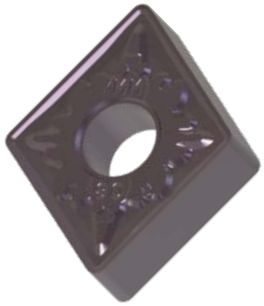
First recommended grade.
Compatible with a wide range of applications, from continuous cutting through to interrupted cutting.
Suitable for a wide variety of stainless steels.

## MC7115

**FOR HIGH SPEED TURNING**

CVD coated carbide grade specialised for high speed cutting.
For medium to large austenitic stainless steel parts, cutting speeds of 250 m/min or more reduce machining time.

## MP7135



**TOUGHER FOR INTERRUPTED CUTTING**

PVD coated carbide grade that is resistant to the impacts of interrupted cutting.
It is ideal for intermittent cutting of workpieces, as well as for rough machining of forged and cast products.

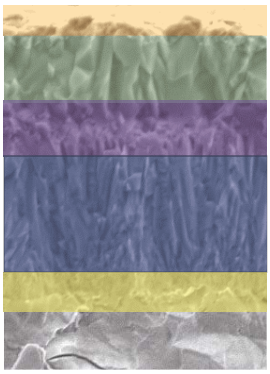
**MC/MP7100 SERIES MACHINING VIDEO**

# MC / MP7100 SERIES

## MC7125

### THE ALL-ROUNDER FOR STAINLESS STEEL TURNING

Incredibly stable with both plastic deformation and chipping resistance.



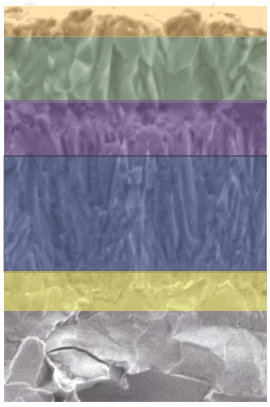

**COATING LAYER WITH HIGH ADHESIVE STRENGTH**
Tough and Super TOUGH-Grip dramatically improve adhesion strength and maximise the effectiveness of the coating.

**SUBSTRATE RESISTANT TO PLASTIC DEFORMATION AND CHIPPING**
By optimising the particle size distribution of the main component WC and improving its dispersibility, reduced contact between the WC particles, dramatically improves resistance to plastic deformation and fracture.

## MC7115

### FOR HIGH SPEED TURNING

Increases the hardness of the base material, providing excellent resistance to plastic deformation and crater wear.



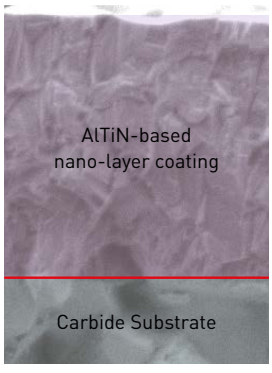

**COATING LAYER WITH HIGH ADHESIVE STRENGTH**
Tough and Super Tough Grip improve adhesion strength and maximise the effectiveness of the coating. “Super” Nano Texture Technology suppresses crater wear during high speed cutting.

**CARBIDE SUBSTRATE THAT IS STRONG FOR HIGH SPEED CUTTING**
The hard carbide substrate is resistant to the high temperatures generated during high speed cutting and has excellent resistance to plastic deformation and crater wear.

## MP7135

### TOUGHER FOR INTERRUPTED CUTTING

The highly heat resistant coating and dedicated carbide substrate provide both wear resistance and chipping resistance.




**AlTiN-BASED NANO-LAYER COATING**
By layering the highly heat resistant AlTiN coating at the Nano level, excellent wear and chipping resistance has been achieve.

**TECHNOLOGY TO IMPROVE ADHESION STRENGTH**
Suppresses peeling when machining stainless steel and exhibits excellent chipping resistance.

**DEDICATED CARBIDE BASE MATERIAL**
A carbide substrate exclusively for stainless steel that combines both wear and fracture resistance.

# MC / MP7100 SERIES

## COATED GRADE FOR STAINLESS STEEL TURNING

### IMPROVED COATING ADHESION STRENGTH AND DEDICATED CARBIDE SUBSTRATE SUPPRESSES NOTCHING DURING STAINLESS STEEL TURNING

Stainless steels are widely used for components that require resistance to corrosion. When comparing stainless steels to other steels and cast irons, it has low hardness but is tough to machine and susceptible to work hardening. Due to these characteristics, turning inserts are prone to edge damage and weld chipping. Additionally, plastic deformation of the insert due to the heat generated makes more difficult to cut, resulting in unstable tool life.
The properties of stainless steels, such as corrosion and heat resistance, vary greatly depending on the metallurgical structure and composition, and these small differences can make it appear is as if a completely different workpiece material is being machined.
Mitsubishi Materials has the ability to combine coating and substrate technology to produce a series of grades to successfully machine stainless steels.

Notching

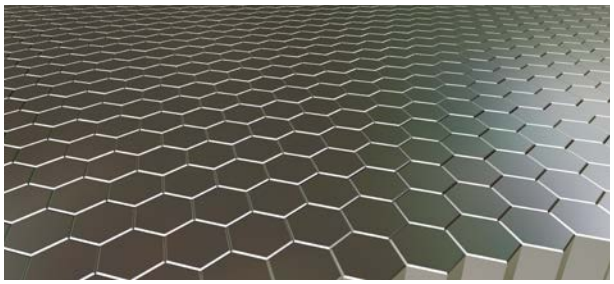
Fracture from welding chipping

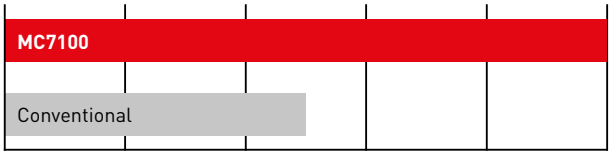
Plastic deformation

## FEATURES OF THE MC7100 SERIES COATING

### "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 process that creates fine, dense crystal growth.



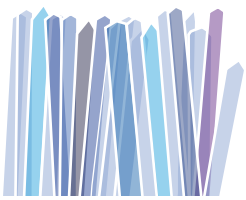



The ratio of $Al_2O_3$ crystal grains with the same orientation

**CRYSTAL ORIENTATION**
(Image)

**Conventional CVD inserts**

Grain size and
growth direction are uneven.



**Nano Texture**

Uniformity of the grain size and growth direction has improved.

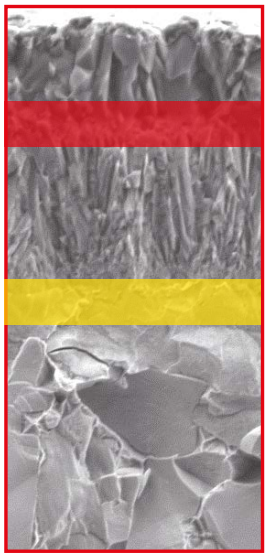
**"Super" Nano Texture**

Uniformity of the growth
direction has drastically improved.

# MC / MP7100 SERIES

## TOUGH AND SUB GRIP LAYERS

**THE EXTRA STRENGTH OF THE ADHESION BETWEEN THE COATING LAYERS SUPPRESSES PEELING DURING MACHINING OF STAINLESS STEELS**



**SUPER-TOUGH-GRIP**

The adhesion strength of the $Al_2O_3$ layer, which was prone to peeling due to the work-hardened layer when machining stainless steel, has been significantly improved.

**SUB-GRIP**

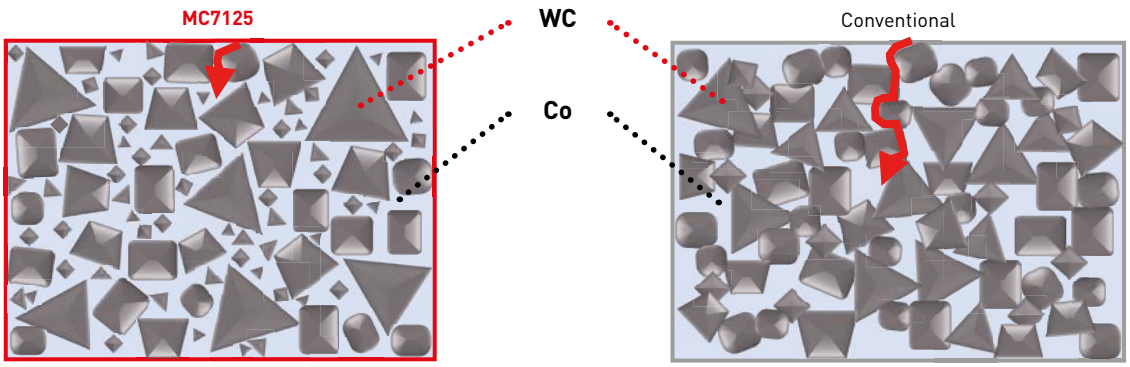
It increases the adhesion strength between the carbide substrate and the coating layer, and prevents the coating from peeling off due to welding.

## FEATURES OF THE CARBIDE SUBSTRATES

**MC7115**
Has crater wear and plastic deformation resistance that are ideal for high-speed cutting of stainless steel.

**MP7135**
The dedicated carbide substrate has excellent wear resistance and greatly improved chipping resistance.

**MC7125**
By optimising the particle size distribution, the boundary contact between the low toughness WC particles has been reduced and promotes hardness, thereby dramatically improving plastic deformation and fracture resistance.




