

ISO insert Series for Stainless Steel Turning

MC7000

A revolution in stainless steel turning

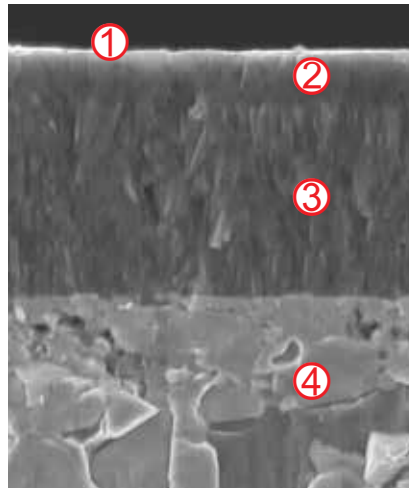
Excellent resistance to notch wear and with good burr control.
Long tool life achieved due to high plastic deformation resistance.



ISO insert Series for Stainless Steel Turning

CVD coated grade

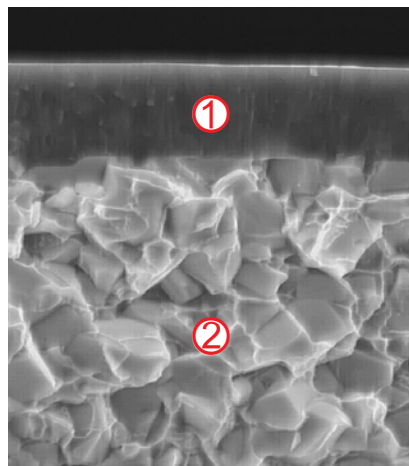
MC7015/MC7025



- ① Smooth cutting edge
Prevents welding
- ② Thin layer,
Nano-texture Al₂O₃
Controls abnormal damage
- ③ Tough,
Nano-texture TiCN
High wear resistance
- ④ Special carbide
substrate
Plastic deformation resistance
Chipping resistance

PVD coated grade

MP7035

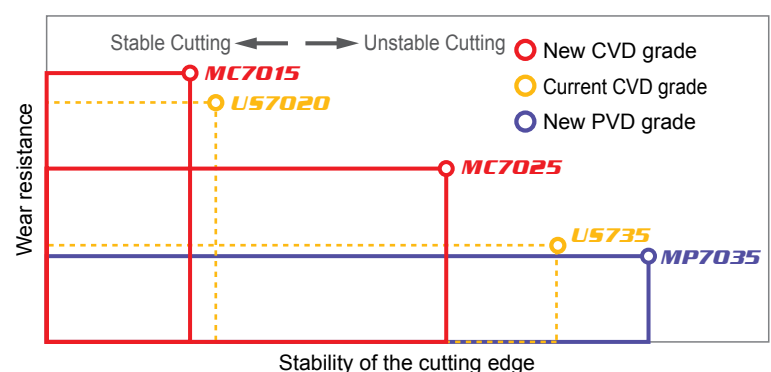


- ① (Al, Ti)N coating
Prevents welding
- ② Special carbide
substrate
Improved fracture resistance
Thermal shock resistance

