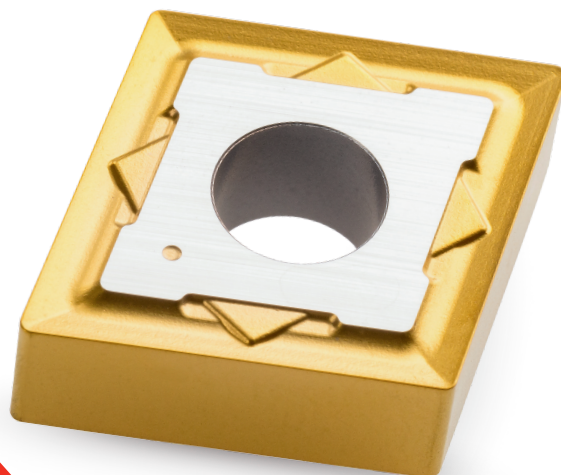
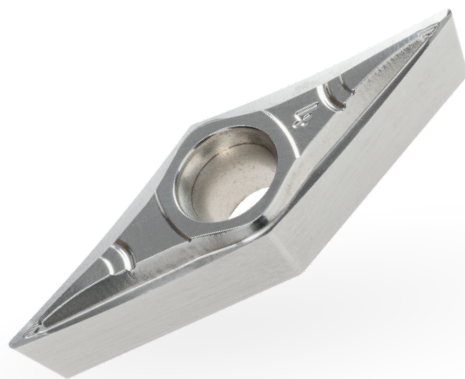


EN
2025



Inserts for turning

Cutting Tool Solutions





Founded in 2001, MASAM, s.r.o. has over 20 years of experience in the development and production of custom cutting tools, tool reconditioning and coating, as well as precision CNC machining for various industrial applications.

 **Headquarters**
Vráble, Slovakia

Driven by a culture of professional development and technological leadership, MASAM invests continuously in machine upgrades, R&D, and dual-education partnerships with local technical schools. Its strategic goal is to expand capacity, enter new market segments, and exceed the expectations of industrial clients worldwide.

Facts and figures

1 production sites 

1 00 000 tools sharpened and produced annually 

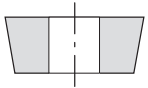
10 countries in which we are active 

70 employees 

in-house design and development department 

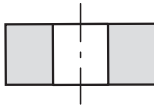
strong focus on custom manufacturing 

PST – Positive Size Turning



	STEEL EXTREME FINISHING	MASTERFINISH	▼▼▼	MWX	8
	STEEL FINISHING	CERMET	▼▼▼	MJF	10
	STEEL FINISHING		▼▼▼	MWSF	12
	STEEL SEMI FINISHING		▼▼	MWM	16
	STAINLESS STEEL EXTREME FINISHING	TARGET IC	▼▼▼	MNEF	22
	STAINLESS STEEL FINISHING	TARGET IC	▼▼▼	MLMF	24
	STAINLESS STEEL FINISHING	CERMET	▼▼▼	MJF	26
	STAINLESS STEEL FINISHING		▼▼▼	MWSF	28
	STAINLESS STEEL MEDIUM		▼▼	MWM	32
	CAST IRON		▼▼	MWM	38
	NON-FERROUS FINISHING	TARGET IC	▼▼▼	MLSF	40
	NON-FERROUS SEMI FINISHING MEDIUM	TARGET IC	▼▼	MLMF	42

NST – Negative Size Turning

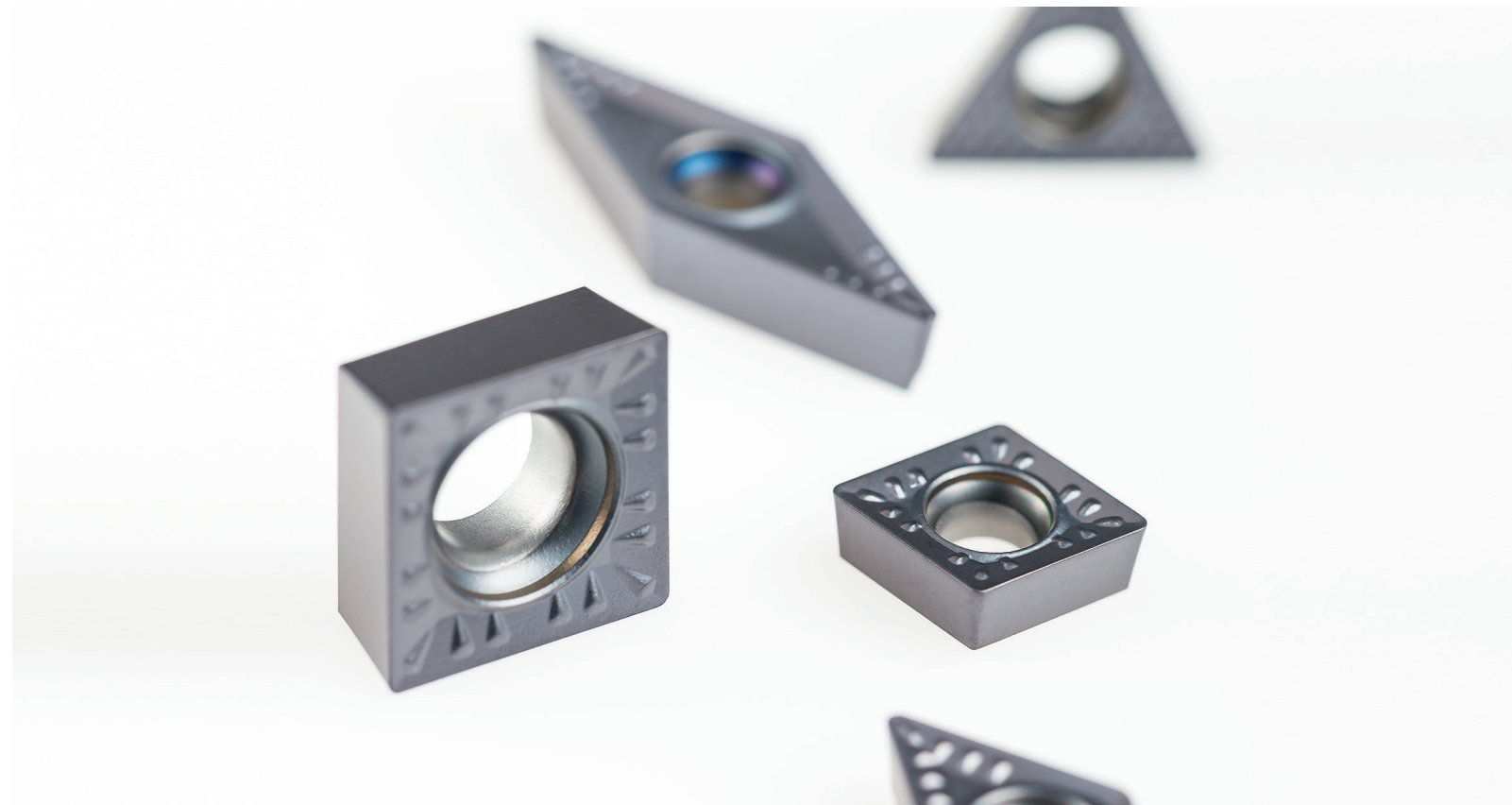


	STEEL SEMI FINISHING	CERMET	▼▼▼	MJF	p 46
	STEEL SEMI FINISHING		▼▼▼	MWL	p 48
	STEEL SEMI FINISHING		▼▼	MWM	p 50
	STEEL ROUGHING		▼	MWR	p 56
	STAINLESS STEEL FINISHING	TARGET IC	▼▼▼	MEXK	p 60
	STAINLESS STEEL MEDIUM		▼▼	MIPK	p 62
	STAINLESS STEEL ROUGHING		▼	MIPR	p 66
	CAST IRON MEDIUM		▼▼	MWM	p 68
	CAST IRON LIGHT ROUGHING		▼	M09	p 70
	EXOTICS SEMI FINISHING		▼▼	MIPE	p 74

HDT – Heavy Duty Turning

	STEEL HEAVY ROUGHING		▼	HD8	p 78
	STEEL MEDIUM		▼▼	MXR (RCMT only)	p 80
	STEEL ROUGHING		▼	M09	p 82
	CAST IRON ROUGHING		▼	M09	p 84

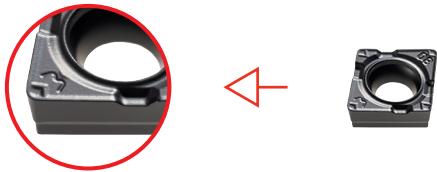
Positive Size Turning PST



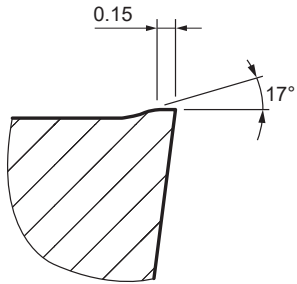
New chipbreaker

Optimised by FEM:

- ▲ Positive Masterfinish geometry
- ▲ High surface quality



Example: CCMX 09T308-MXW



Cutting data

General cutting parameters depending on the application

		MSP25C2H	
Work piece material	Type of treatment / alloy	Hardness HB	V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	200 – 270
	Low-alloyed steel	250 – 300	115 – 210
	High-alloyed steel	200	150 – 240
	Corrosion-resistant steel	200	150 – 240
M	Ferritic	200	160 – 240
	Austenitic	180	115 – 240
	Duplex	230 – 260	–
	Martensitic	330	80 – 115
K	Grey cast iron	180	150 – 240
	Spheroidal cast iron	160	140 – 270
	Malleable/tempered iron	130	170 – 290

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MXW	1 to 3.5	0.3 to 0.15

Ex: CCMX 09T308-MXW for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	×

Available range



MASTERFINISH



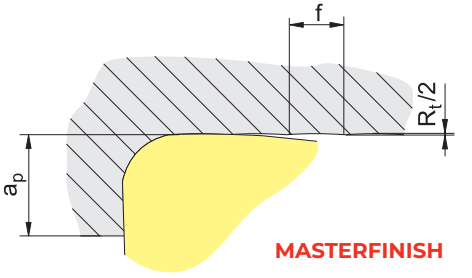
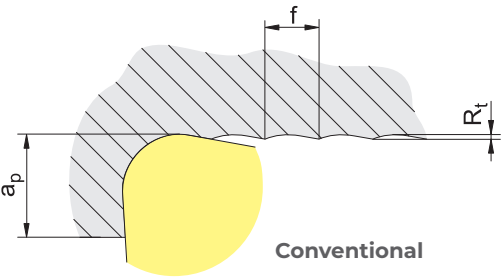
Steel extreme finishing – Masterfinish

Insert	Designation		Chipbreaker	Available
	CCMX 09T304-MXW	MSP25C2H		●
	CCMX 09T308-MXW	MSP25C2H		●
	DCMX 070204-MXW	MSP25C2H	...-MXW	●
	DCMX 11T304-MXW	MSP25C2H		○
	DCMX 11T308-MXW	MSP25C2H		○

Operating principle

Improved surface finish

With the same feed rate an insert with Masterfinish cutting edge reaches a roughness value R_a which is many times higher than the one of a conventional insert.

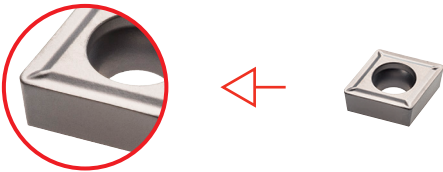


● available from stock, ○ available upon request

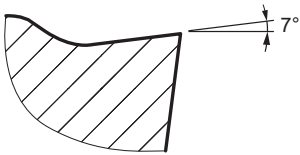
New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress



Example: DCMT 11T304-MJF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Cermet
			MSC10 V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	230 – 270
	Low-alloyed steel	250 – 300	180 – 230
	High-alloyed steel	200	160 – 200
	Corrosion-resistant steel	200	230 – 270
M	Ferritic	200	170 – 240
	Austenitic	180	200 – 240
	Duplex	230 – 260	–
	Martensitic	330	130 – 160
K	Grey cast iron	180	–
	Spheroidal cast iron	160	220 – 300
	Malleable/tempered iron	130	250 – 350

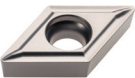
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MJF	0.10 to 1.65	0.20 to 0.05

Ex: CCMT 09T304-MJF
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	X	X

Available range



Turning steel pos finishing CERMET

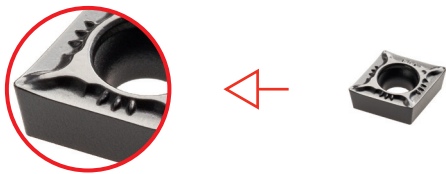
Insert	Designation		Chipbreaker	Available
	CCMT 060204-MJF	MSC10	... -MJF	●
	CCMT 09T304-MJF	MSC10		●
	DCMT 070204-MJF	MSC10		○
	DCMT 11T304-MJF	MSC10		●
	TCGT 110202-MJF	MSC10		●
	TCMT 110204-MJF	MSC10		●
	WCGT 020102-MJF	MSC10		●

● available from stock, ○ available upon request

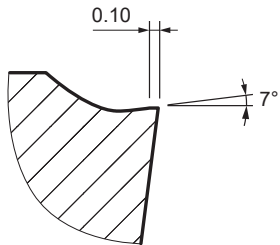
New chipbreaker

MWSF:

▲ To optimise chip control



Example: CCMT 09T308-MWSF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate		
			MSP15C v _c [m/min]	MSP25C2H v _c [m/min]	MSP35C v _c [m/min]		Chip groove	a _p [mm]	f [mm]
P	Non-alloyed steel 0 – 0.45%	150 – 250	220 – 400	200 – 270	170 – 190	MWSF	0.50 to 2.25	0.14 to 0.07	
	Steel								
	Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150				
	High-alloyed steel	200	180 – 320	150 – 240	120 – 200				
	Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180				
M	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CCMT 09T304-MWSF for CK60 Different in each application			
	Austenitic	180	–	115 – 240	110 – 190				
	Duplex	230 – 260	–	–	80 – 150				
	Martensitic	330	–	80 – 115	55 – 75				
K	Grey cast iron	180	140 – 370	150 – 240	–	Consistent cutting depth	Inconsistent cutting depth	Interrupted cut	
	Spheroidal cast iron	160	190 – 430	140 – 270	–				
	Malleable/tempered iron	130	180 – 520	170 – 290	–				
						X	○	X	

Available range



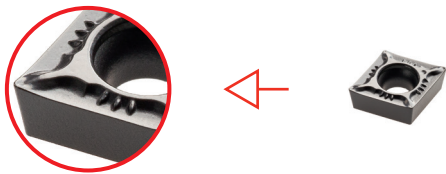
Turning steel pos finishing "P15"

Insert	Designation		Chipbreaker	Available
	CCMT 060204-MWSF	MSP15C	...-MWSF	●
	CCMT 09T304-MWSF	MSP15C		○
	CCMT 09T308-MWSF	MSP15C		●
	CCMT 120404-MWSF	MSP15C		●
	DCMT 070204-MWSF	MSP15C		○
	DCMT 11T304-MWSF	MSP15C		●

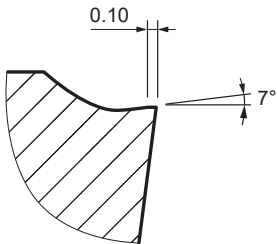
● available from stock, ○ available upon request

New chipbreaker

MWSF:
▲ To optimise chip control



Example: CCMT 09T308-MWSF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate			
			MSP15C	MSP25C2H	MSP35C		Chip groove	a _p [mm]	f [mm]	
			v _c [m/min]	v _c [m/min]	v _c [m/min]					
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	MWSF	0.50 to 2.25	0.14 to 0.07	
	Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150					
	High-alloyed steel	200	180 – 320	150 – 240	120 – 200					
	Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180					
M	Stainless steel	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CCMT 09T304-MWSF for CK60 Different in each application			
	Austenitic	180	–	115 – 240	110 – 190					
	Duplex	230 – 260	–	–	80 – 150					
	Martensitic	330	–	80 – 115	55 – 75					
K	Cast iron	Grey cast iron	180	140 – 370	150 – 240	–	Consistent cutting depth	Inconsistent cutting depth	Interrupted cut	
	Spheroidal cast iron	160	190 – 430	140 – 270	–					
	Malleable/tempered iron	130	180 – 520	170 – 290	–					
							X	○	X	

Available range



Turning steel pos finishing "P25"

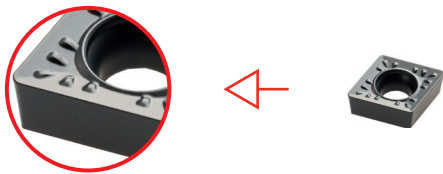
Insert	Designation		Chipbreaker	Available
	CCMT 060202-MWSF	MSP25C2H	...-MWSF	●
	CCMT 060204-MWSF	MSP25C2H		●
	CCMT 09T302-MWSF	MSP25C2H		●
	CCMT 09T304-MWSF	MSP25C2H		●
	CCMT 09T308-MWSF	MSP25C2H		●
	DCMT 070202-MWSF	MSP25C2H	...-MWSF	●
	DCMT 070204-MWSF	MSP25C2H		●
	DCMT 11T302-MWSF	MSP25C2H		●
	DCMT 11T304-MWSF	MSP25C2H		●
	DCMT 11T308-MWSF	MSP25C2H	...-MWSF	●
	VCMT 110302-MWSF	MSP25C2H		●
	VCMT 110304-MWSF	MSP25C2H		●
	VCMT 160404-MWSF	MSP25C2H		●
	VCMT 160408-MWSF	MSP25C2H		●

● available from stock, O available upon request

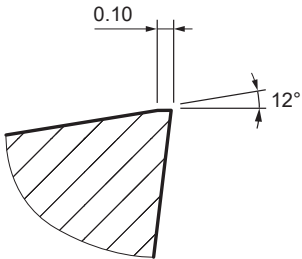
New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress
- ▲ Universal application