Reduces **WC** boundaries and suppresses crack growth.

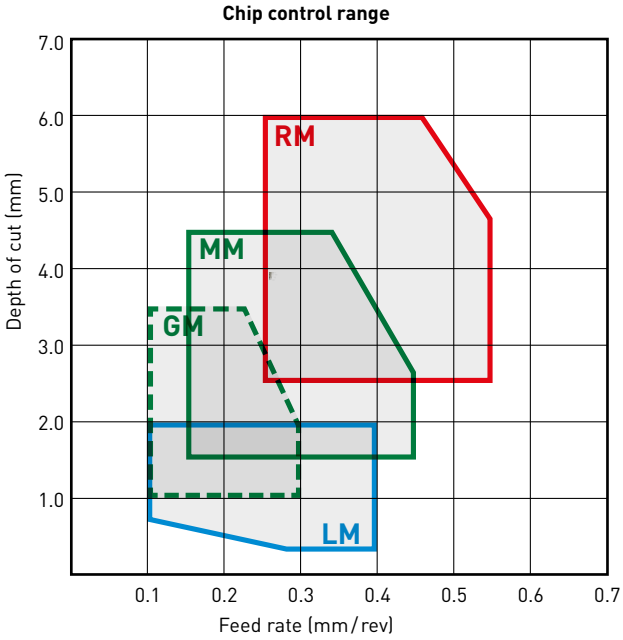
Cracks grow along the **WC** boundaries that are lower in toughness.

# CHIPBREAKER SYSTEM

## NEGATIVE INSERT FOR EXTERNAL TURNING

M

| | Light cutting | Medium cutting | Rough cutting |
|---|---|---|---|
| ● | **LM** MC7115 | **MM** MC7115 | **RM** MC7115 |
| ◔ | **LM** MC7125 | **MM** MC7125 | **RM** MC7125 |
| ✣ | **LM** MP7135 | **MM** MP7135 | **RM** MP7135 |




**● Stable cutting**
- Continuous cutting
- Constant depth of cut
- Pre-machined surfaces
- Securely clamped component cutting

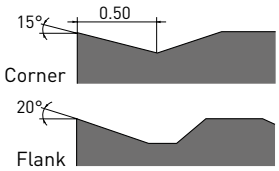
**◔ General cutting**

**✣ Unstable cutting**
- Heavy interrupted cutting
- Irregular depth of cut
- Low clamping rigidity cutting

## MAIN CHIPBREAKER

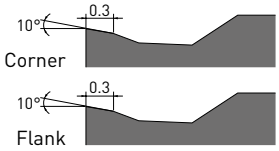
### LM CHIPBREAKER FOR LIGHT CUTTING

**Excellent burr control**
Reduces the incidence of burrs drastically because the sharpness properties and cutting edge strength are optimised with different rake angles.



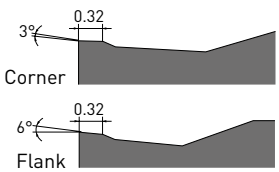

### MM CHIPBREAKER FOR MEDIUM CUTTING

**Excellent welding resistance**
The sharp design of the corner radius and main cutting edge improves welding resistance and prevents problems.



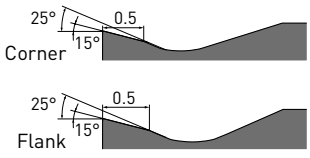

### RM CHIPBREAKER FOR ROUGH CUTTING

**Excellent fracture resistance**
By optimizing the land angle and honing geometry, high cutting edge stability is achieved during interrupted machining.



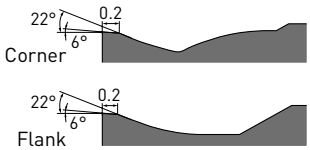

### GM CHIPBREAKER

**Interpolated chipbreaker**
Sub chipbreaker of the main LM and MM chipbreaker.
Excellent in notching resistance for light cutting to medium cutting.




### MA CHIPBREAKER

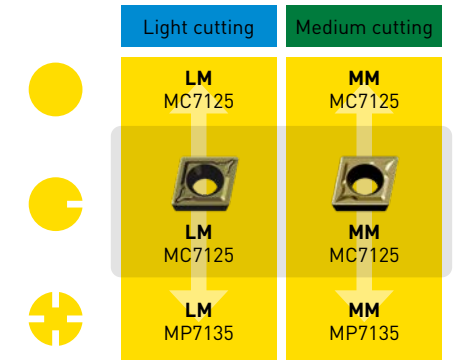
**Multi-Assist chipbreaker**
Suitable for medium cutting range.

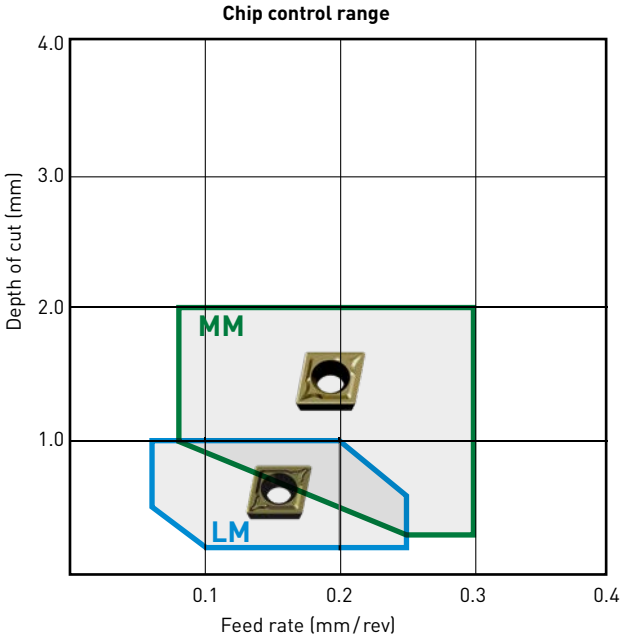


# CHIPBREAKER SYSTEM

## 5°, 7°, 11° POSITIVE INSERT

M




**Stable cutting**
- Continuous cutting
- Constant depth of cut
- Pre-machined surfaces
- Securely clamped component cutting

**General cutting**

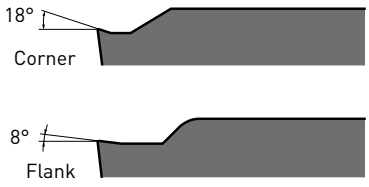
**Unstable cutting**
- Heavy interrupted cutting
- Irregular depth of cut
- Low clamping rigidity cutting

## MAIN CHIPBREAKER

### LM CHIPBREAKER FOR LIGHT CUTTING

**First recommendation for light cutting of stainless steel**
The large rake angle gives a sharp cutting edge that prevents chip welding, which in turn helps to control the surface finish. The protruding chipbreaker provides an ideal range of chip control.

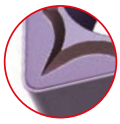
**5°, 7°, 11° Positive Insert**

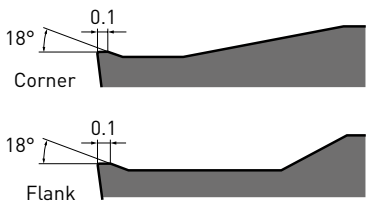



### MM CHIPBREAKER FOR MEDIUM CUTTING

**First recommendation for medium cutting of stainless steel**
The flat land enables a good balance of wear and fracture resistance. The wide pocket reduces vibration and chip jamming and also prevents increases in cutting resistance even at large depths of cut.

**5°, 7° Positive Insert**



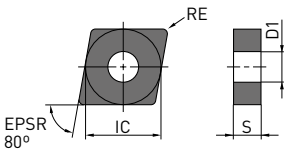


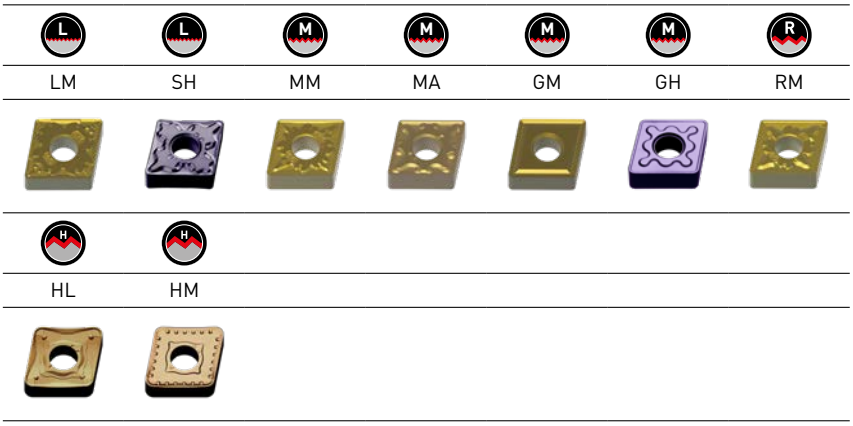
# CNMG, CNMM

## NEGATIVE INSERTS (WITH HOLE)

### M Class

### CNMG, CNMM




| Order number | F L M R H | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| CNMG120404-LM | L | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| CNMG120408-LM | L | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-LM | 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 |
| CNMG120408-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-MM | M | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG120416-MM | M | ● | ● | ● | 12.7 | 4.76 | 1.6 | 5.16 |
| CNMG160608-MM | M | ● | ● | ● | 15.875 | 6.35 | 0.8 | 6.35 |
| CNMG160612-MM | M | ● | ● | ● | 15.875 | 6.35 | 1.2 | 6.35 |
| CNMG160616-MM | M | ● | ● | ● | 15.875 | 6.35 | 1.6 | 6.35 |
| CNMG190608-MM | M | ● | ● | ● | 19.05 | 6.35 | 0.8 | 7.93 |
| CNMG190612-MM | M | ● | ● | ● | 19.05 | 6.35 | 1.2 | 7.93 |
| CNMG190616-MM | M | ● | ● | ● | 19.05 | 6.35 | 1.6 | 7.93 |
| 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-GM | M | | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| CNMG120408-GM | M | | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-GM | M | | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG120408-GH | M | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-GH | M | | | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG160612-GH | M | | | ● | 15.875 | 6.35 | 1.2 | 6.35 |
| CNMG190612-GH | M | | | ● | 19.05 | 6.35 | 1.2 | 7.93 |
| CNMG190616-GH | M | | | ● | 19.05 | 6.35 | 1.6 | 7.93 |