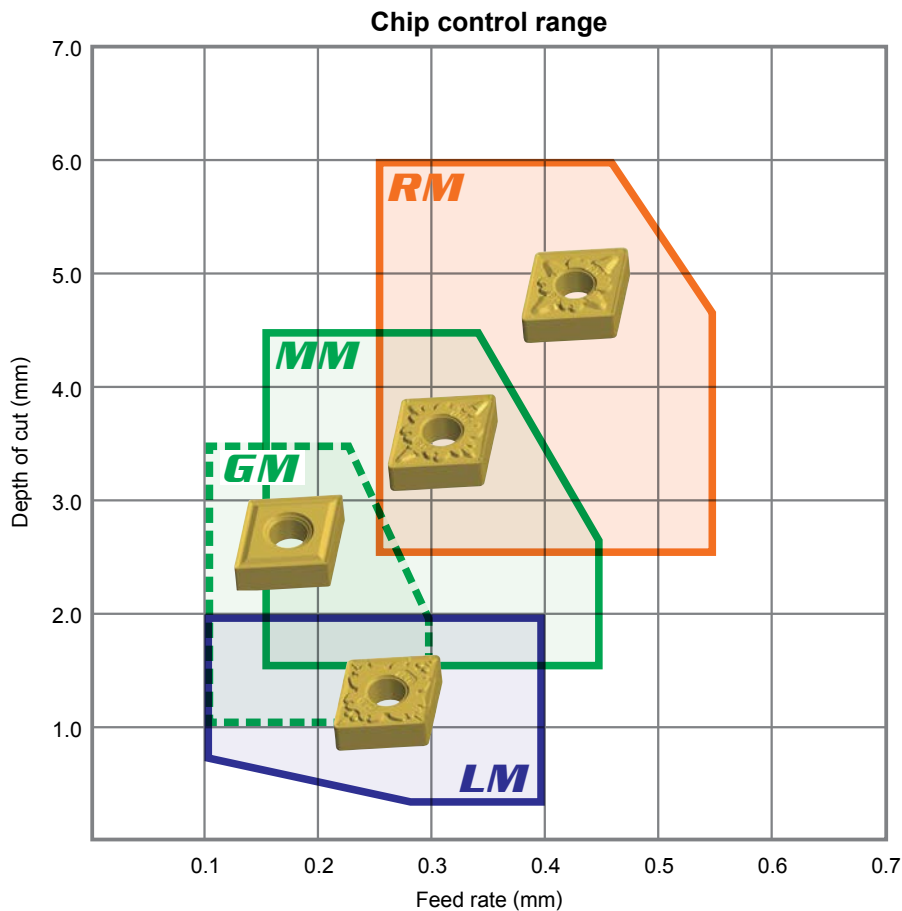
Application range

ISO	Stainless Steel
M01	
M10	MC7015
M20	MC7015, MC7025
M30	MC7025, MP7035
M40	MP7035

Concept of grade



Chipbreaker system for stainless steel turning

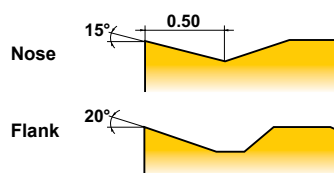


Main chipbreaker

LM for light cutting

Excellent burr control

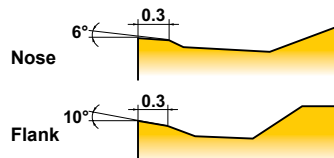
Reduces the incidence of burrs drastically because the sharpness properties and cutting edge strength are optimized with different rake angles.



MM for medium cutting

Excellent resistance to plastic deformation

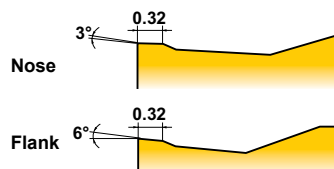
As a result of obtaining the optimum land geometry by simulation analysis technology, the plastic deformation of the insert corner was controlled and achieved long tool life.



RM for rough cutting

Excellent fracture resistance

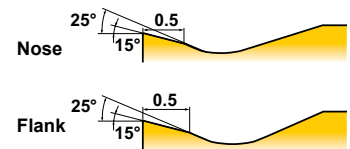
By optimizing the land angle and honing geometry, high cutting edge stability is achieved during interrupted machining.



Sub breaker

GM

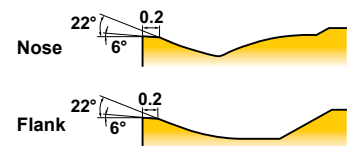
Sub breaker of the main LM and MM chip breaker. Excellent notch resistance for light to medium cutting.



Multi-Assist breaker

MA


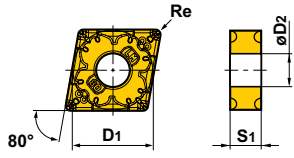

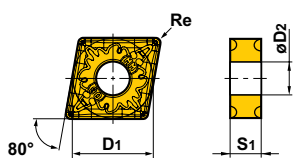

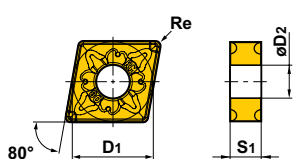

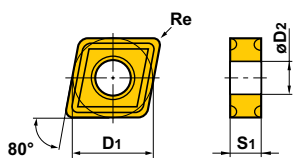

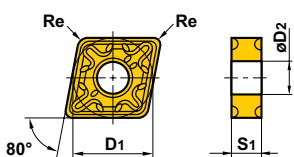

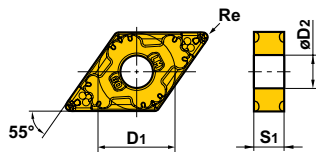

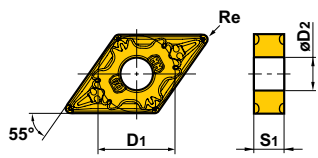
Suitable for medium cutting range.




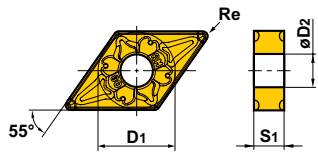
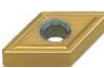
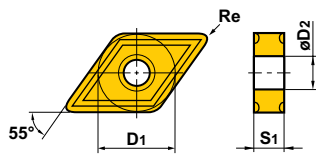

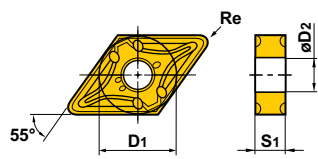

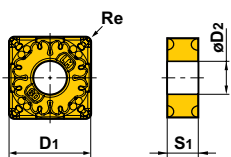

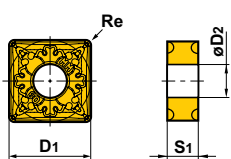

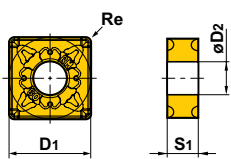

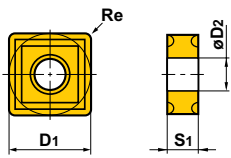
ISO insert Series for Stainless Steel Turning