Example: CCMT 09T308-MWM



Cutting data

General cutting parameters depending on the application

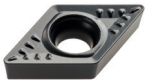
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			MSP15C	MSP25C2H	MSP35C
			V _c [m/min]	V _c [m/min]	V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150
	High-alloyed steel	200	180 – 320	150 – 240	120 – 200
	Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180
M	Ferritic	200	220 – 320	160 – 240	140 – 200
	Austenitic	180	–	115 – 240	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	80 – 115	55 – 75
K	Grey cast iron	180	140 – 370	150 – 240	–
	Spheroidal cast iron	160	190 – 430	140 – 270	–
	Malleable/tempered iron	130	180 – 520	170 – 290	–

Application	Depth of cut / feed rate	
	Chip groove	
	a _p [mm]	f [mm]
MWM	0.50 to 3.00	0.21 to 0.12

Ex: CCMT 09T304-MWM for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range



Turning steel pos semi finishing "P15"

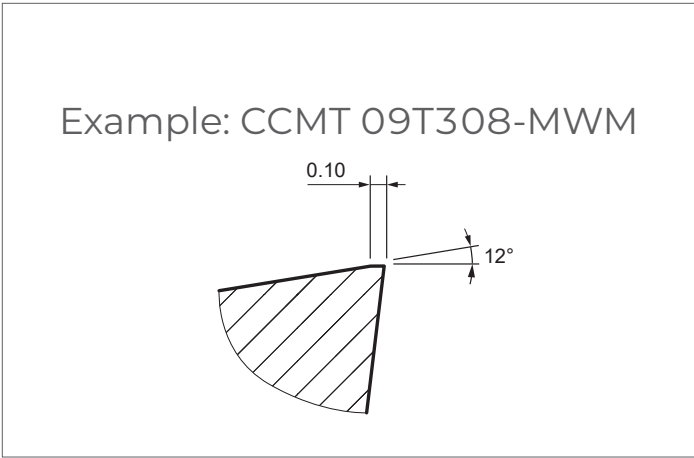
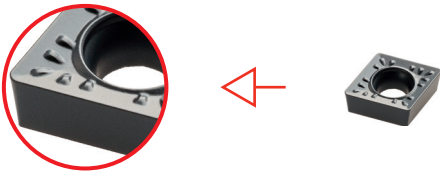
Insert	Designation	Chipbreaker	Available
	CCMT 060204-MWM MSP15C	...-MWM	●
	CCMT 09T304-MWM MSP15C		●
	CCMT 09T308-MWM MSP15C		●
	DCMT 11T304-MWM MSP15C		●
	DCMT 11T308-MWM MSP15C		●
	TCMT 110204-MWM MSP15C		●
	VBMT 160404-XM1+ MSP15C	...-XM1+	●

● available from stock, ○ available upon request

New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress
- ▲ Universal application



Cutting data

General cutting parameters depending on the application

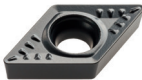
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			MSP15C	MSP25C2H	MSP35C
			v _c [m/min]	v _c [m/min]	v _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150
	High-alloyed steel	200	180 – 320	150 – 240	120 – 200
	Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180
M	Ferritic	200	220 – 320	160 – 240	140 – 200
	Austenitic	180	–	115 – 240	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	80 – 115	55 – 75
K	Grey cast iron	180	140 – 370	150 – 240	–
	Spheroidal cast iron	160	190 – 430	140 – 270	–
	Malleable/tempered iron	130	180 – 520	170 – 290	–

Application	Depth of cut / feed rate	
	Chip groove	a _p [mm] f [mm]
MWM		0.50 to 3.00 0.21 to 0.12

Ex: CCMT 09T304-MWM for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	●	○

Available range



Turning steel pos medium "P25"

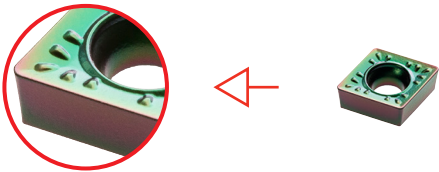
Insert	Designation		Chipbreaker	Available
	CCMT 060204-MWM	MSP25C2H	...-MWM	●
	CCMT 060208-MWM	MSP25C2H		●
	CCMT 09T304-MWM	MSP25C2H		●
	CCMT 09T308-MWM	MSP25C2H		●
	CCMT 120404-MWM	MSP25C2H		●
	CCMT 120408-MWM	MSP25C2H		●
	CCMT 120412-MWM	MSP25C2H		●
	DCMT 070204-MWM	MSP25C2H		●
	DCMT 070208-MWM	MSP25C2H		●
	DCMT 11T304-MWM	MSP25C2H		●
	DCMT 11T308-MWM	MSP25C2H		●
	SCMT 09T304-MWM	MSP25C2H		●
	SCMT 09T308-MWM	MSP25C2H		●
	SCMT 120404-MWM	MSP25C2H		●
	SCMT 120408-MWM	MSP25C2H		●
	SCMT 120412-MWM	MSP25C2H		●
	TCMT 090204-MWM	MSP25C2H		●
	TCMT 110204-MWM	MSP25C2H		●
	TCMT 110208-MWM	MSP25C2H		●
	TCMT 16T304-MWM	MSP25C2H		●
	TCMT 16T308-MWM	MSP25C2H		●
	TCMT 16T312-MWM	MSP25C2H		●
	VCMT 110304-MWM	MSP25C2H	...-XM1+	●
	VCMT 110308-MWM	MSP25C2H		●
	VCMT 160404-MWM	MSP25C2H		●
	VCMT 160408-MWM	MSP25C2H		●
	VBMT 160404-XM1+	MSP25C2H		●
	VBMT 160408-XM1+	MSP25C2H		●
	WCMT 06T304-MWM	MSP25C2H		●
	WCMT 06T308-MWM	MSP25C2H		●
	WCMT 080404-MWM	MSP25C2H		●

● available from stock, ○ available upon request

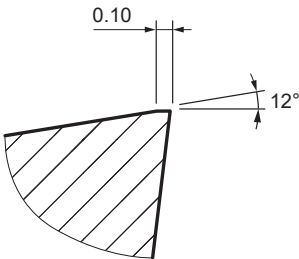
New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress
- ▲ Universal application



Example: CCMT 09T308-MWM



Cutting data

General cutting parameters depending on the application

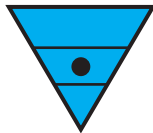
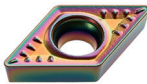
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			MSP15C V _c [m/min]	MSP25C2H V _c [m/min]	MSP35C V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150
	High-alloyed steel	200	180 – 320	150 – 240	120 – 200
	Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180
M	Ferritic	200	220 – 320	160 – 240	140 – 200
	Austenitic	180	–	115 – 240	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	80 – 115	55 – 75
K	Grey cast iron	180	140 – 370	150 – 240	–
	Spheroidal cast iron	160	190 – 430	140 – 270	–
	Malleable/tempered iron	130	180 – 520	170 – 290	–

Application	Depth of cut / feed rate	
	Chip groove a _p [mm]	f [mm]
MWM	0.50 to 3.00	0.21 to 0.12

Ex: CCMT 09T304-MWM for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	●	○

Available range



Turning steel pos medium "P35"

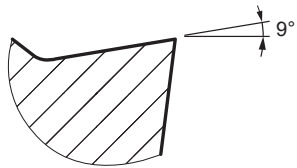
Insert	Designation		Chipbreaker	Available
	CCMT 060204-MWM	MSP35C	...-MWM	●
	CCMT 060208-MWM	MSP35C		●
	CCMT 09T304-MWM	MSP35C		●
	CCMT 09T308-MWM	MSP35C		●
	DCMT 070204-MWM	MSP35C		○
	DCMT 11T304-MWM	MSP35C		●
	DCMT 11T308-MWM	MSP35C		●
	RCMT 0803MO-MWM	MSP35C		●
	RCMT 1003MO-MWM	MSP35C		●
	RCMT 1204MO-MWM	MSP35C		●
	SCMT 09T308-MWM	MSP35C		●
	SCMT 120408-MWM	MSP35C		●
	SCMT 120412-MWM	MSP35C		●
	TCMT 110204-MWM	MSP35C		●
	TCMT 110208-MWM	MSP35C		○
	TCMT 16T304-MWM	MSP35C		●
	TCMT 16T308-MWM	MSP35C		●
	VCMT 110304-MWM	MSP35C		○
	VCMT 160404-MWM	MSP35C		●
	VCMT 160408-MWM	MSP35C		●

● available from stock, ○ available upon request

Cutting data



Example: CCGT 09T301MNEF



General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	MS25P V _c [m/min]
M	Stainless steel	Ferritic	200
		Austenitic	180
		Duplex	230 – 260
		Martensitic	330
K	Cast iron	Grey cast iron	180
		Spheroidal cast iron	160
		Malleable/tempered iron	130
G	Non Ferrous		100
			130
			90
			100
P	Exotic materials	Fe base	200
		Nickel or cobalt base	280
		Nickel or cobalt base	250
		Nickel or cobalt base	
		Titanium	Rm 440*

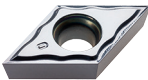
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MNEF	0.05 to 2.00	0.02 to 0.08

Ex: CCGT 09T0301MNEF for 304
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	X	X

Available range



Turning stainless steel pos "Extreme finishing"