1/2

(10 inserts in one case)





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

## CNMG, CNMM – NEGATIVE INSERTS (WITH HOLE)

| Order number | F L M R H | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| CNMG120408-RM | R | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| CNMG120412-RM | R | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| CNMG120416-RM | R | ● | ● | ● | 12.7 | 4.76 | 1.6 | 5.16 |
| CNMG160612-RM | R | ● | ● | ● | 15.875 | 6.35 | 1.2 | 6.35 |
| CNMG160616-RM | R | ● | ● | ● | 15.875 | 6.35 | 1.6 | 6.35 |
| CNMG190612-RM | R | ● | ● | ● | 19.05 | 6.35 | 1.2 | 7.93 |
| CNMG190616-RM | R | ● | ● | ● | 19.05 | 6.35 | 1.6 | 7.93 |
| CNMM190612-HL | H | | ● | | 19.05 | 6.35 | 1.2 | 7.93 |
| CNMM190616-HL | H | | ● | | 19.05 | 6.35 | 1.6 | 7.93 |
| CNMM190612-HM | H | | ● | | 19.05 | 6.35 | 1.2 | 7.93 |
| CNMM190616-HM | H | | ● | | 19.05 | 6.35 | 1.6 | 7.93 |



(10 inserts in one case)



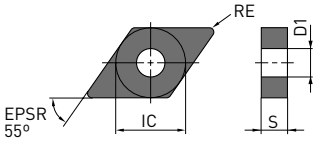
● : Inventory maintained. ★ : Inventory maintained in Japan.

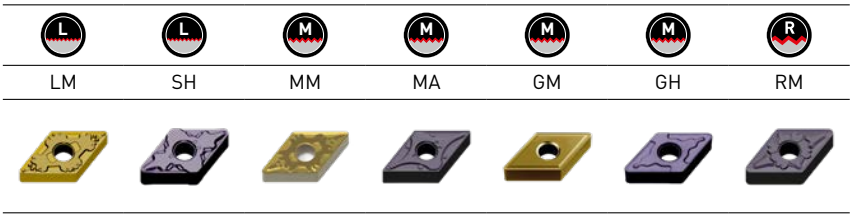
# DNMG

## NEGATIVE INSERTS (WITH HOLE)

**M Class**

**DNMG**




| Order number | | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| DNMG110404-LM | L | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| DNMG110408-LM | L | ● | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| DNMG150404-LM | L | ● | ● | ★ | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-LM | L | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-LM | L | ★ | ★ | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150604-LM | L | ● | ● | ● | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-LM | L | ● | ● | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG110404-SH | L | | | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| DNMG110408-SH | L | | | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| DNMG150404-SH | L | | | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-SH | L | | | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150408-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-MM | M | | ★ | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150608-MM | M | ● | ● | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-MM | M | ★ | ● | ● | 12.7 | 6.35 | 1.2 | 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-GM | M | | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| DNMG150408-GM | M | | ★ | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150604-GM | M | | ● | ★ | 12.7 | 6.35 | 0.4 | 5.16 |
| DNMG150608-GM | M | | ● | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150408-GH | M | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-GH | M | | | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150608-GH | M | | | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-GH | M | | | ● | 12.7 | 6.35 | 1.2 | 5.16 |
| DNMG150408-RM | R | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| DNMG150412-RM | R | | ● | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| DNMG150416-RM | R | | ★ | ★ | 12.7 | 4.76 | 1.6 | 5.16 |
| DNMG150608-RM | R | | ● | ● | 12.7 | 6.35 | 0.8 | 5.16 |
| DNMG150612-RM | R | | ● | ★ | 12.7 | 6.35 | 1.2 | 5.16 |



(10 inserts in one case)





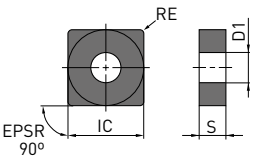
● : Inventory maintained. ★ : Inventory maintained in Japan.

# SNMG, SNMM

## NEGATIVE INSERTS (WITH HOLE)

**M Class**

**SNMG, SNMM**




| LM | MM | MA | GM | GH | RM | HL | HM |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |

| Order number | F L M R H | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| SNMG120404-LM | L | ● | ★ | ★ | 12.7 | 4.76 | 0.4 | 5.16 |
| SNMG120408-LM | L | ● | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120408-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120412-MM | M | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| SNMG120416-MM | M | ★ | ★ | ★ | 12.7 | 4.76 | 1.6 | 5.16 |
| SNMG150608-MM | M | | ● | ★ | 15.875 | 6.35 | 0.8 | 6.35 |
| SNMG150612-MM | M | ● | ● | ★ | 15.875 | 6.35 | 1.2 | 6.35 |
| SNMG150616-MM | M | | ★ | | 15.875 | 6.35 | 1.6 | 6.35 |
| SNMG190612-MM | M | | ● | ● | 19.05 | 6.35 | 1.2 | 7.93 |
| SNMG190616-MM | M | | ● | ● | 19.05 | 6.35 | 1.6 | 7.93 |
| 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 |
| SNMG190616-MA | M | | ● | ● | 19.05 | 6.35 | 1.6 | 7.93 |
| SNMG120404-GM | M | | ● | ★ | 12.7 | 4.76 | 0.4 | 5.16 |
| SNMG120408-GM | M | | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120412-GM | M | | ★ | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| SNMG120408-GH | M | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120412-GH | M | | | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| SNMG120416-GH | M | | | ● | 12.7 | 4.76 | 1.6 | 5.16 |
| SNMG190612-GH | M | | | ● | 19.05 | 6.35 | 1.2 | 7.93 |
| SNMG190616-GH | M | | | ● | 19.05 | 6.35 | 1.6 | 7.93 |
| SNMG120408-RM | R | ★ | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| SNMG120412-RM | R | ★ | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| SNMG120416-RM | R | ★ | ★ | ● | 12.7 | 4.76 | 1.6 | 5.16 |
| SNMG150612-RM | R | ● | ★ | ● | 15.875 | 6.35 | 1.2 | 6.35 |
| SNMG150616-RM | R | ● | | | 15.875 | 6.35 | 1.6 | 6.35 |
| SNMG190612-RM | R | ★ | ● | ★ | 19.05 | 6.35 | 1.2 | 7.93 |
| SNMG190616-RM | R | ● | ● | ● | 19.05 | 6.35 | 1.6 | 7.93 |
| SNMM190612-HL | H | | ★ | | 19.05 | 6.35 | 1.2 | 7.93 |
| SNMM190616-HL | H | | ★ | | 19.05 | 6.35 | 1.6 | 7.93 |
| SNMM190612-HM | H | | ● | | 19.05 | 6.35 | 1.2 | 7.93 |
| SNMM190616-HM | H | | ● | | 19.05 | 6.35 | 1.6 | 7.93 |
| SNMM250732-HM | H | | ● | | 25.4 | 7.94 | 3.2 | 9.12 |



(10 inserts in one case)



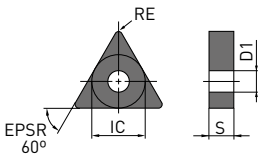
● : Inventory maintained. ★ : Inventory maintained in Japan.