INSERTS

● Negative Inserts (With hole)

Shape	Order Number	Stock			Dimensions (mm)				Geometry
		MC7015	MC7025	MP7035	D1	S1	Re	D2	
 Light Cutting	CNMG120404-LM	●	●	●	12.7	4.76	0.4	5.16	
	120408-LM	●	●	●	12.7	4.76	0.8	5.16	
	120412-LM	●	●	●	12.7	4.76	1.2	5.16	
 Medium Cutting	CNMG120408-MM	●	●	●	12.7	4.76	0.8	5.16	
	120412-MM	●	●	●	12.7	4.76	1.2	5.16	
	120416-MM	●	●	●	12.7	4.76	1.6	5.16	
	160608-MM	●	●	●	15.875	6.35	0.8	6.35	
	160612-MM	●	●	●	15.875	6.35	1.2	6.35	
	160616-MM	●	●	●	15.875	6.35	1.6	6.35	
	190608-MM	●	●	●	19.05	6.35	0.8	7.93	
	190612-MM	●	●	●	19.05	6.35	1.2	7.93	
190616-MM	●	●	●	19.05	6.35	1.6	7.93		
 Rough Cutting	CNMG120408-RM	●	●	●	12.7	4.76	0.8	5.16	
	120412-RM	●	●	●	12.7	4.76	1.2	5.16	
	120416-RM	●	●	●	12.7	4.76	1.6	5.16	
	160612-RM	●	●	●	15.875	6.35	1.2	6.35	
	160616-RM	●	●	●	15.875	6.35	1.6	6.35	
	190612-RM	●	●	●	19.05	6.35	1.2	7.93	
190616-RM	●	●	●	19.05	6.35	1.6	7.93		
 Medium Cutting	CNMG120404-GM	●	●	●	12.7	4.76	0.4	5.16	
	120408-GM	●	●	●	12.7	4.76	0.8	5.16	
	120412-GM	●	●	●	12.7	4.76	1.2	5.16	
 Medium Cutting	CNMG120404-MA	●	●	●	12.7	4.76	0.4	5.16	
	120408-MA	●	●	●	12.7	4.76	0.8	5.16	
	120412-MA	●	●	●	12.7	4.76	1.2	5.16	
 Light Cutting	DNMG110404-LM	●	●	●	9.525	4.76	0.4	3.81	
	110408-LM	●	●	●	9.525	4.76	0.8	3.81	
	150404-LM	●	●	●	12.7	4.76	0.4	5.16	
	150408-LM	●	●	●	12.7	4.76	0.8	5.16	
	150412-LM	●	●	●	12.7	4.76	1.2	5.16	
	150604-LM	●	●	●	12.7	6.35	0.4	5.16	
	150608-LM	●	●	●	12.7	6.35	0.8	5.16	
150612-LM	●	●	●	12.7	6.35	1.2	5.16		
 Medium Cutting	DNMG150408-MM	●	●	●	12.7	4.76	0.8	5.16	
	150412-MM	●	●	●	12.7	4.76	1.2	5.16	
	150608-MM	●	●	●	12.7	6.35	0.8	5.16	
	150612-MM	●	●	●	12.7	6.35	1.2	5.16	


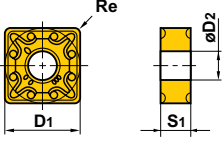

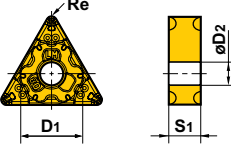

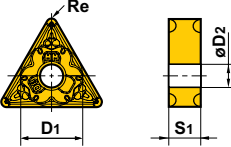

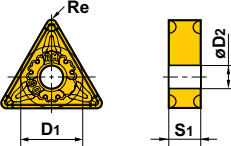

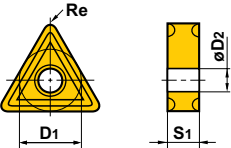

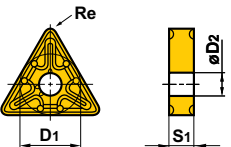

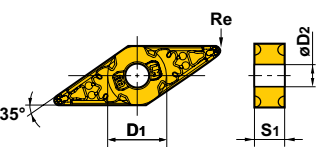

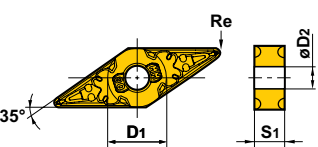
● : Inventory maintained.