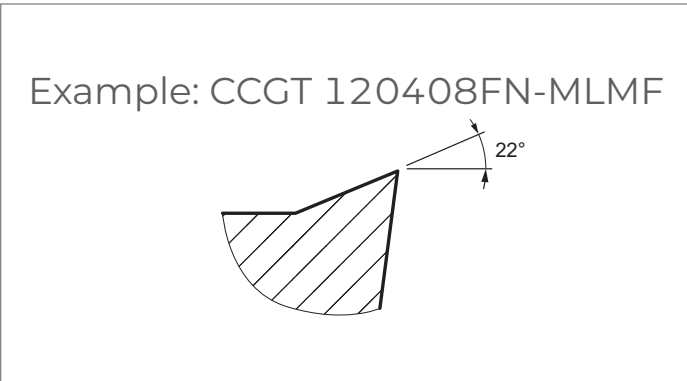
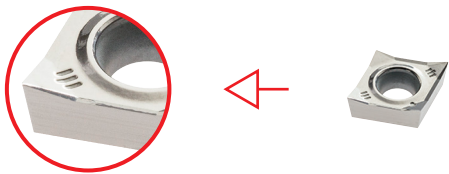
Insert	Designation	Chipbreaker	Available
	CCGT 060200MNEF MS25P	...MNEF	●
	CCGT 060201MNEF MS25P		●
	CCGT 09T300MNEF MS25P		●
	CCGT 09T301MNEF MS25P		●
	DCGT 070200MNEF MS25P		●
	DCGT 070201MNEF MS25P		●
	DCGT 11T300MNEF MS25P		●
	DCGT 11T301MNEF MS25P		●
	VCGT 110300MNEF MS25P		●
	VCGT 110301MNEF MS25P		●
	VCGT 160400MNEF MS25P		●
	VCGT 160401MNEF MS25P		●

● available from stock, ○ available upon request

New chipbreaker

Optimised by FEM:

- ▲ Increased tool life
- ▲ Small feed rate when bar turning



Cutting data

General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	MS2197 V _c [m/min]
K	Cast iron	180	–
	Spheroidal cast iron	160	–
	Malleable/tempered iron	130	–
G	Non Ferrous	100	100 – 2000
		130	100 – 800
		90	100 – 600
		100	100 – 300
P	Fe base	200	30 – 45
	Nickel or cobalt base	280	20 – 35
	Nickel or cobalt base	250	20 – 35
	Nickel or cobalt base		18 – 30
	Titanium	Rm 440*	60 – 120

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MLMF	0.05 to 1.35	0.02 to 0.10

Ex: CCGT 120408FN-MLMF for 304
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	●	○

Available range



Turning stainless steel pos finishing "M15"

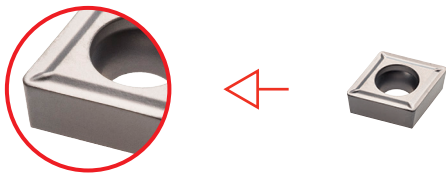
Insert	Designation	Chipbreaker	Available
	CCGT 060201FN-MLMF MS2197	...-MLMF	○
	CCGT 060202FN-MLMF MS2197		●
	CCGT 060202FN-MLMF MS2197		●
	CCGT 09T302FN-MLMF MS2197		●
	CCGT 09T304FN-MLMF MS2197		●
	CCGT 09T308FN-MLMF MS2197		●
	CCGT 120404FN-MLMF MS2197		○
	CCGT 120408FN-MLMF MS2197		●
	DCGT 070201FN-MLMF MS2197	...-MLMF	○
	DCGT 070202FN-MLMF MS2197		●
	DCGT 070204FN-MLMF MS2197		●
	DCGT 11T302FN-MLMF MS2197		●
	DCGT 11T304FN-MLMF MS2197		●
	DCGT 11T308FN-MLMF MS2197		●
	SCGT 09T304FN-MLMF MS2197	...-MLMF	●
	SCGT 120408FN-MLMF MS2197		●
	VCGT 110302FN-MLMF MS2197	...-MLMF	●
	VCGT 110304FN-MLMF MS2197		●
	VCGT 130302FN-MLMF MS2197		●
	VCGT 130304FN-MLMF MS2197		●
	VCGT 160404FN-MLMF MS2197		●
	VCGT 160408FN-MLMF MS2197		●

● available from stock, ○ available upon request

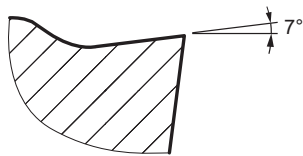
New chipbreaker

Optimised by FEM:

- ▲ Increased tool life
- ▲ Small feed rate when bar turning



Example: DCMT 11T304-MJF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Cermet
			MSC10 V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	230 – 270
	Low-alloyed steel	250 – 300	180 – 230
	High-alloyed steel	200	160 – 200
	Corrosion-resistant steel	200	230 – 270
M	Ferritic	200	170 – 240
	Austenitic	180	200 – 240
	Duplex	230 – 260	–
	Martensitic	330	130 – 160
K	Grey cast iron	180	–
	Spheroidal cast iron	160	220 – 300
	Malleable/tempered iron	130	250 – 350

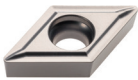
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MJF	0.10 to 1.65	0.20 to 0.05

Ex: CCMT 09T304-MJF
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	X	X

Available range



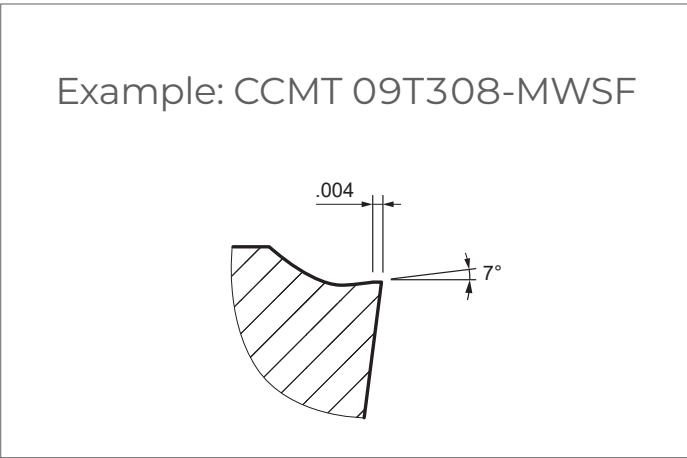
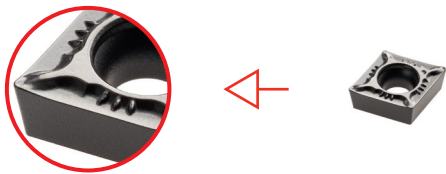
Turning stainless steel pos finishing "CERMET"

Insert	Designation		Chipbreaker	Available
	CCMT 060204-MJF	MSC10	... -MJF	●
	CCMT 09T304-MJF	MSC10		●
	DCMT 070204-MJF	MSC10		○
	DCMT 11T304-MJF	MSC10		●
	TCGT 110202-MJF	MSC10		●
	TCMT 110204-MJF	MSC10		●
	WCGT 020102-MJF	MSC10		●

● available from stock, ○ available upon request

New chipbreaker

MWSF:
▲ To optimise chip control



Cutting data

General cutting parameters depending on the application

Work piece material		Coated carbide				Application	Depth of cut / feed rate			
		Type of treatment / alloy	Hardness HB	MSM20CH	MSM25P		MSM35PM	a _p [mm]	f [mm]	
				v _c [m/min]	v _c [m/min]		v _c [m/min]			
P	Steel	non-alloyed steel 0 – 0.45% C	150 – 250	150 – 250	130 – 250	150 – 190	MWSF	0.15 to 2.25	0.20 to 0.07	
		low-alloyed steel	250 – 300	100 – 200	60 – 180	90 – 150	Ex: CCMT 09T304-MWSF for 304 Different in each application			
		high-alloyed steel	200	120 – 220	80 – 200	120 – 200				
		corrosion-resistant steel	200	120 – 220	100 – 200	140 – 180				
M	Stainless steel	Ferritic	200	190 – 250	120 – 250	140 – 200	Consistent cutting depth	Inconsistent cutting depth	Interrupted cut	
		Austenitic	180	140 – 220	100 – 220	110 – 190			X	
		Duplex	230 – 260	110 – 170	60 – 160	80 – 150				
		Martensitic	330	40 – 100	40 – 100	55 – 75				

Available range



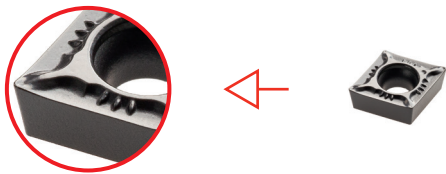
Turning steel pos finishing "M20"

Insert	Designation	Chipbreaker	Available
	CCMT 060202-MWSF	MSM20CH	●
	CCMT 060204-MWSF	MSM20CH	●
	CCMT 09T302-MWSF	MSM20CH	●
	CCMT 09T304-MWSF	MSM20CH	●
	DCMT 070202-MWSF	MSM20CH	●
	DCMT 070204-MWSF	MSM20CH	●
	DCMT 11T302-MWSF	MSM20CH	●
	DCMT 11T304-MWSF	MSM20CH	●
	VCMT 110302-MWSF	MSM20CH	●
	VCMT 110304-MWSF	MSM20CH	●
	VCMT 160404-MWSF	MSM20CH	●
	VCMT 160408-MWSF	MSM20CH	●