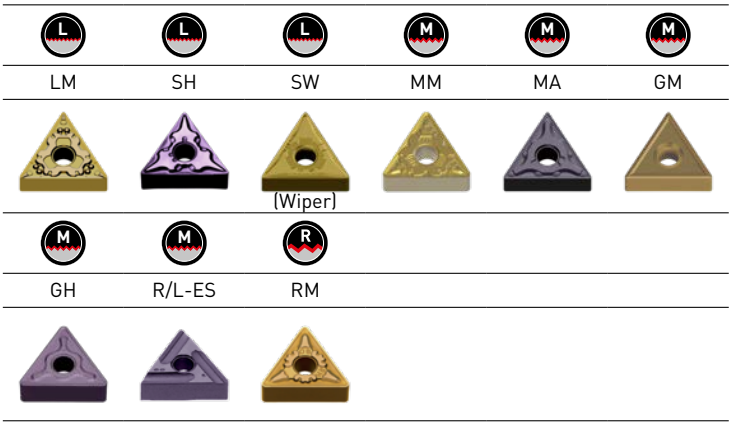
# TNMG, TNMX

## NEGATIVE INSERTS (WITH HOLE)

### M Class

### TNMG, TNMX




| Order number | F L M R N | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| TNMG160404-LM | L | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160408-LM | L | ★ | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-LM | L | ★ | ★ | ★ | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG160404-SH | L | | | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160408-SH | L | | | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMX160408-SW | L | | ★ | | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160408-MM | M | ● | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-MM | M | ★ | ★ | ★ | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG220408-MM | M | ★ | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG220412-MM | M | | ★ | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| TNMG220416-MM | M | | ● | | 12.7 | 4.76 | 1.6 | 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 |
| TNMG160404-GM | M | | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160408-GM | M | | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-GM | M | | ● | ★ | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG220408-GM | M | | ★ | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG160408-GH | M | | | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG220408-GH | M | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG220412-GH | M | | | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| TNMG160404R-ES | M | | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| TNMG160404L-ES | M | | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160408R-ES | M | | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160408L-ES | M | | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG220408R-ES | M | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG220408L-ES | M | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG160408-RM | R | ★ | ● | ★ | 9.525 | 4.76 | 0.8 | 3.81 |
| TNMG160412-RM | R | ★ | ★ | ● | 9.525 | 4.76 | 1.2 | 3.81 |
| TNMG220408-RM | R | | ● | ★ | 12.7 | 4.76 | 0.8 | 5.16 |
| TNMG220412-RM | R | | ★ | ★ | 12.7 | 4.76 | 1.2 | 5.16 |
| TNMG220416-RM | R | | ● | ★ | 12.7 | 4.76 | 1.6 | 5.16 |



(10 inserts in one case)

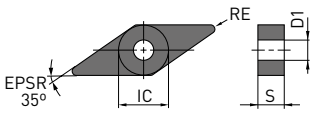
● : Inventory maintained. ★ : Inventory maintained in Japan.

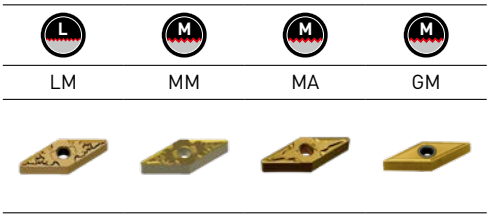
# VNMG

## NEGATIVE INSERTS (WITH HOLE)

**M Class**

**VNMG**




| Order number | F L M R N | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| VNMG160404-LM | L | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-LM | L | ★ | ● | ★ | 9.525 | 4.76 | 0.8 | 3.81 |
| VNMG160408-MM | M | ● | ● | ● | 9.525 | 4.76 | 0.8 | 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-GM | M | | ● | ★ | 9.525 | 4.76 | 0.4 | 3.81 |
| VNMG160408-GM | M | | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |

1/1

(10 inserts in one case)

21 Vc

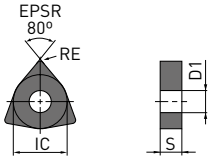
● : Inventory maintained. ★ : Inventory maintained in Japan.

# WNMG

## NEGATIVE INSERTS (WITH HOLE)

### M Class

### WNMG




| LM | SH | MM | MA | GM | GH |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

| RM |
|---|
|  |

| Order number | | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| WNMG060404-LM | L | ● | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| WNMG060408-LM | L | ● | ● | ★ | 9.525 | 4.76 | 0.8 | 3.81 |
| WNMG080404-LM | L | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| WNMG080408-LM | L | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG06T304-SH | L | | | ● | 9.525 | 3.97 | 0.4 | 3.81 |
| WNMG06T308-SH | L | | | ● | 9.525 | 3.97 | 0.8 | 3.81 |
| WNMG060404-SH | L | | | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| WNMG060408-SH | L | | | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| WNMG080404-SH | L | | | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| WNMG080408-SH | L | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG060408-MM | M | ★ | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| WNMG060412-MM | M | | ● | ● | 9.525 | 4.76 | 1.2 | 3.81 |
| WNMG080408-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-MM | M | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| WNMG06T304-MA | M | | ● | ● | 9.525 | 3.97 | 0.4 | 3.81 |
| WNMG06T308-MA | M | | ● | ● | 9.525 | 3.97 | 0.8 | 3.81 |
| WNMG06T312-MA | M | | ★ | ★ | 9.525 | 3.97 | 1.2 | 3.81 |
| WNMG060408-MA | M | | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| WNMG060412-MA | M | | ★ | ● | 9.525 | 4.76 | 1.2 | 3.81 |
| 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 |
| WNMG060404-GM | M | | ● | ● | 9.525 | 4.76 | 0.4 | 3.81 |
| WNMG060408-GM | M | | ● | ● | 9.525 | 4.76 | 0.8 | 3.81 |
| WNMG080404-GM | M | | ● | ● | 12.7 | 4.76 | 0.4 | 5.16 |
| WNMG080408-GM | M | | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-GM | M | | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| WNMG080408-GH | M | | | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-GH | M | | | ● | 12.7 | 4.76 | 1.2 | 5.16 |
| WNMG060408-RM | R | ● | ★ | ★ | 9.525 | 4.76 | 0.8 | 3.81 |
| WNMG060412-RM | R | | ★ | ● | 9.525 | 4.76 | 1.2 | 3.81 |
| WNMG080408-RM | R | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.16 |
| WNMG080412-RM | R | ● | ● | ● | 12.7 | 4.76 | 1.2 | 5.16 |



(10 inserts in one case)



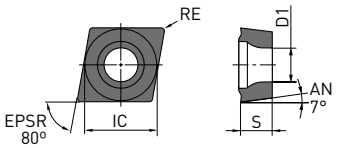
● : Inventory maintained. ★ : Inventory maintained in Japan.

# CCMT, CCMH, CPMH

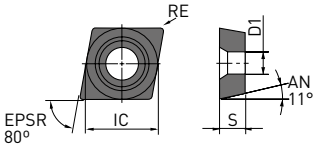
## 7°, 11° POSITIVE INSERTS (WITH HOLE)

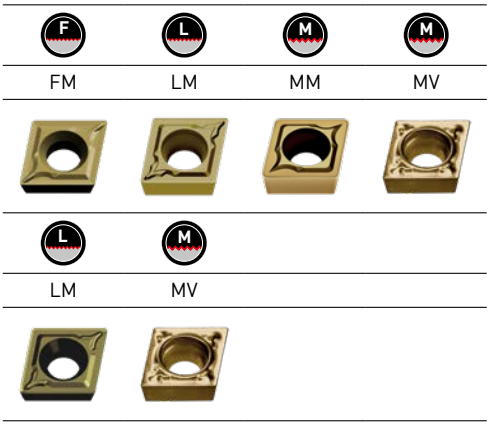
### M Class

#### CCMT, CCMH




#### CPMH




| Order number | F L M R H | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| CCMT060202-FM | F | | ★ | | 6.35 | 2.38 | 0.2 | 2.8 |
| CCMT060204-FM | F | ★ | ★ | ★ | 6.35 | 2.38 | 0.4 | 2.8 |
| CCMT09T302-FM | F | | ★ | | 9.525 | 3.97 | 0.2 | 4.4 |
| CCMT09T304-FM | F | ★ | ★ | ★ | 9.525 | 3.97 | 0.4 | 4.4 |
| CCMT09T308-FM | F | ★ | ★ | ★ | 9.525 | 3.97 | 0.8 | 4.4 |
| CCMT060204-LM | L | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| CCMT060208-LM | L | ● | ● | ★ | 6.35 | 2.38 | 0.8 | 2.8 |
| CCMT09T304-LM | L | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| CCMT09T308-LM | L | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| CCMT060202-MM | M | | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| CCMT060204-MM | M | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| CCMT060208-MM | M | ● | ● | ● | 6.35 | 2.38 | 0.8 | 2.8 |
| CCMT09T302-MM | M | | ● | ● | 9.525 | 3.97 | 0.2 | 4.4 |
| CCMT09T304-MM | M | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| CCMT09T308-MM | M | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| CCMT120404-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.4 | 5.5 |
| CCMT120408-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.5 |
| CCMT120412-MM | M | ● | ● | ★ | 12.7 | 4.76 | 1.2 | 5.5 |
| CCMH060202-MV | M | | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| CCMH060204-MV | M | | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| CPMH080204-LM | L | ● | ● | ● | 7.94 | 2.38 | 0.4 | 3.5 |
| CPMH080208-LM | L | ● | ● | ● | 7.94 | 2.38 | 0.8 | 3.5 |
| CPMH090304-LM | L | ● | ● | ● | 9.525 | 3.18 | 0.4 | 4.4 |
| CPMH090308-LM | L | ● | ● | ● | 9.525 | 3.18 | 0.8 | 4.4 |
| CPMH080204-MV | M | | ● | ● | 7.94 | 2.38 | 0.4 | 3.5 |
| CPMH080208-MV | M | | ● | ● | 7.94 | 2.38 | 0.8 | 3.5 |
| CPMH090304-MV | M | | ● | ● | 9.525 | 3.18 | 0.4 | 4.4 |
| CPMH090308-MV | M | | ● | ● | 9.525 | 3.18 | 0.8 | 4.4 |



(10 inserts in one case)



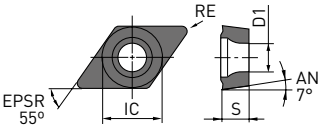
● : Inventory maintained. ★ : Inventory maintained in Japan.