Shape	Order Number	Stock			Dimensions (mm)				Geometry
		MC7015	MC7025	MP7035	D1	S1	Re	D2	
RM  Rough Cutting	DNMG150408-RM	●	●	●	12.7	4.76	0.8	5.16	
	150412-RM	●	●	●	12.7	4.76	1.2	5.16	
	150416-RM	●	●	●	12.7	4.76	1.6	5.16	
	150608-RM	●	●	●	12.7	6.35	0.8	5.16	
	150612-RM	●	●	●	12.7	6.35	1.2	5.16	
	150616-RM	●	●	●	12.7	6.35	1.6	5.16	
GM  Medium Cutting	DNMG150404-GM	●	●	●	12.7	4.76	0.4	5.16	
	150408-GM	●	●	●	12.7	4.76	0.8	5.16	
	150412-GM	●	●	●	12.7	4.76	1.2	5.16	
	150604-GM	●	●	●	12.7	6.35	0.4	5.16	
	150608-GM	●	●	●	12.7	6.35	0.8	5.16	
	150612-GM	●	●	●	12.7	6.35	1.2	5.16	
MA  Medium Cutting	DNMG150404-MA		●	●	12.7	4.76	0.4	5.16	
	150408-MA		●	●	12.7	4.76	0.8	5.16	
	150412-MA		●	●	12.7	4.76	1.2	5.16	
	150604-MA		●	●	12.7	6.35	0.4	5.16	
	150608-MA		●	●	12.7	6.35	0.8	5.16	
	150612-MA		●	●	12.7	6.35	1.2	5.16	
LM  Light Cutting	SNMG120404-LM	●	●	●	12.7	4.76	0.4	5.16	
	120408-LM	●	●	●	12.7	4.76	0.8	5.16	
MM  Medium Cutting	SNMG120408-MM	●	●	●	12.7	4.76	0.8	5.16	
	120412-MM	●	●	●	12.7	4.76	1.2	5.16	
	120416-MM	●	●	●	12.7	4.76	1.6	5.16	
	150608-MM	●	●	●	15.875	6.35	0.8	6.35	
	150612-MM	●	●	●	15.875	6.35	1.2	6.35	
	150616-MM	●	●	●	15.875	6.35	1.6	6.35	
	190612-MM	●	●	●	19.05	6.35	1.2	7.93	
	190616-MM	●	●	●	19.05	6.35	1.6	7.93	
RM  Rough Cutting	SNMG120408-RM	●	●	●	12.7	4.76	0.8	5.16	
	120412-RM	●	●	●	12.7	4.76	1.2	5.16	
	120416-RM	●	●	●	12.7	4.76	1.6	5.16	
	150612-RM	●	●	●	15.875	6.35	1.2	6.35	
	150616-RM	●	●	●	15.875	6.35	1.6	6.35	
	190612-RM	●	●	●	19.05	6.35	1.2	7.93	
	190616-RM	●	●	●	19.05	6.35	1.6	7.93	
GM  Medium Cutting	SNMG120404-GM	●	●	●	12.7	4.76	0.4	5.16	
	120408-GM	●	●	●	12.7	4.76	0.8	5.16	
	120412-GM	●	●	●	12.7	4.76	1.2	5.16	


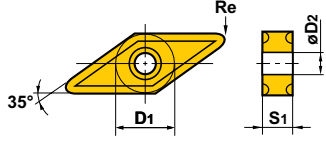

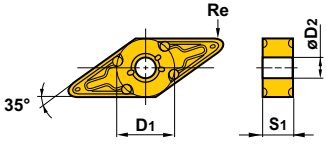

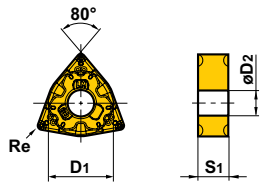

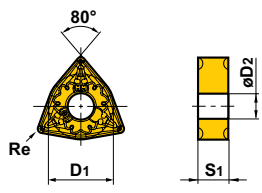

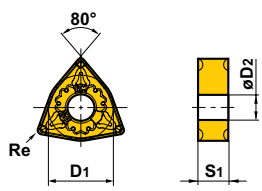

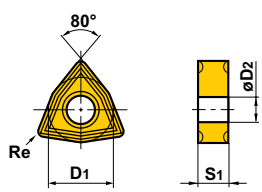

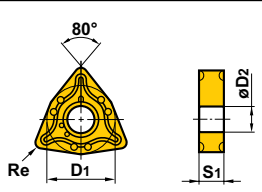
ISO insert Series for Stainless Steel Turning

INSERTS

● Negative Inserts (With hole)