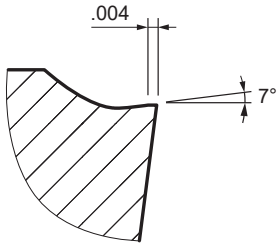
● available from stock, ○ available upon request

New chipbreaker

MWSF:
▲ To optimise chip control



Example: CCMT 09T308-MWSF



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate		
				MSM20CH	MSM25P	MSM35PM		Chip groove	a _p [mm]	f [mm]
P	Steel	non-alloyed steel 0 – 0.45% C	150 – 250	150 – 250	130 – 250	150 – 190	Ex: CCMT 09T304-MWSF for 304 Different in each application	MWSF	0.15 to 2.25	0.20 to 0.07
		low-alloyed steel	250 – 300	100 – 200	60 – 180	90 – 150				
		high-alloyed steel	200	120 – 220	80 – 200	120 – 200				
		corrosion-resistant steel	200	120 – 220	100 – 200	140 – 180				
M	Stainless steel	Ferritic	200	190 – 250	120 – 250	140 – 200				
		Austenitic	180	140 – 220	100 – 220	110 – 190		Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
		Duplex	230 – 260	110 – 170	60 – 160	80 – 150				
		Martensitic	330	40 – 100	40 – 100	55 – 75				

Available range



Turning steel pos finishing "M25"

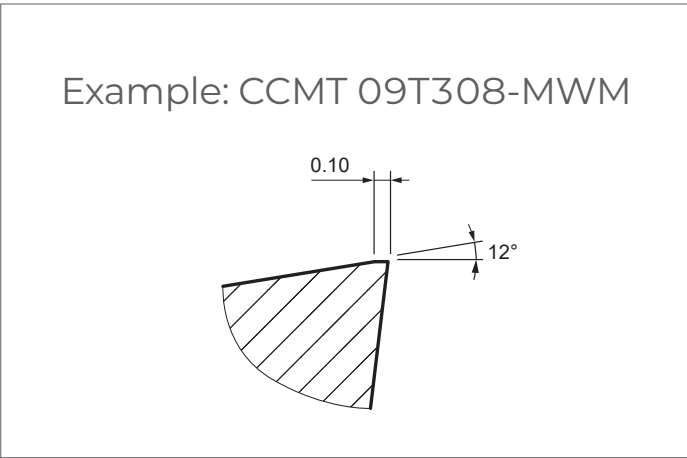
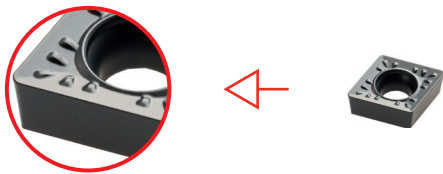
Insert	Designation		Chipbreaker	Available
	CCMT 060202-MWSF	MSM25P	...-MWSF	●
	CCMT 060204-MWSF	MSM25P		●
	CCMT 09T302-MWSF	MSM25P		●
	CCMT 09T304-MWSF	MSM25P		●
	CCMT 09T308-MWSF	MSM25P		●
	DCMT 070202-MWSF	MSM25P	...-MWSF	●
	DCMT 070204-MWSF	MSM25P		●
	DCMT 11T302-MWSF	MSM25P		●
	DCMT 11T304-MWSF	MSM25P		●
	DCMT 11T308-MWSF	MSM25P		●
	TCMT 110202-MWSF	MSM25P	...-MWSF	●
	VCMT 110302-MWSF	MSM25P	...-MWSF	●
	VCMT 110304-MWSF	MSM25P		●
	VCMT 160404-MWSF	MSM25P		●

● available from stock, ○ available upon request

New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress
- ▲ Universal application

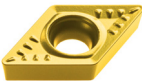


Cutting data

General cutting parameters depending on the application

Work piece material		Coated carbide				Application	Depth of cut / feed rate	
		Type of treatment / alloy	Hardness HB	MSM20CH v _c [m/min]	MSM25P v _c [m/min]	MSM35PM v _c [m/min]		
P	Steel	non-alloyed steel 0 – 0.45% C	150 – 250	150 – 250	130 – 250	150 – 190	MWM	0.15 to 2.25 0.20 to 0.07
		low-alloyed steel	250 – 300	100 – 200	60 – 180	90 – 150		
		high-alloyed steel	200	120 – 220	80 – 200	120 – 200		
		corrosion-resistant steel	200	120 – 220	100 – 200	140 – 180		
M	Stainless steel	Ferritic	200	190 – 250	120 – 250	140 – 200	Ex: CCMT 09T304-MWM for 304 Different in each application	Consistent cutting depth Inconsistent cutting depth Interrupted cut
		Austenitic	180	140 – 220	100 – 220	110 – 190		
		Duplex	230 – 260	110 – 170	60 – 160	80 – 150		
		Martensitic	330	40 – 100	40 – 100	55 – 75		

Available



Turning stainless steel pos "M20"

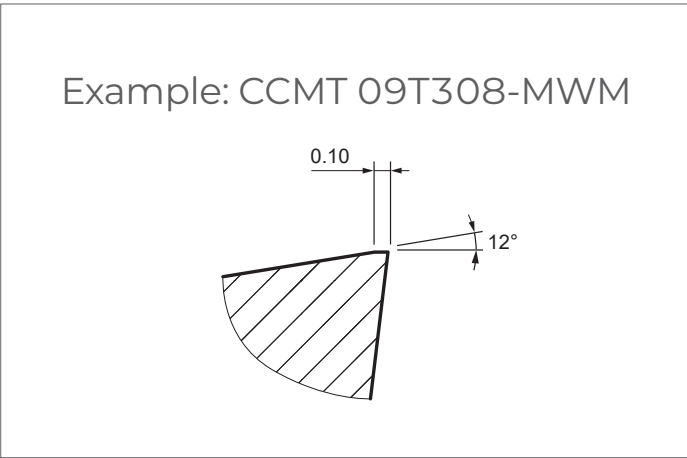
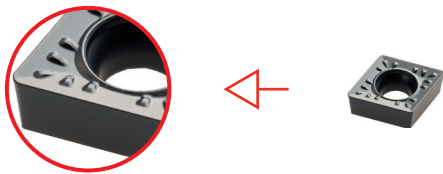
Insert	Designation		Chipbreaker	Available
	CCMT 060204-MWM	MSM20CH	...-MWM	●
	CCMT 060208-MWM	MSM20CH		●
	CCMT 09T304-MWM	MSM20CH		●
	CCMT 09T308-MWM	MSM20CH		●
	CCMT 120404-MWM	MSM20CH		●
	CCMT 120408-MWM	MSM20CH		●
	DCMT 070204-MWM	MSM20CH		●
	DCMT 070208-MWM	MSM20CH		●
	DCMT 11T304-MWM	MSM20CH		●
	DCMT 11T308-MWM	MSM20CH		●
	SCMT 09T304-MWM	MSM20CH		●
	SCMT 09T308-MWM	MSM20CH		●
	SCMT 120404-MWM	MSM20CH		●
	SCMT 120408-MWM	MSM20CH		●
	TCMT 090204-MWM	MSM20CH		●
	TCMT 16T304-MWM	MSM20CH		●
	TCMT 16T308-MWM	MSM20CH		●
	VCMT 110304-MWM	MSM20CH		●
	VCMT 110308-MWM	MSM20CH		●
	VCMT 160404-MWM	MSM20CH		●
	VCMT 160408-MWM	MSM20CH		●

● available from stock, ○ available upon request

New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress
- ▲ Universal application

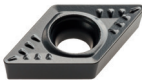


Cutting data

General cutting parameters depending on the application

Work piece material		Coated carbide				Application		
		Hardness HB	MSM20CH v _c [m/min]	MSM25P v _c [m/min]	MSM35PM v _c [m/min]			
Type of treatment / alloy						Chip groove	Depth of cut / feed rate a _p [mm] f [mm]	
P Steel	non-alloyed steel 0 – 0.45% C	150 – 250	150 – 250	130 – 250	150 – 190	MWM	0.15 to 2.25 0.20 to 0.07	
	low-alloyed steel	250 – 300	100 – 200	60 – 180	90 – 150			
	high-alloyed steel	200	120 – 220	80 – 200	120 – 200			
	corrosion-resistant steel	200	120 – 220	100 – 200	140 – 180			
M Stainless steel	Ferritic	200	190 – 250	120 – 250	140 – 200			
	Austenitic	180	140 – 220	100 – 220	110 – 190			
	Duplex	230 – 260	110 – 170	60 – 160	80 – 150			
	Martensitic	330	40 – 100	40 – 100	55 – 75			
						Ex: CCMT 09T304-MWM for 304 Different in each application		
						Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
						●	○	X

Available range



Turning stainless steel pos "M25"