# DCMT

## 7° POSITIVE INSERTS (WITH HOLE)

### M Class

### DCMT




| FM | LM | MM | MV |
|---|---|---|---|
|  |  |  |  |

| Order number | F L M R N | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| DCMT070202-FM | F | | ★ | | 6.35 | 2.38 | 0.2 | 2.8 |
| DCMT070204-FM | F | ★ | ★ | | 6.35 | 2.38 | 0.4 | 2.8 |
| DCMT11T302-FM | F | | ★ | | 9.525 | 3.97 | 0.2 | 4.4 |
| DCMT11T304-FM | F | ★ | ★ | ★ | 9.525 | 3.97 | 0.4 | 4.4 |
| DCMT11T308-FM | F | ★ | ★ | ★ | 9.525 | 3.97 | 0.8 | 4.4 |
| DCMT070202-LM | L | | ★ | | 6.35 | 2.38 | 0.2 | 2.8 |
| DCMT070204-LM | L | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| DCMT070208-LM | L | ● | ● | ● | 6.35 | 2.38 | 0.8 | 2.8 |
| DCMT11T302-LM | L | | ★ | | 9.525 | 3.97 | 0.2 | 4.4 |
| DCMT11T304-LM | L | ★ | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| DCMT11T308-LM | L | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| DCMT070202-MM | M | | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| DCMT070204-MM | M | ● | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| DCMT070208-MM | M | ● | ● | ★ | 6.35 | 2.38 | 0.8 | 2.8 |
| DCMT11T302-MM | M | | ● | | 9.525 | 3.97 | 0.2 | 4.4 |
| DCMT11T304-MM | M | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| DCMT11T308-MM | M | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| DCMT150404-MM | M | ● | ● | ★ | 12.7 | 4.76 | 0.4 | 5.5 |
| DCMT150408-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.5 |
| DCMT070202-MV | M | | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| DCMT070204-MV | M | | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| DCMT070208-MV | M | | ● | ● | 6.35 | 2.38 | 0.8 | 2.8 |
| DCMT11T302-MV | M | | ● | | 9.525 | 3.97 | 0.2 | 4.4 |
| DCMT11T304-MV | M | | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| DCMT11T308-MV | M | | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |



(10 inserts in one case)

21 Vc



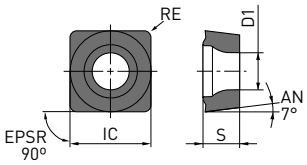
● : Inventory maintained. ★ : Inventory maintained in Japan.

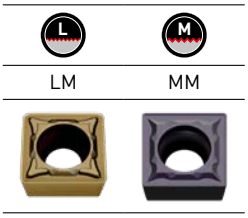
# SCMT

## 7° POSITIVE INSERTS (WITH HOLE)

**M Class**

**SCMT**




| Order number | F L M R N | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| SCMT09T304-LM | L | ● | ★ | ★ | 9.525 | 3.97 | 0.4 | 4.4 |
| SCMT09T308-LM | L | ● | ★ | ★ | 9.525 | 3.97 | 0.8 | 4.4 |
| SCMT09T304-MM | M | ● | ● | ★ | 9.525 | 3.97 | 0.4 | 4.4 |
| SCMT09T308-MM | M | ● | ● | ★ | 9.525 | 3.97 | 0.8 | 4.4 |
| SCMT120404-MM | M | ● | ● | ★ | 12.7 | 4.76 | 0.4 | 5.5 |
| SCMT120408-MM | M | ● | ● | ● | 12.7 | 4.76 | 0.8 | 5.5 |



(10 inserts in one case)

21 Vc

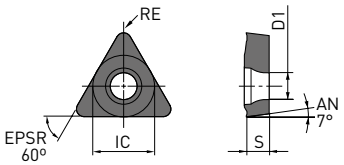
● : Inventory maintained. ★ : Inventory maintained in Japan.

# TCMT, TPMH

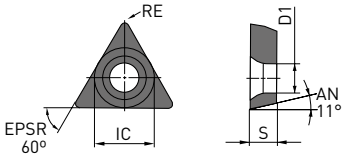
## 7°, 11° POSITIVE INSERTS (WITH HOLE)

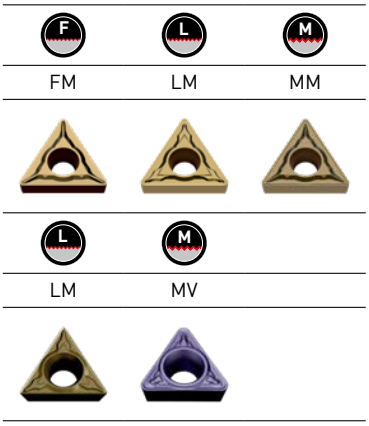
### M Class

#### TCMT




#### TPMH




| Order number | F L M R H | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| TCMT090204-FM | F | ★ | ★ | ★ | 5.56 | 2.38 | 0.4 | 2.5 |
| TCMT090204-LM | L | | ● | ★ | 5.56 | 2.38 | 0.4 | 2.5 |
| TCMT110204-LM | L | | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| TCMT110208-LM | L | | ● | ● | 6.35 | 2.38 | 0.8 | 2.8 |
| TCMT16T304-LM | L | ● | ● | ★ | 9.525 | 3.97 | 0.4 | 4.4 |
| TCMT16T308-LM | L | ● | ● | ★ | 9.525 | 3.97 | 0.8 | 4.4 |
| TCMT090204-MM | M | | ● | ★ | 5.56 | 2.38 | 0.4 | 2.5 |
| TCMT090208-MM | M | | | ★ | 5.56 | 2.38 | 0.8 | 2.5 |
| TCMT110204-MM | M | | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| TCMT110208-MM | M | ★ | ● | ★ | 6.35 | 2.38 | 0.8 | 2.8 |
| TCMT130304-MM | M | | | ★ | 7.94 | 3.18 | 0.4 | 3.4 |
| TCMT16T304-MM | M | ● | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| TCMT16T308-MM | M | ● | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| TCMT16T312-MM | M | | ● | ● | 9.525 | 3.97 | 1.2 | 4.4 |
| TPMH090204-LM | L | | ● | ● | 5.56 | 2.38 | 0.4 | 2.9 |
| TPMH110304-LM | L | | ● | ● | 6.35 | 3.18 | 0.4 | 3.4 |
| TPMH110308-LM | L | | ● | ● | 6.35 | 3.18 | 0.8 | 3.4 |
| TPMH160304-LM | L | | ● | ● | 9.525 | 3.18 | 0.4 | 4.4 |
| TPMH160308-LM | L | | ● | ● | 9.525 | 3.18 | 0.8 | 4.4 |
| TPMH080202-MV | M | | ● | ● | 4.76 | 2.38 | 0.2 | 2.4 |
| TPMH080204-MV | M | | ● | ● | 4.76 | 2.38 | 0.4 | 2.4 |
| TPMH090204-MV | M | | ● | ● | 5.56 | 2.38 | 0.4 | 2.9 |
| TPMH090208-MV | M | | ★ | ★ | 5.56 | 2.38 | 0.8 | 2.9 |
| TPMH110302-MV | M | | ★ | ★ | 6.35 | 3.18 | 0.2 | 3.4 |
| TPMH110304-MV | M | | ● | ● | 6.35 | 3.18 | 0.4 | 3.4 |
| TPMH110308-MV | M | | ★ | ● | 6.35 | 3.18 | 0.8 | 3.4 |
| TPMH160304-MV | M | | ● | ● | 9.525 | 3.18 | 0.4 | 4.4 |
| TPMH160308-MV | M | | ● | ● | 9.525 | 3.18 | 0.8 | 4.4 |



(10 inserts in one case)





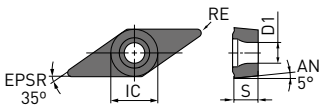
● : Inventory maintained. ★ : Inventory maintained in Japan.