Shape	Order Number	Stock			Dimensions (mm)				Geometry
		MC7015	MC7025	MP7035	D1	S1	Re	D2	
	SNMG120404-MA		●	●	12.7	4.76	0.4	5.16	
	120408-MA		●	●	12.7	4.76	0.8	5.16	
	120412-MA		●	●	12.7	4.76	1.2	5.16	
Medium Cutting									
	TNMG160404-LM	●	●	●	9.525	4.76	0.4	3.81	
	160408-LM	●	●	●	9.525	4.76	0.8	3.81	
	160412-LM	●	●	●	9.525	4.76	1.2	3.81	
Light Cutting									
	TNMG160408-MM	●	●	●	9.525	4.76	0.8	3.81	
	160412-MM	●	●	●	9.525	4.76	1.2	3.81	
	220408-MM	●	●	●	12.7	4.76	0.8	5.16	
	220412-MM	●	●	●	12.7	4.76	1.2	5.16	
	220416-MM	●	●	●	12.7	4.76	1.6	5.16	
Medium Cutting									
	TNMG160408-RM	●	●	●	9.525	4.76	0.8	3.81	
	160412-RM	●	●	●	9.525	4.76	1.2	3.81	
	220408-RM	●	●	●	12.7	4.76	0.8	5.16	
	220412-RM	●	●	●	12.7	4.76	1.2	5.16	
	220416-RM	●	●	●	12.7	4.76	1.6	5.16	
Rough Cutting									
	TNMG160404-GM	●	●	●	9.525	4.76	0.4	3.81	
	160408-GM	●	●	●	9.525	4.76	0.8	3.81	
	160412-GM	●	●	●	9.525	4.76	1.2	3.81	
	220408-GM	●	●	●	12.7	4.76	0.8	5.16	
	220412-GM	●	●	●	12.7	4.76	1.2	5.16	
Medium Cutting									
	TNMG160404-MA		●	●	9.525	4.76	0.4	3.81	
	160408-MA		●	●	9.525	4.76	0.8	3.81	
	160412-MA		●	●	9.525	4.76	1.2	3.81	
	220408-MA		●	●	12.7	4.76	0.8	5.16	
	220412-MA		●	●	12.7	4.76	1.2	5.16	
Medium Cutting									
	VNMG160404-LM	●	●	●	9.525	4.76	0.4	3.81	
	160408-LM	●	●	●	9.525	4.76	0.8	3.81	
Light Cutting									
	VNMG160408-MM	●	●	●	9.525	4.76	0.8	3.81	
Medium Cutting									


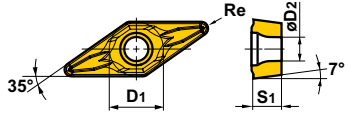

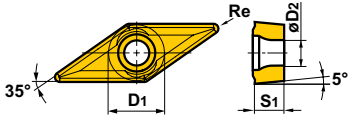
● : Inventory maintained.

Shape	Order Number	Stock			Dimensions (mm)				Geometry
		MC7015	MC7025	MP7035	D1	S1	Re	D2	
GM  Medium Cutting	VNMG160404-GM	●	●	●	9.525	4.76	0.4	3.81	
	160408-GM	●	●	●	9.525	4.76	0.8	3.81	
MA  Medium Cutting	VNMG160404-MA		●	●	9.525	4.76	0.4	3.81	
	160408-MA		●	●	9.525	4.76	0.8	3.81	
LM  Light Cutting	WNMG060404-LM	●	●	●	9.525	4.76	0.4	3.81	
	060408-LM	●	●	●	9.525	4.76	0.8	3.81	
	080404-LM	●	●	●	12.7	4.76	0.4	5.16	
	080408-LM	●	●	●	12.7	4.76	0.8	5.16	
MM  Medium Cutting	WNMG060408-MM	●	●	●	9.525	4.76	0.8	3.81	
	060412-MM	●	●	●	9.525	4.76	1.2	3.81	
	080408-MM	●	●	●	12.7	4.76	0.8	5.16	
	080412-MM	●	●	●	12.7	4.76	1.2	5.16	
RM  Rough Cutting	WNMG060408-RM	●	●	●	9.525	4.76	0.8	3.81	
	060412-RM	●	●	●	9.525	4.76	1.2	3.81	
	080408-RM	●	●	●	12.7	4.76	0.8	5.16	
	080412-RM	●	●	●	12.7	4.76	1.2	5.16	
GM  Medium Cutting	WNMG060404-GM	●	●	●	9.525	4.76	0.4	3.81	
	060408-GM	●	●	●	9.525	4.76	0.8	3.81	
	080404-GM	●	●	●	12.7	4.76	0.4	5.16	
	080408-GM	●	●	●	12.7	4.76	0.8	5.16	
	080412-GM	●	●	●	12.7	4.76	1.2	5.16	
MA  Medium Cutting	WNMG060408-MA		●	●	9.525	4.76	0.8	3.81	
	060412-MA		●	●	9.525	4.76	1.2	3.81	
	080404-MA		●	●	12.7	4.76	0.4	5.16	
	080408-MA		●	●	12.7	4.76	0.8	5.16	
	080412-MA		●	●	12.7	4.76	1.2	5.16	