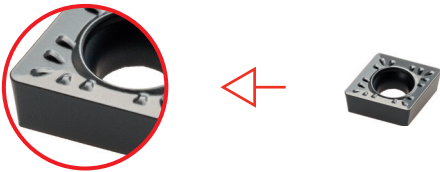
Insert	Designation	Chipbreaker	Available
	CCMT 060204-MWM MSM25P	...-MWM	●
	CCMT 060208-MWM MSM25P		●
	CCMT 09T304-MWM MSM25P		●
	CCMT 09T308-MWM MSM25P		●
	CCMT 120404-MWM MSM25P		●
	CCMT 120408-MWM MSM25P		●
	CCMT 120412-MWM MSM25P		●
	DCMT 070204-MWM MSM25P		●
	DCMT 070208-MWM MSM25P		●
	DCMT 11T304-MWM MSM25P		●
	DCMT 11T308-MWM MSM25P		●
	SCMT 09T304-MWM MSM25P		●
	SCMT 09T308-MWM MSM25P		●
	SCMT 120404-MWM MSM25P		●
	SCMT 120408-MWM MSM25P		●
	TCMT 090204-MWM MSM25P		○
	TCMT 110204-MWM MSM25P		●
	TCMT 110208-MWM MSM25P		○
	TCMT 16T304-MWM MSM25P		●
	TCMT 16T308-MWM MSM25P		●
	TCMT 16T312-MWM MSM25P		○
	VCMT 110304-MWM MSM25P		●
	VCMT 110308-MWM MSM25P		●
	VCMT 160404-MWM MSM25P		●
	VCMT 160408-MWM MSM25P		●
	WCMT 06T304-MWM MSM25P		●
	WCMT 06T308-MWM MSM25P		●
	WCMT 080404-MWM MSM25P		○
	WCMT 080408-MWM MSM25P		●

● available from stock, ○ available upon request

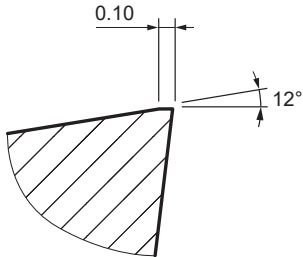
New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress
- ▲ Universal application



Example: CCMT 09T308-MWM

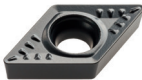


Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate		
				MSM20CH	MSM25P	MSM35PM		Chip groove	a _p [mm]	f [mm]
P	Steel	non-alloyed steel 0 – 0.45% C	150 – 250	150 – 250	130 – 250	150 – 190	Ex: CCMT 09T304-MWM for 304 Different in each application	MWM	0.15 to 2.25	0.20 to 0.07
		low-alloyed steel	250 – 300	100 – 200	60 – 180	90 – 150				
		high-alloyed steel	200	120 – 220	80 – 200	120 – 200				
		corrosion-resistant steel	200	120 – 220	100 – 200	140 – 180				
M	Stainless steel	Ferritic	200	190 – 250	120 – 250	140 – 200		Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
		Austenitic	180	140 – 220	100 – 220	110 – 190				
		Duplex	230 – 260	110 – 170	60 – 160	80 – 150				
		Martensitic	330	40 – 100	40 – 100	55 – 75				

Available range



Turning stainless steel pos "M35"

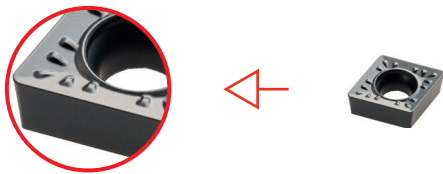
Insert	Designation	Chipbreaker	Available
	CCMT 09T304-MWM MSM35PM	...-MWM	●
	CCMT 09T308-MWM MSM35PM		○
	DCMT 11T304-MWM MSM35PM		●
	DCMT 11T308-MWM MSM35PM		●
	TCMT 110208-MWM MSM35PM		○
	VCMT 110304-MWM MSM35PM		●
	VCMT 110308-MWM MSM35PM		●

● available from stock, ○ available upon request

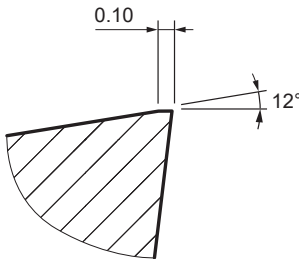
New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress
- ▲ Universal application



Example: CCMT 09T308-MWM



Cutting data

General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	MSK20C v _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	200 – 340
	Low-alloyed steel	250 – 300	150 – 290
	High-alloyed steel	200	150 – 290
	Corrosion-resistant steel	200	160 – 290
K	Grey cast iron	180	150 – 400
	Spheroidal cast iron	160	200 – 450
	Malleable/tempered iron	130	200 – 550

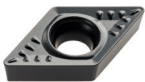
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MWM	1.00 to 3.00	0.41 to 0.22

Ex: CCMT 09T308-MWM for GG25
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	●	X

Available range

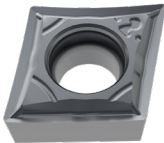


Turning cast iron pos "K20"

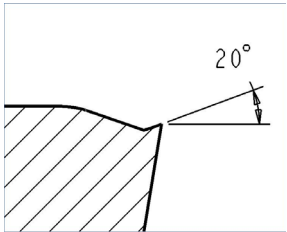
Insert	Designation	Chipbreaker	Available
	CCMT 060204-MWM MSK20C	...-MWM	●
	CCMT 09T304-MWM MSK20C		●
	CCMT 09T308-MWM MSK20C		●
	CCMT 120408-MWM MSK20C		●
	DCMT 11T304-MWM MSK20C		●
	DCMT 11T308-MWM MSK20C		●
	SCMT 09T308-MWM MSK20C		●
	SCMT 120408-MWM MSK20C		●
	TCMT 110204-MWM MSK20C		●
	TCMT 16T304-MWM MSK20C		●
	TCMT 16T308-MWM MSK20C		●

● available from stock, ○ available upon request

Cutting data



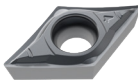
Example: VCGT 110302-MLSF



General cutting parameters depending on the application

Uncoated carbide				Application		
Work piece material	Type of treatment / alloy	Hardness HB	MSN10- V _c [m/min]	Depth of cut / feed rate		
				Chip groove	a _p [mm]	f [mm]
K	Cast iron	Grey cast iron	180	MLSF	0,2 to 4,0	0,05 to 0,30
		Spheroidal cast iron	160			
		Malleable/tempered iron	130			
N	Non Ferrous	Aluminium wrought alloys	100	Ex: VCGT 110302-MLSF for AIMg 1 Different in each application	Consistent cutting depth	Inconsistent cutting depth
		Aluminium cast alloys	130			
		Copper and copper alloys	90			
		Non-metall materials	100			
S	Exotic materials	Fe base	200		Consistent cutting depth	Interrupted cut
		Nickel or cobalt base	280			
		Nickel or cobalt base	250			
		Nickel or cobalt base	–			
		Titanium	Rm 440*			

Available range

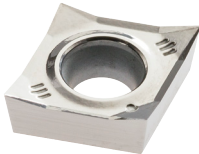


Turning non-ferrous pos "N15"

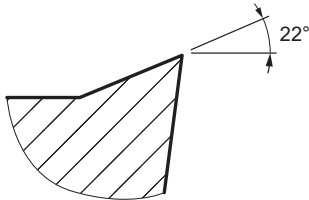
Insert	Designation		Chipbreaker	Available
	CCGT 060202-MLSF	MSN10-	...-MLSF	●
	CCGT 09T302-MLSF	MSN10-		●
	CCGT 09T304-MLSF	MSN10-		●
	DCGT 11T302-MLSF	MSN10-		●
	DCGT 11T304-MLSF	MSN10-		●
	VCGT 110302-MLSF	MSN10-		●
	VCGT 110304-MLSF	MSN10-		●
	VCGT 160404-MLSF	MSN10-		●
	VCGT 160408-MLSF	MSN10-		●

● available from stock, ○ available upon request

Cutting data



Example: CCGT 120408FN-MLMF



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Uncoated carbide	
			MSN15- V _c [m/min]	
K	Cast iron	Grey cast iron	180	120 – 160
		Spheroidal cast iron	160	130 – 170
		Malleable/tempered iron	130	140 – 200
N	Non Ferrous	Aluminium wrought alloys	100	100 – 2000
		Aluminium cast alloys	130	100 – 800
		Copper and copper alloys	90	100 – 600
		Non-metall materials	100	100 – 300
S	Exotic materials	Fe base	200	30 – 45
		Nickel or cobalt base	280	20 – 35
		Nickel or cobalt base	250	20 – 35
		Nickel or cobalt base	–	18 – 30
		Titanium	Rm 440*	60 – 120

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MLMF	1 to 7	0,10 to 0,75

Ex: CCGT 120408FN-MLMF for AIMg 1
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	●	○

Available range



Turning non-ferrous pos "N15"