# VBMT, VCMT

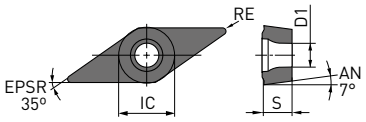
## 5°, 7° POSITIVE INSERTS (WITH HOLE)

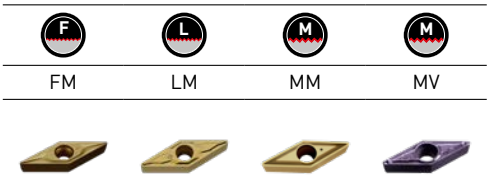
### M Class

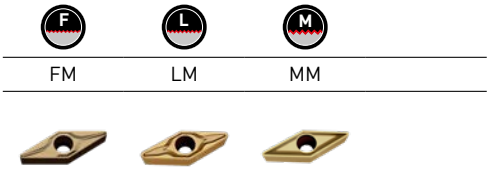
#### VBMT




#### VCMT




| Order number | F L M R H | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| VBMT110302-FM | F | | ★ | ★ | 6.35 | 3.18 | 0.2 | 2.9 |
| VBMT110304-FM | F | ★ | ★ | ★ | 6.35 | 3.18 | 0.4 | 2.9 |
| VBMT110308-FM | F | ★ | ★ | | 6.35 | 3.18 | 0.8 | 2.9 |
| VBMT160404-FM | F | ★ | ★ | ★ | 9.525 | 4.76 | 0.4 | 4.4 |
| VBMT160408-FM | F | ★ | ★ | | 9.525 | 4.76 | 0.8 | 4.4 |
| VBMT110304-LM | L | ● | ● | ● | 6.35 | 3.18 | 0.4 | 2.9 |
| VBMT110308-LM | L | ● | ★ | ★ | 6.35 | 3.18 | 0.8 | 2.9 |
| VBMT160404-LM | L | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VBMT160408-LM | L | ● | ● | ★ | 9.525 | 4.76 | 0.8 | 4.4 |
| VBMT160404-MM | M | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VBMT160408-MM | M | ● | ● | ● | 9.525 | 4.76 | 0.8 | 4.4 |
| VBMT110304-MV | M | | ● | ● | 6.35 | 3.18 | 0.4 | 2.9 |
| VBMT110308-MV | M | | ★ | ★ | 6.35 | 3.18 | 0.8 | 2.9 |
| VBMT160404-MV | M | | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VBMT160408-MV | M | | ● | ● | 9.525 | 4.76 | 0.8 | 4.4 |
| VCMT110302-FM | F | | ★ | ★ | 6.35 | 3.18 | 0.2 | 2.8 |
| VCMT110304-FM | F | ★ | ★ | ★ | 6.35 | 3.18 | 0.4 | 2.8 |
| VCMT160404-FM | F | ★ | ★ | ★ | 9.525 | 4.76 | 0.4 | 4.4 |
| VCMT110304-LM | L | ● | ● | ● | 6.35 | 3.18 | 0.4 | 2.8 |
| VCMT110308-LM | L | ● | ● | ● | 6.35 | 3.18 | 0.8 | 2.8 |
| VCMT160404-LM | L | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VCMT160408-LM | L | ● | ● | ★ | 9.525 | 4.76 | 0.8 | 4.4 |
| VCMT160404-MM | M | ● | ● | ● | 9.525 | 4.76 | 0.4 | 4.4 |
| VCMT160408-MM | M | ● | ● | ● | 9.525 | 4.76 | 0.8 | 4.4 |
| VCMT160412-MM | M | | ★ | ★ | 9.525 | 4.76 | 1.2 | 4.4 |
| VCMT080202-MV | M | | ● | ● | 4.76 | 2.38 | 0.2 | 2.4 |
| VCMT080204-MV | M | | ● | ● | 4.76 | 2.38 | 0.4 | 2.4 |



(10 inserts in one case)



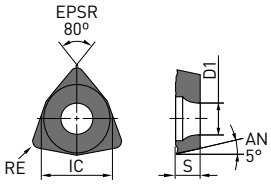
● : Inventory maintained. ★ : Inventory maintained in Japan.

# WBMT, WCMT, WPMT

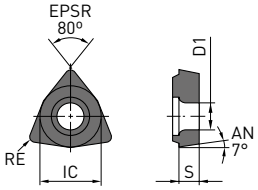
## 5°, 7°, 11° POSITIVE INSERTS (WITH HOLE)

### M Class

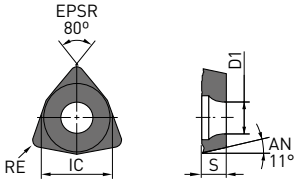
#### WBMT




#### WCMT




#### WPMT




M
L-MV

M
MM

M
MV

| Order number | F L M R H | MC7115 | MC7125 | MP7135 | IC | S | RE | D1 |
|---|---|---|---|---|---|---|---|---|
| WBMTL30202L-MV | M | | ★ | | 4.76 | 2.38 | 0.2 | 2.3 |
| WBMTL30204L-MV | M | | ★ | | 4.76 | 2.38 | 0.4 | 2.3 |
| WCMT020102-MM | M | | ● | ● | 3.97 | 1.59 | 0.2 | 2.3 |
| WCMT020104-MM | M | | ● | ● | 3.97 | 1.59 | 0.4 | 2.3 |
| WCMTL30202-MM | M | | ● | ● | 4.76 | 2.38 | 0.2 | 2.3 |
| WCMTL30204-MM | M | | ● | ● | 4.76 | 2.38 | 0.4 | 2.3 |
| WCMT040202-MM | M | | ● | ● | 6.35 | 2.38 | 0.2 | 2.8 |
| WCMT040204-MM | M | | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| WCMT06T304-MM | M | | ● | ● | 9.525 | 3.97 | 0.4 | 4.4 |
| WCMT06T308-MM | M | | ● | ● | 9.525 | 3.97 | 0.8 | 4.4 |
| WPMT040204-MV | M | | ● | ● | 6.35 | 2.38 | 0.4 | 2.8 |
| WPMT060304-MV | M | | ● | ● | 9.525 | 3.18 | 0.4 | 4.4 |
| WPMT060308-MV | M | | ● | ● | 9.525 | 3.18 | 0.8 | 4.4 |



(10 inserts in one case)





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

# MC / MP7100 SERIES

## RECOMMENDED CUTTING CONDITIONS

### NEGATIVE INSERTS (FOR EXTERNAL TURNING)

| Material | | Hardness | Cutting mode | | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Austenitic stainless steel | <200 HB | ● | L | 1 | MC7115 | LM | 185 – 295 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | L | 2 | MC7125 | LM | 175 – 240 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | M | 1 | MC7115 | MM | 170 – 270 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ● | R | 1 | MC7115 | RM | 160 – 255 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ● | H | 1 | MC7125 | HL | 135 – 185 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ◐ | L | 1 | MC7125 | LM | 175 – 240 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 160 – 220 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 2 | MC7125 | GM | 160 – 220 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 3 | MC7125 | MA | 160 – 220 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | M | 4 | MP7135 | GM | 120 – 155 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 5 | MP7135 | MM | 120 – 155 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 6 | MP7135 | MA | 120 – 155 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | R | 1 | MC7125 | RM | 150 – 205 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 2 | MP7135 | RM | 110 – 145 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 3 | MP7135 | GH | 110 – 145 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ◐ | H | 1 | MC7125 | HL | 135 – 185 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ◐ | H | 2 | MC7125 | HM | 135 – 185 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 130 – 170 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ✣ | L | 2 | MP7135 | SH | 130 – 170 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ✣ | M | 1 | MP7135 | GM | 120 – 155 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ✣ | M | 2 | MP7135 | MM | 120 – 155 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ✣ | M | 3 | MP7135 | MA | 120 – 155 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ✣ | R | 1 | MP7135 | RM | 110 – 145 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ✣ | R | 2 | MP7135 | GH | 110 – 145 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ✣ | H | 1 | MC7125 | HL | 135 – 185 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ✣ | H | 2 | MC7125 | HM | 135 – 185 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | 200 HB | ● | L | 1 | MC7115 | LM | 155 – 245 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | L | 2 | MC7125 | LM | 145 – 200 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | M | 1 | MC7115 | MM | 140 – 225 | 0.15 – 0.45 | 0.7 – 0.5 |
| | | | ● | R | 1 | MC7115 | RM | 135 – 215 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ● | H | 1 | MC7125 | HL | 110 – 155 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ● | H | 2 | MC7125 | HM | 110 – 155 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 145 – 200 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 130 – 180 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 2 | MC7125 | GM | 130 – 180 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 3 | MC7125 | MA | 130 – 180 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | M | 4 | MP7135 | GM | 100 – 130 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 5 | MP7135 | MM | 100 – 130 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 6 | MP7135 | MA | 100 – 130 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | R | 1 | MC7125 | RM | 125 – 175 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 2 | MP7135 | RM | 95 – 120 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 3 | MP7135 | GH | 95 – 120 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ◐ | H | 1 | MC7125 | HL | 110 – 155 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ◐ | H | 2 | MC7125 | HM | 110 – 155 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 110 – 140 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ✣ | L | 2 | MP7135 | SH | 110 – 140 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ✣ | M | 1 | MP7135 | GM | 100 – 130 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ✣ | M | 2 | MP7135 | MM | 100 – 130 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ✣ | M | 3 | MP7135 | MA | 100 – 130 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ✣ | R | 1 | MP7135 | RM | 95 – 120 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ✣ | R | 2 | MP7135 | GH | 95 – 120 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ✣ | H | 1 | MC7125 | HL | 110 – 155 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ✣ | H | 2 | MC7125 | HM | 110 – 155 | 0.50 – 1.10 | 2.0 – 10.0 |