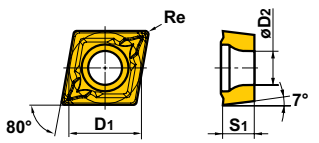

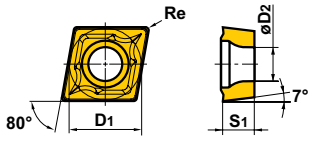

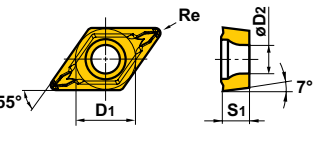

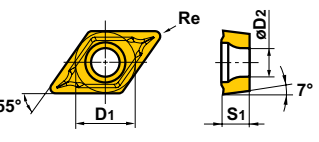

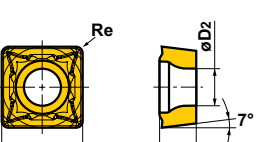
ISO insert Series for Stainless Steel Turning

INSERTS


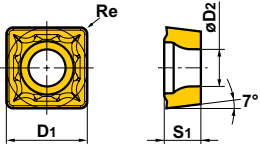

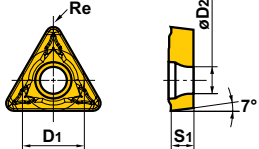

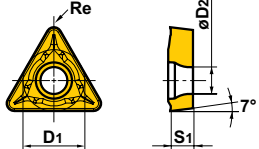

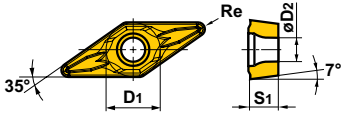

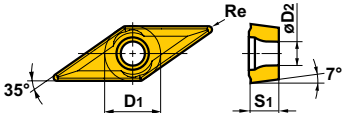
● 5° Positive inserts (With hole)

Shape	Order Number	Stock			Dimensions (mm)				Geometry
		MC7015	MC7025	MP7035	D1	S1	Re	D2	
 Light Cutting	NEW VBMT110304-LM		●	●	6.35	3.18	0.4	2.9	
	110308-LM		●	●	6.35	3.18	0.8	2.9	
	160404-LM		●	●	9.525	4.76	0.4	4.4	
	160408-LM		●	●	9.525	4.76	0.8	4.4	
 Medium Cutting	NEW VBMT160404-MM		●	●	9.525	4.76	0.4	4.4	
	160408-MM		●	●	9.525	4.76	0.8	4.4	

● 7° Positive inserts (With hole)

Shape	Order Number	Stock			Dimensions (mm)				Geometry
		MC7015	MC7025	MP7035	D1	S1	Re	D2	
 Light Cutting	NEW CCMT060204-LM		●	●	6.35	2.38	0.4	2.8	
	060208-LM		●	●	6.35	2.38	0.8	2.8	
	09T304-LM		●	●	9.525	3.97	0.4	4.4	
	09T308-LM		●	●	9.525	3.97	0.8	4.4	
 Medium Cutting	NEW CCMT060204-MM		●	●	6.35	2.38	0.4	2.8	
	060208-MM		●	●	6.35	2.38	0.8	2.8	
	09T304-MM		●	●	9.525	3.97	0.4	4.4	
	09T308-MM		●	●	9.525	3.97	0.8	4.4	
	120404-MM		●	●	12.7	4.76	0.4	5.5	
	120408-MM		●	●	12.7	4.76	0.8	5.5	
 Light Cutting	NEW DCMT070204-LM		●	●	6.35	2.38	0.4	2.8	
	070208-LM		●	●	6.35	2.38	0.8	2.8	
	11T304-LM		●	●	9.525	3.97	0.4	4.4	
	11T308-LM		●	●	9.525	3.97	0.8	4.4	
 Medium Cutting	NEW DCMT070204-MM		●	●	6.35	2.38	0.4	2.8	
	070208-MM		●	●	6.35	2.38	0.8	2.8	
	11T304-MM		●	●	9.525	3.97	0.4	4.4	
	11T308-MM		●	●	9.525	3.97	0.8	4.4	
	150404-MM		●	●	12.7	4.76	0.4	5.5	
 Light Cutting	NEW SCMT09T304-LM		●	●	9.525	3.97	0.4	4.4	
	09T308-LM		●	●	9.525	3.97	0.8	4.4	

● : Inventory maintained.