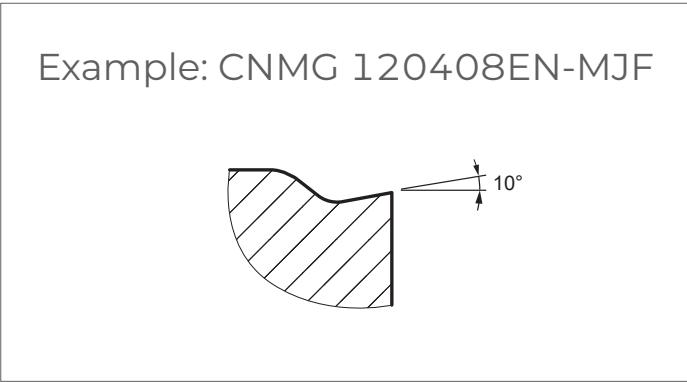
Insert	Designation		Chipbreaker	Available
	CCGT 060201FN-MLMF	MSN15-	...-MLMF	○
	CCGT 060202FN-MLMF	MSN15-		●
	CCGT 060204FN-MLMF	MSN15-		●
	CCGT 09T302FN-MLMF	MSN15-		●
	CCGT 09T304FN-MLMF	MSN15-		●
	CCGT 09T308FN-MLMF	MSN15-		●
	CCGT 120404FN-MLMF	MSN15-		●
	CCGT 120408FN-MLMF	MSN15-		●
	DCGT 070201FN-MLMF	MSN15-		○
	DCGT 070202FN-MLMF	MSN15-		●
	DCGT 070204FN-MLMF	MSN15-		●
	DCGT 11T302FN-MLMF	MSN15-		●
	DCGT 11T304FN-MLMF	MSN15-		●
	DCGT 11T308FN-MLMF	MSN15-		●
	SCGT 09T304FN-MLMF	MSN15-		●
	SCGT 09T308FN-MLMF	MSN15-		○
	TCGT 110204FN-MLMF	MSN15-		●
	TCGT 16T304FN-MLMF	MSN15-		●
	TCGT 16T308FN-MLMF	MSN15-		●
	VCGT 110302FN-MLMF	MSN15-		●
	VCGT 110304FN-MLMF	MSN15-		●
	VCGT 130302FN-MLMF	MSN15-		●
	VCGT 160404FN-MLMF	MSN15-		●
	VCGT 160408FN-MLMF	MSN15-		●
	VCGT 160412FN-MLMF	MSN15-		●
	VCGT 220530FN-MLMF	MSN15-		●

● available from stock, ○ available upon request

Negative Size Turning NST



Cutting data



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Cermet
			MSC10 V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	230 – 270
	Low-alloyed steel	250 – 300	180 – 230
	High-alloyed steel	200	160 – 200
	Corrosion-resistant steel	200	230 – 270
M	Ferritic	200	170 – 240
	Austenitic	180	200 – 240
	Duplex	230 – 260	–
	Martensitic	330	130 – 160
K	Grey cast iron	180	–
	Spheroidal cast iron	160	220 – 300
	Malleable/tempered iron	130	250 – 350

Available range



Turning steel neg finishing CERMET

Insert	Designation		Chipbreaker	Available
	CNMG 120404EN-MJF	MSC10	...-MJF	○
	CNMG 120408EN-MJF	MSC10		○
	DNMG 110404EN-MJF	MSC10		○
	DNMG 150604EN-MJF	MSC10		○

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MJF	0.10 to 2.00	0.20 to 0.05

Ex: CNMG 120404EN-MJF
Different in each application

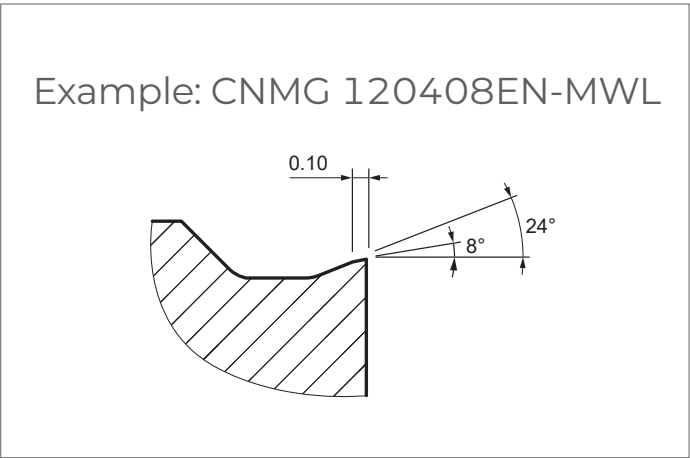
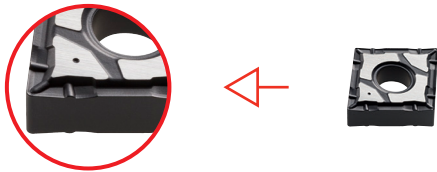
Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	X	X

● available from stock, ○ available upon request

New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			MSP15C V _c [m/min]	MSP25C2H V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270
	Low-alloyed steel	250 – 300	200 – 320	115 – 210
	High-alloyed steel	200	180 – 320	150 – 240
	Corrosion-resistant steel	200	200 – 320	150 – 240
M	Ferritic	200	220 – 320	160 – 240
	Austenitic	180	–	115 – 240
	Duplex	230 – 260	–	–
	Martensitic	330	–	80 – 115
K	Grey cast iron	180	–	–
	Spheroidal cast iron	160	–	–
	Malleable/tempered iron	130	–	–

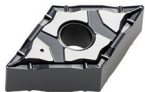
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MWL	0.50 to 2.00	0.20 to 0.10

Ex: CNMX 120408-MWL for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range



Heavy turning steel neg "P15"

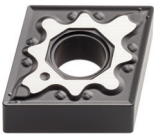
Insert	Designation	Chipbreaker	Available
	CNMG 120404EN-MWL MSP15C		○
	DNMG 110404EN-MWL MSP15C		○
	DNMG 150604EN-MWL MSP15C		○
	DNMG 150608EN-MWL MSP15C		●
	VNMG 160404EN-MWL MSP15C		●
	WNMG 080404EN-MWL MSP15C		○

Heavy turning steel neg "P25"

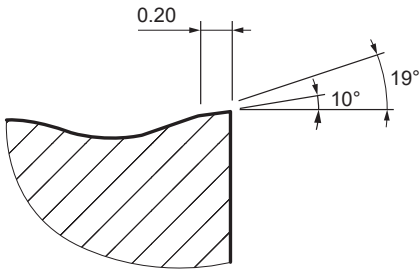
Insert	Designation	Chipbreaker	Available
	CNMG 120404EN-MWL MSP25C2H		●
	CNMG 120408EN-MWL MSP25C2H		●
	DNMG 110404EN-MWL MSP25C2H	...-MWL	●

● available from stock, ○ available upon request

Cutting data



Example: CNMG 120408-MWM



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Coated carbide				Application	Depth of cut / feed rate		
		Hardness HB	MSP15C	MSP25C2H	MSP35C		Chip groove	a _p [mm]	f [mm]
			v _c [m/min]	v _c [m/min]	v _c [m/min]				
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	MWM	1.00 to 4.00	0.44 to 0.22
		Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150			
		High-alloyed steel	200	180 – 320	150 – 240	120 – 200			
		Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180			
M	Stainless steel	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CNMG 120408-MWM for CK60 Different in each application		
		Austenitic	180	–	115 – 240	110 – 190			
		Duplex	230 – 260	–	–	80 – 150			
		Martensitic	330	–	80 – 115	55 – 75			
K	Cast iron	Grey cast iron	180	140 – 370	150 – 240	–	Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
		Spheroidal cast iron	160	190 – 430	140 – 270	–			
		Malleable/tempered iron	130	180 – 520	170 – 290	–			

Consistent
cutting
depth

Inconsistent
cutting
depth

Interrupted
cut

Available range

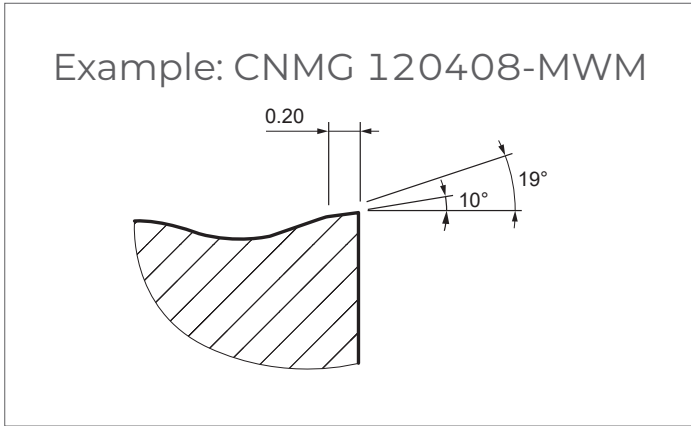
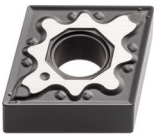


Turning steel neg semi finishing "P15"

Insert	Designation	Chipbreaker	Available
	CNMG 120404-MWM	MSP15C	●
	CNMG 120408-MWM	MSP15C	●
	CNMG 120412-MWM	MSP15C	●
	DNMG 150604-MWM	MSP15C	●
	DNMG 150608-MWM	MSP15C	●
	SNMG 120408-MWM	MSP15C	○
	TNMG 160404-MWM	MSP15C	○
	TNMG 160408-MWM	MSP15C	○
	TNMG 160412-MWM	MSP15C	○
	VNMG 160404-MWM	MSP15C	●
	VNMG 160408-MWM	MSP15C	●
	WNMG 060404-MWM	MSP15C	○
	WNMG 060408-MWM	MSP15C	○
	WNMG 080404-MWM	MSP15C	●
	WNMG 080408-MWM	MSP15C	●
	WNMG 080412-MWM	MSP15C	●