1. Recommended cutting conditions for 5° / 7° / 11° 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

## MC / MP7100 SERIES – NEGATIVE INSERTS (FOR EXTERNAL TURNING)

| | Material | Hardness | Cutting mode | | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Ferritic and martensitic Stainless steel | <200 HB | ● | L | 1 | MC7115 | LM | 185 – 295 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | L | 2 | MC7125 | LM | 175 – 240 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | M | 1 | MC7115 | MM | 170 – 270 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ● | R | 1 | MC7115 | RM | 160 – 255 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ● | H | 1 | MC7125 | HL | 135 – 185 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ● | H | 2 | MC7125 | HM | 135 – 185 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 175 – 240 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 160 – 220 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 2 | MC7125 | GM | 160 – 220 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 3 | MC7125 | MA | 160 – 220 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | M | 4 | MP7135 | GM | 120 – 155 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 5 | MP7135 | MM | 120 – 155 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 6 | MP7135 | MA | 120 – 155 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | R | 1 | MC7125 | RM | 150 – 205 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 2 | MP7135 | RM | 110 – 145 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 3 | MP7135 | GH | 110 – 145 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ◐ | H | 1 | MC7125 | HL | 135 – 185 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ◐ | H | 2 | MC7125 | HM | 135 – 185 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 130 – 170 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ✣ | L | 2 | MP7135 | SH | 130 – 170 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ✣ | M | 1 | MP7135 | GM | 120 – 155 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ✣ | M | 2 | MP7135 | MM | 120 – 155 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ✣ | M | 3 | MP7135 | MA | 120 – 155 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ✣ | R | 1 | MP7135 | RM | 110 – 145 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ✣ | R | 2 | MP7135 | GH | 110 – 145 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ✣ | H | 1 | MC7125 | HL | 135 – 185 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ✣ | H | 2 | MC7125 | HM | 135 – 185 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | >200 HB | ● | L | 1 | MC7115 | LM | 155 – 245 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | L | 2 | MC7125 | LM | 145 – 200 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | M | 1 | MC7115 | MM | 140 – 225 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ● | R | 1 | MC7115 | RM | 135 – 215 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ● | H | 1 | MC7125 | HL | 110 – 155 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ● | H | 2 | MC7125 | HM | 110 – 155 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 145 – 200 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 130 – 180 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 2 | MC7125 | GM | 130 – 180 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 3 | MC7125 | MA | 130 – 180 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | M | 4 | MP7135 | GM | 100 – 130 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 5 | MP7135 | MM | 100 – 130 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 6 | MP7135 | MA | 100 – 130 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | R | 1 | MC7125 | RM | 125 – 175 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | H | 1 | MC7125 | HL | 110 – 155 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ◐ | H | 2 | MC7125 | HM | 110 – 155 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 110 – 140 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ✣ | L | 2 | MP7135 | SH | 110 – 140 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ✣ | M | 1 | MP7135 | GM | 100 – 130 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ✣ | M | 2 | MP7135 | MM | 100 – 130 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ✣ | M | 3 | MP7135 | MA | 100 – 130 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ✣ | R | 1 | MP7135 | RM | 95 – 120 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ✣ | R | 2 | MP7135 | GH | 95 – 120 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ✣ | H | 1 | MC7125 | HL | 110 – 155 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ✣ | H | 2 | MC7125 | HM | 110 – 155 | 0.50 – 1.10 | 2.0 – 10.0 |



1. Recommended cutting conditions for 5° / 7° / 11° 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

## MC / MP7100 SERIES – NEGATIVE INSERTS (FOR EXTERNAL TURNING)

| | Material | Hardness | Cutting mode | F L M R H | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Two-phase stainless steel | <280 HB | ● | L | 1 | MP7135 | LM | 85 – 115 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | L | 2 | MP7135 | SH | 85 – 115 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ● | L | 3 | MC7125 | LM | 115 – 160 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | L | 4 | MC7115 | LM | 125 – 200 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | M | 1 | MP7135 | GM | 80 – 105 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ● | M | 2 | MP7135 | MM | 80 – 105 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ● | M | 3 | MP7135 | MA | 80 – 105 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ● | M | 4 | MC7125 | MM | 105 – 145 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ● | M | 5 | MC7125 | GM | 105 – 145 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ● | M | 6 | MC7125 | MA | 105 – 145 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ● | M | 7 | MC7115 | MM | 115 – 180 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ● | R | 1 | MP7135 | RM | 75 – 100 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ● | R | 2 | MP7135 | GH | 75 – 100 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ● | R | 3 | MC7125 | RM | 100 – 140 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ● | H | 1 | MC7125 | HL | 90 – 125 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ● | H | 2 | MC7125 | HM | 90 – 125 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ◐ | L | 1 | MP7135 | LM | 85 – 115 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | L | 2 | MP7135 | SH | 85 – 115 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ◐ | L | 3 | MC7125 | LM | 115 – 160 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | M | 1 | MP7135 | GM | 80 – 105 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 2 | MP7135 | MM | 80 – 105 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 3 | MP7135 | MA | 80 – 105 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | M | 4 | MC7125 | MM | 105 – 145 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 5 | MC7125 | GM | 105 – 145 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 6 | MC7125 | MA | 105 – 145 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ◐ | R | 1 | MP7135 | RM | 75 – 100 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 2 | MP7135 | GH | 75 – 100 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ◐ | R | 3 | MC7125 | RM | 100 – 140 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | H | 1 | MC7125 | HL | 90 – 125 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ◐ | H | 2 | MC7125 | HM | 90 – 125 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 85 – 115 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ✣ | L | 2 | MP7135 | SH | 85 – 115 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ✣ | M | 1 | MP7135 | GM | 80 – 105 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ✣ | M | 2 | MP7135 | MM | 80 – 105 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ✣ | M | 3 | MP7135 | MA | 80 – 105 | 0.20 – 0.50 | 0.3 – 4.0 |
| | | | ✣ | R | 1 | MP7135 | RM | 75 – 100 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ✣ | R | 2 | MP7135 | GH | 75 – 100 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ✣ | H | 1 | MC7125 | HL | 90 – 125 | 0.30 – 0.70 | 3.0 – 7.5 |
| | | | ✣ | H | 2 | MC7125 | HM | 90 – 125 | 0.50 – 1.10 | 2.0 – 10.0 |



1. Recommended cutting conditions for 5° / 7° / 11° 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

## MC / MP7100 SERIES – NEGATIVE INSERTS (FOR EXTERNAL TURNING)

| | Material | Hardness | Cutting mode | | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Precipitation-hardening stainless steel | 450 HB | ● | L | 1 | MC7115 | LM | 110 – 165 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | L | 2 | MC7125 | LM | 95 – 120 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ● | M | 1 | MC7115 | MM | 100 – 150 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ● | R | 1 | MC7115 | RM | 95 – 140 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ● | H | 1 | MC7125 | HL | 75 – 90 | 0.40 – 1.00 | 1.5 – 8.0 |
| | | | ● | H | 2 | MC7125 | HM | 75 – 90 | 0.50 – 1.10 | 2.0 – 10.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 95 – 120 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | L | 2 | MP7135 | LM | 70 – 95 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ◐ | L | 3 | MP7135 | SH | 70 – 95 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 90 – 110 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 2 | MC7125 | GM | 90 – 110 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 3 | MC7125 | MA | 90 – 110 | 0.10 – 0.30 | 0.5 – 3.0 |
| | | | ◐ | M | 4 | MP7135 | GM | 65 – 90 | 0.16 – 0.50 | 0.5 – 4.0 |
| | | | ◐ | M | 5 | MP7135 | MM | 65 – 90 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ◐ | M | 6 | MP7135 | MA | 65 – 90 | 0.10 – 0.30 | 0.5 – 3.0 |
| | | | ◐ | R | 1 | MC7125 | RM | 85 – 100 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 2 | MP7135 | RM | 60 – 85 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ◐ | R | 3 | MP7135 | GH | 60 – 85 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ◐ | H | 1 | MC7125 | HL | 75 – 90 | 0.40 – 1.00 | 1.5 – 8.0 |
| | | | ◐ | H | 2 | MC7125 | HM | 75 – 90 | 0.50 – 1.00 | 2.0 – 10.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 70 – 95 | 0.10 – 0.35 | 0.3 – 2.0 |
| | | | ✣ | L | 2 | MP7135 | SH | 70 – 95 | 0.10 – 0.40 | 0.3 – 2.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 65 – 90 | 0.15 – 0.45 | 0.7 – 5.0 |
| | | | ✣ | R | 1 | MP7135 | RM | 60 – 85 | 0.25 – 0.55 | 1.5 – 6.0 |
| | | | ✣ | R | 2 | MP7135 | GH | 60 – 85 | 0.25 – 0.60 | 1.5 – 6.0 |
| | | | ✣ | H | 1 | MC7125 | HL | 75 – 90 | 0.40 – 1.00 | 1.5 – 8.0 |
| | | | ✣ | H | 2 | MC7125 | HM | 75 – 90 | 0.50 – 1.10 | 2.0 – 10.0 |



1. Recommended cutting conditions for 5° / 7° / 11° 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

## MC / MP7100 SERIES – 7° POSITIVE INSERTS (FOR EXTERNAL TURNING)

| | Material | Hardness | Cutting mode | F L M R H | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Austenitic stainless steel | <200 HB | ● | F | 1 | MC7115 | FM | 160 – 255 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | F | 2 | MC7125 | FM | 150 – 210 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 160 – 255 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 135 – 215 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | F | 1 | MC7125 | FM | 150 – 210 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ◐ | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | L | 2 | MP7135 | LM | 115 – 145 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | F | 1 | MP7135 | FM | 115 – 145 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ✣ | L | 1 | MP7135 | LM | 115 – 145 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | 200 HB | ● | F | 1 | MC7115 | FM | 135 – 215 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | F | 2 | MC7125 | FM | 125 – 175 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 135 – 215 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 110 – 180 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | F | 1 | MC7125 | FM | 125 – 175 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ◐ | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | L | 2 | MP7135 | LM | 95 – 120 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | F | 1 | MP7135 | FM | 95 – 120 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ✣ | L | 1 | MP7135 | LM | 95 – 120 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |
| | Ferritic and martensitic stainless steel | <200 HB | ● | F | 1 | MC7125 | FM | 150 – 210 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 160 – 255 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 135 – 215 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | F | 1 | MC7125 | FM | 150 – 210 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ◐ | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | L | 2 | MP7135 | LM | 115 – 145 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | F | 1 | MP7135 | FM | 115 – 145 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ✣ | L | 1 | MP7135 | LM | 115 – 145 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |



1. Recommended cutting conditions for 5° / 7° / 11° 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

## MC / MP7100 SERIES – 7° POSITIVE INSERTS (FOR EXTERNAL TURNING)

| | Material | Hardness | Cutting mode | F L M R H | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Ferritic and martensitic stainless steel | >200 HB | ● | F | 1 | MC7125 | FM | 125 – 175 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | F | 2 | MC7115 | FM | 135 – 215 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 135 – 215 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 110 – 180 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | F | 1 | MC7125 | FM | 125 – 175 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ◐ | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | L | 2 | MP7135 | LM | 95 – 120 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | F | 1 | MP7135 | FM | 95 – 120 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ✣ | L | 1 | MP7135 | LM | 95 – 120 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |
| | Two-phase stainless steel | <280 HB | ● | F | 1 | MP7135 | FM | 75 – 100 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | L | 1 | MP7135 | LM | 75 – 100 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7125 | LM | 100 – 140 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 3 | MC7115 | LM | 110 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MP7135 | MM | 65 – 80 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MM | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7125 | MV | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 4 | MC7115 | MM | 90 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | F | 1 | MC7125 | FM | 100 – 140 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ◐ | L | 1 | MC7125 | LM | 100 – 140 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | F | 1 | MP7135 | FM | 75 – 100 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ✣ | L | 1 | MP7135 | LM | 75 – 100 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 65 – 80 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 65 – 80 | 0.08 – 0.30 | 0.3 – 2.0 |
| | Precipitation-hardening stainless steel | 450 HB | ● | F | 1 | MC7115 | FM | 95 – 140 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ● | L | 1 | MC7115 | LM | 95 – 140 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7125 | LM | 85 – 105 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7115 | MM | 80 – 120 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MM | 70 – 85 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ◐ | F | 1 | MC7125 | FM | 85 – 105 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ◐ | F | 2 | MP7135 | FM | 60 – 85 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ◐ | L | 1 | MC7125 | LM | 85 – 105 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ◐ | L | 2 | MP7135 | LM | 60 – 85 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 70 – 85 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 70 – 85 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 3 | MP7135 | MM | 50 – 70 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ✣ | F | 1 | MP7135 | FM | 60 – 85 | 0.04 – 0.20 | 0.2 – 0.9 |
| | | | ✣ | L | 1 | MP7135 | LM | 60 – 85 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 50 – 70 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 50 – 70 | 0.08 – 0.30 | 0.3 – 2.0 |



1. Recommended cutting conditions for 5° / 7° / 11° 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

## MC / MP7100 SERIES – 11° POSITIVE INSERTS (FOR EXTERNAL TURNING)

| | Material | Hardness | Cutting mode | | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Austenitic stainless steel | <200 HB | ● | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 160 – 255 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7115 | MM | 135 – 215 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 115 – 145 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | 200 HB | ● | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 135 – 215 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 110 – 180 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 95 – 120 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |
| | Ferritic and martensitic stainless steel | <200 HB | ● | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 160 – 255 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 135 – 215 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 150 – 210 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 125 – 175 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 115 – 145 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 95 – 120 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | >200 HB | ● | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 135 – 215 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 110 – 180 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 125 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 105 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 95 – 120 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 80 – 100 | 0.08 – 0.30 | 0.3 – 2.0 |



1. Recommended cutting conditions for 5° / 7° / 11° 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

## MC / MP7100 SERIES – 11° POSITIVE INSERTS (FOR EXTERNAL TURNING)

| | Material | Hardness | Cutting mode | | Priority | Grade | | Vc | f | ap |
|---|---|---|---|---|---|---|---|---|---|---|
| M | Two-phase stainless steel | <280 HB | ● | L | 1 | MC7125 | LM | 100 – 140 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 110 – 175 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ● | M | 3 | MC7115 | MM | 90 – 145 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | L | 1 | MP7135 | LM | 75 – 100 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | L | 2 | MC7125 | LM | 100 – 140 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 85 – 115 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 75 – 100 | 0.06 – 0.25 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MP7135 | MM | 65 – 80 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MP7135 | MV | 65 – 80 | 0.08 – 0.30 | 0.3 – 2.0 |
| | Precipitation-hardening stainless steel | 450 HB | ● | L | 1 | MC7125 | LM | 85 – 105 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ● | L | 2 | MC7115 | LM | 95 – 140 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ● | M | 1 | MC7125 | MM | 70 – 85 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ● | M | 2 | MC7125 | MV | 70 – 85 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ◐ | L | 1 | MC7125 | LM | 85 – 105 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ◐ | M | 1 | MC7125 | MM | 70 – 85 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ◐ | M | 2 | MC7125 | MV | 70 – 85 | 0.08 – 0.30 | 0.3 – 2.0 |
| | | | ✣ | L | 1 | MP7135 | LM | 60 – 85 | 0.06 – 0.20 | 0.2 – 1.0 |
| | | | ✣ | M | 1 | MC7125 | MM | 70 – 85 | 0.08 – 0.25 | 0.3 – 2.0 |
| | | | ✣ | M | 2 | MC7125 | MV | 70 – 85 | 0.08 – 0.30 | 0.3 – 2.0 |

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1. Recommended cutting conditions for 5° / 7° / 11° 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.



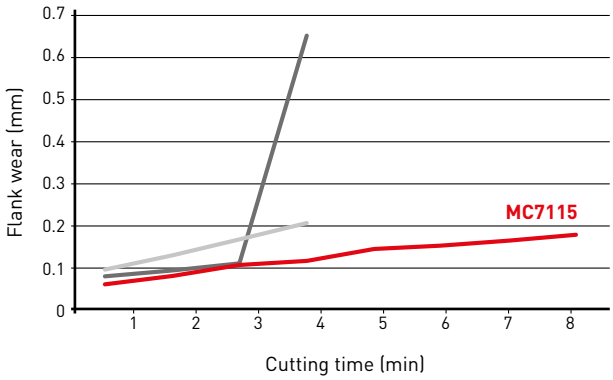
Cutting Conditions : ● : Stable cutting ◐ : General cutting ✣ : Unstable cutting

# MC/MP7100

## APPLICATION EXAMPLES

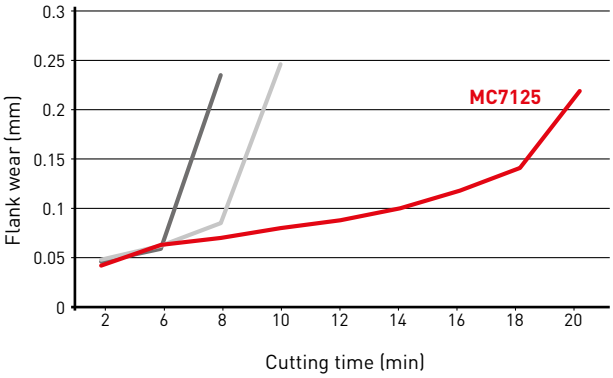
### MC7115: COMPARISON OF WEAR RESISTANCE DURING WET CUTTING

| | |
|---|---|
| Tool | CNMG120408-◌◌ |
| Material | DIN X5CrNi189 |
| Vc (m/min) | 250 |
| f (mm/rev) | 0.30 |
| ap (mm) | 1.5 |
| Cutting mode | Wet cutting |
| Results | Tool life doubled |



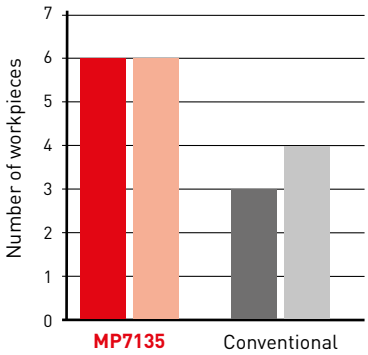

### MC7125: COMPARISON OF WEAR RESISTANCE DURING WET CUTTING

| | |
|---|---|
| Tool | CNMG120408-◌◌ |
| Material | DIN X2CrNiMo1812 |
| Vc (m/min) | 250 |
| f (mm/rev) | 0.30 |
| ap (mm) | 1.5 |
| Cutting mode | Wet cutting |
| Results | Tool life doubled |




### MP7135: INTERMITTENT CUTTING COMPARISON

| | |
|---|---|
| Tool | CNMG120408-◌◌ |
| Material | DIN X5CrNi189 |
| Vc (m/min) | 120 |
| f (mm/rev) | 0.25 |
| ap (mm) | 2.0 x 2 pass |
| Cutting mode | Wet cutting |
| Results | Almost double tool life |




■ : MC/MP7100 ■ A ■ B : Conventional tool

*The examples shown are customer's applications, therefore can differ from the recommended conditions.*

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