Shape	Order Number	Stock			Dimensions (mm)				Geometry
		MC7015	MC7025	MP7035	D1	S1	Re	D2	
NEW MM 	SCMT09T304-MM		●	●	9.525	3.97	0.4	4.4	
	09T308-MM		●	●	9.525	3.97	0.8	4.4	
	120404-MM		●	●	12.7	4.76	0.4	5.5	
	120408-MM		●	●	12.7	4.76	0.8	5.5	
Medium Cutting									
NEW LM 	TCMT090204-LM		●	●	5.56	2.38	0.4	2.5	
	090208-LM		●	●	5.56	2.38	0.8	2.5	
	110204-LM		●	●	6.35	2.38	0.4	2.8	
	110208-LM		●	●	6.35	2.38	0.8	2.8	
	16T304-LM		●	●	9.525	3.97	0.4	4.4	
	16T308-LM		●	●	9.525	3.97	0.8	4.4	
Light Cutting									
NEW MM 	TCMT090204-MM		●	●	5.56	2.38	0.4	2.5	
	090208-MM		●	●	5.56	2.38	0.8	2.5	
	110204-MM		●	●	6.35	2.38	0.4	2.8	
	110208-MM		●	●	6.35	2.38	0.8	2.8	
	130304-MM		●	●	7.94	3.18	0.4	3.4	
	16T304-MM		●	●	9.525	3.97	0.4	4.4	
	16T308-MM		●	●	9.525	3.97	0.8	4.4	
	16T312-MM		●	●	9.525	3.97	1.2	4.4	
Medium Cutting									
NEW LM 	VCMT110304-LM		●	●	6.35	3.18	0.4	2.8	
	110308-LM		●	●	6.35	3.18	0.8	2.8	
	160404-LM		●	●	9.525	4.76	0.4	4.4	
	160408-LM		●	●	9.525	4.76	0.8	4.4	
Light Cutting									
NEW MM 	VCMT160404-MM		●	●	9.525	4.76	0.4	4.4	
	160408-MM		●	●	9.525	4.76	0.8	4.4	
	160412-MM		●	●	9.525	4.76	1.2	4.4	
Medium Cutting									

CUTTING CONDITIONS

Negative Inserts (External turning tools)

Work Material	Hardness	Cutting Conditions	Cutting Range	Breaker	Grade	Cutting Speed (m/min)	Feed Rate (mm/rev)	Depth of Cut (mm)		
M Austenitic Stainless Steel (X5CrNi189, X5CrNiMo1810)	180HB	Stable Cutting	Light Cutting	LM	MC7015	180—285	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MC7015	160—255	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MC7015	155—245	0.25—0.55	1.50—6.00		
		General Cutting	Light Cutting	LM	MC7025	160—215	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MC7025	145—195	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MC7025	140—185	0.25—0.55	1.50—6.00		
		Unstable Cutting	Light Cutting	LM	MP7035	95—155	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MP7035	85—140	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MP7035	85—135	0.25—0.55	1.50—6.00		
		Duplex Stainless Steel (X3CrNiCu1894)	280HB	Stable Cutting	Light Cutting	LM	MC7015	120—195	0.10—0.30	0.30—2.00
					Medium Cutting	MM	MC7015	110—175	0.15—0.45	0.70—5.00
					Rough Cutting	RM	MC7015	105—165	0.25—0.55	1.50—6.00
				General Cutting	Light Cutting	LM	MC7025	110—150	0.10—0.30	0.30—2.00
					Medium Cutting	MM	MC7025	100—135	0.15—0.45	0.70—5.00
					Rough Cutting	RM	MC7025	95—125	0.25—0.55	1.50—6.00
Unstable Cutting	Light Cutting			LM	MP7035	65—105	0.10—0.30	0.30—2.00		
	Medium Cutting			MM	MP7035	60—95	0.15—0.45	0.70—5.00		
	Rough Cutting			RM	MP7035	55—90	0.25—0.55	1.50—6.00		
Ferritic and Martensitic Stainless Steels (X12Cr13, X17CrNi162)	180HB	Stable Cutting	Light Cutting	LM	MC7015	180—285	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MC7015	160—255	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MC7015	155—245	0.25—0.55	1.50—6.00		
		General Cutting	Light Cutting	LM	MC7025	160—215	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MC7025	145—195	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MC7025	140—185	0.25—0.55	1.50—6.00		
		Unstable Cutting	Light Cutting	LM	MP7035	95—155	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MP7035	85—140	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MP7035	85—135	0.25—0.55	1.50—6.00		
Hardened Stainless Steels (17-4PH, 1.4548 17-7PH, 1.4568)	350HB	Stable Cutting	Light Cutting	LM	MC7015	100—160	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MC7015	90—145	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MC7015	85—135	0.25—0.55	1.50—6.00		
		General Cutting	Light Cutting	LM	MC7025	90—120	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MC7025	80—110	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MC7025	80—105	0.25—0.55	1.50—6.00		
		Unstable Cutting	Light Cutting	LM	MP7035	55—85	0.10—0.30	0.30—2.00		
			Medium Cutting	MM	MP7035	50—80	0.15—0.45	0.70—5.00		
			Rough Cutting	RM	MP7035	45—75	0.25—0.55	1.50—6.00		

TOOL LIFE

Cutting speed affects on tool life.

Mitsubishi's **TOOL NAVI** suggests cutting speeds for 15–90 minute tool life and is based on Taylor's equation (Relationship for tool grade, cutting conditions and tool life). When a different tool life is required, obtain the coefficient values from the charts below. Multiply the coefficient values by the cutting speed to calculate a new cutting speed.

CUTTING CONDITIONS

Negative Inserts (External turning tools)

Work Material	Hardness	Cutting Conditions	Cutting Range	Breaker	Grade	Cutting Speed (m/min)	Feed Rate (mm/rev)	Depth of Cut (mm)
Austenitic Stainless Steel (X5CrNi189, X5CrNiMo1810)	180HB	Stable Cutting	Light Cutting	LM	MC7015	180–285	0.10–0.30	0.30–2.00
			Medium Cutting	MM	MC7015	160–255	0.15–0.45	0.70–5.00
			Rough Cutting	RM	MC7015	155–245	0.25–0.55	1.50–6.00
		General Cutting	Light Cutting	LM	MC7025	160–215	0.10–0.30	0.30–2.00
			Medium Cutting	MM	MC7025	145–195	0.15–0.45	0.70–5.00
			Rough Cutting	RM	MC7025	140–185	0.25–0.55	1.50–6.00
		Unstable Cutting	Light Cutting	LM	MP7035	95–155	0.10–0.30	0.30–2.00
			Medium Cutting	MM	MP7035	85–140	0.15–0.45	0.70–5.00
			Rough Cutting	RM	MP7035	85–135	0.25–0.55	1.50–6.00

M Grade (Stainless Steel) cutting speed coefficient values. (ex.) General cutting of Austenitic Stainless Steel (200HB)

Grade \ Tool life	15min	30min	45min	60min	90min
MC7015	1.00	0.83	0.75	0.70	0.63
MC7025	1.00	0.90	0.84	0.80	0.75
MP7035	1.00	0.84	0.76	0.71	0.62

The 1st recommendation : MC7025
 Indexable inserts : CNMG120408-MM
 Recommended cutting speed : Vc=195m/min (Tool life = 15min)
 (Tool life : Vc145m/min = 90min)

↓
 Tool life required by the customer : 30min

$$Vc195 \times 0.90 = Vc175m/min$$

Hardness of the work material

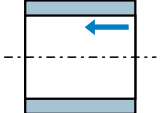
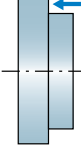
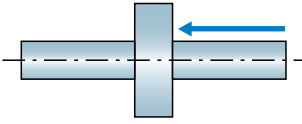



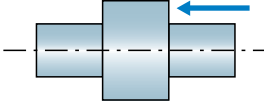

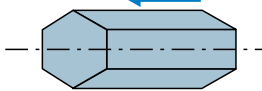
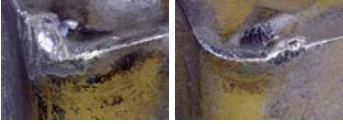


Hardness of the work material also affects tool life. Mitsubishi's **TOOL NAVI** suggests cutting speed variations when material hardness differs. Obtain the suitable coefficient value for each type of work material from the chart below. Multiply the coefficient value by the recommended cutting speed of the grade used to calculate a new cutting speed.

Work Material	Hardness	Hardness of Workpiece HB									
		Soft	-60	-40	-20	0	+20	+40	+60	+80	+100
Austenitic Stainless Steel	180HB	1.41	1.23	1.10	1.0	0.91	0.85	0.72	0.68	0.64	0.61
Duplex Stainless Steel	280HB	1.25	1.15	1.06	1.0	0.94	0.90	0.85	-	-	-
Ferritic and Martensitic Stainless Steels	180HB	1.41	1.23	1.10	1.0	0.91	0.85	0.78	0.72	0.68	0.64
Hardened Stainless Steels	350HB	1.18	1.13	1.07	1.0	0.95	-	-	-	-	-

(ex.) Austenitic Stainless Steel (200HB)

↓
 $Vc=175m/min \times 0.91 = Vc159m/min$

APPLICATION EXAMPLES

Insert		WNMG080408-MM	CNMG160612-RM	CNMG120408-MM
Work Piece		1.4308 (G-X6CrNi189) 	Duplex 1.4460 (X3CrNiMo27-5-2) 	1.4541 (X10CrNiTi189) 
Cutting Conditions	Cutting Speed (m/min)	145	100	220
	Feed Rate (mm/rev)	0.13	0.45	0.28
	Depth of Cut (mm)	2.0	4.0	1.6
	Coolant	Wet	Wet	Wet
Results		Competitor's MC7025  5 pieces machined 10 pieces machined	Competitor's MC7025  8 pieces machined 8 pieces machined	Competitor's MC7015  4 pieces machined 8 pieces machined
Insert		CNMG120408-LM	WNMG080408-MM	CNMG120408-LM
Work Piece		1.4529 (X1NiCrMoCuN25-20-6) 	1.4401 (X5CrNiMo1810) 	1.4350 (X5CrNi189) 
Cutting Conditions	Cutting Speed (m/min)	140	122	80
	Feed Rate (mm/rev)	0.2	0.3	0.1
	Depth of Cut (mm)	1.1	2.2	2
	Coolant	Wet	Wet	Wet
Results		Competitor's MC7025  12 pieces machined 15 pieces machined	Competitor's MC7015  60 pieces machined 60 pieces machined	Competitor's MP7035  5 pieces machined 5 pieces machined



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