● available from stock, ○ available upon request

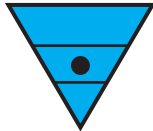
Cutting data



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate	
			MSP15C	MSP25C2H	MSP35C		Chip groove	f [mm]
			v _c [m/min]	v _c [m/min]	v _c [m/min]		a _p [mm]	
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	MWM	1.00 to 4.00	0.44 to 0.22
		Low-alloyed steel	250 – 300	200 – 320	115 – 210			
		High-alloyed steel	200	180 – 320	150 – 240			
		Corrosion-resistant steel	200	200 – 320	150 – 240			
M	Stainless steel	Ferritic	200	220 – 320	160 – 240	Ex: CNMG 120408-MWM for CK60 Different in each application		
		Austenitic	180	–	115 – 240			
		Duplex	230 – 260	–	–			
		Martensitic	330	–	80 – 115			
K	Cast iron	Grey cast iron	180	140 – 370	150 – 240			
		Spheroidal cast iron	160	190 – 430	140 – 270			
		Malleable/tempered iron	130	180 – 520	170 – 290			

Available range

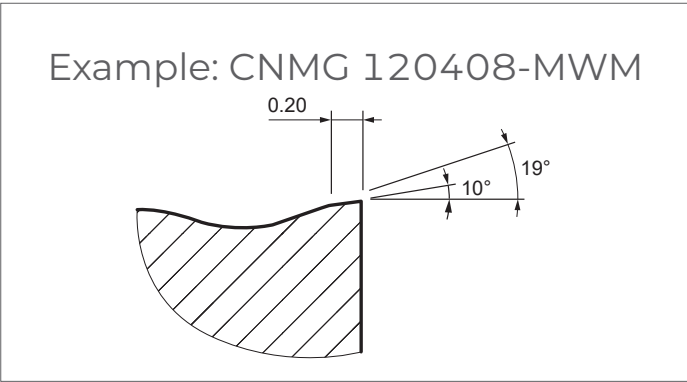


Turning steel neg medium "P25"

Insert	Designation		Chipbreaker	Available
	CNMG 120404-MWM	MSP25C2H	...-MWM	
	CNMG 120408-MWM	MSP25C2H		
	CNMG 120412-MWM	MSP25C2H		
	DNMG 110404-MWM	MSP25C2H		
	DNMG 110408-MWM	MSP25C2H		
	DNMG 150404-MWM	MSP25C2H		
	DNMG 150408-MWM	MSP25C2H		
	DNMG 150604-MWM	MSP25C2H		
	DNMG 150608-MWM	MSP25C2H		
	SNMG 120408-MWM	MSP25C2H		
	SNMG 120412-MWM	MSP25C2H		
	TNMG 160404-MWM	MSP25C2H		
	TNMG 160408-MWM	MSP25C2H		
	TNMG 160412-MWM	MSP25C2H		
	TNMG 220404-MWM	MSP25C2H		
	TNMG 220408-MWM	MSP25C2H		
	VNMG 160404-MWM	MSP25C2H		
	VNMG 160408-MWM	MSP25C2H		
	WNMG 060404-MWM	MSP25C2H		
	WNMG 060408-MWM	MSP25C2H		
	WNMG 080404-MWM	MSP25C2H		
	WNMG 080408-MWM	MSP25C2H		
	WNMG 080412-MWM	MSP25C2H		

● available from stock, ○ available upon request

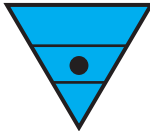
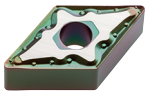
Cutting data



General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate		
				MSP15C	MSP25C2H	MSP35C		Chip groove	a _p [mm]	f [mm]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	MWM	1.00 to 4.00	0.44 to 0.22	
		Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150				
		High-alloyed steel	200	180 – 320	150 – 240	120 – 200				
		Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180				
M	Stainless steel	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CNMG 120408-MWM for CK60 Different in each application			
		Austenitic	180	–	115 – 240	110 – 190				
		Duplex	230 – 260	–	–	80 – 150				
		Martensitic	330	–	80 – 115	55 – 75				
K	Cast iron	Grey cast iron	180	140 – 370	150 – 240	–		Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
		Spheroidal cast iron	160	190 – 430	140 – 270	–				
		Malleable/tempered iron	130	180 – 520	170 – 290	–				

Available range

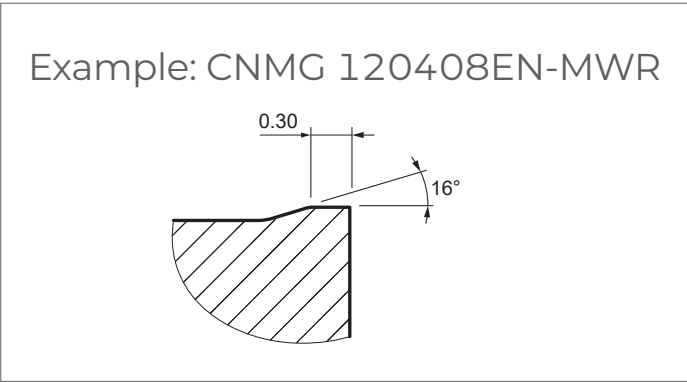


Turning steel neg medium roughing "P35"

Insert	Designation		Chipbreaker	Available
	CNMG 120408-MWM	MSP35C		●
	CNMG 120412-MWM	MSP35C		●
	DNMG 150608-MWM	MSP35C		●
	DNMG 150612-MWM	MSP35C		●
	SNMG 120408-MWM	MSP35C	...-MWM	●
	SNMG 120412-MWM	MSP35C		○
	TNMG 160408-MWM	MSP35C		●
	WNMG 080408-MWM	MSP35C		●
	WNMG 080412-MWM	MSP35C		●

● available from stock, ○ available upon request

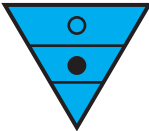
Cutting data



General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate		
				MSP15C	MSP25C2H	MSP35C		Chip groove	a _p [mm]	f [mm]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	MWR	MWR	1.50 to 5.00	0.50 to 0.30
		Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150				
		High-alloyed steel	200	180 – 320	150 – 240	120 – 200				
		Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180				
M	Stainless steel	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CNMG 120408-MWR for CK60 Different in each application	Consistent cutting depthInconsistent cutting depthInterrupted cut		
		Austenitic	180	–	115 – 240	110 – 190				
		Duplex	230 – 260	–	–	80 – 150				
		Martensitic	330	–	80 – 115	55 – 75				
K	Cast iron	Grey cast iron	180	140 – 370	150 – 240	–		Consistent cutting depthInconsistent cutting depthInterrupted cut		
		Spheroidal cast iron	160	190 – 430	140 – 270	–				
		Malleable/tempered iron	130	180 – 520	170 – 290	–				

Available range



Turning steel neg roughing "P15"

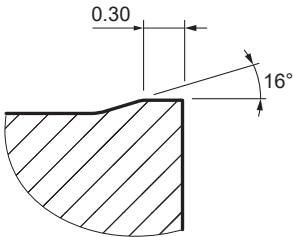
Insert	Designation	Chipbreaker	Available
	CNMG 120408EN-MWR MSP15C	...-MWR	
	DNMG 150608EN-MWR MSP15C		
	DNMG 150612EN-MWR MSP15C		

● available from stock, ○ available upon request

Cutting data

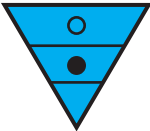


Example: CNMG 120408EN-MWR



General cutting parameters depending on the application

		Coated carbide				Application	Depth of cut / feed rate		
Work piece material	Type of treatment / alloy	Hardness HB	MSP15C v _c [m/min]	MSP25C2H v _c [m/min]	MSP35C v _c [m/min]		Chip groove	a _p [mm]	f [mm]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	Ex: CNMG 120408-MWR for CK60 Different in each application	MWR	1.50 to 5.00	0.50 to 0.30
	Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150				
	High-alloyed steel	200	180 – 320	150 – 240	120 – 200				
	Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180				
M	Ferritic	200	220 – 320	160 – 240	140 – 200				
	Austenitic	180	–	115 – 240	110 – 190				
	Duplex	230 – 260	–	–	80 – 150				
	Martensitic	330	–	80 – 115	55 – 75				
K	Grey cast iron	180	140 – 370	150 – 240	–		 Consistent cutting depth	 Inconsistent cutting depth	 Interrupted cut
	Spheroidal cast iron	160	190 – 430	140 – 270	–				
	Malleable/tempered iron	130	180 – 520	170 – 290	–				



Turning steel neg roughing "P25"

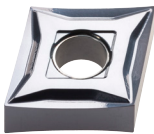
Insert	Designation	Chipbreaker	Available
	CNMG 120408EN-MWR MSP25C2H	...-MWR	●
	CNMG 120412EN-MWR MSP25C2H		●
	DNMG 150608EN-MWR MSP25C2H		●
	DNMG 150612EN-MWR MSP25C2H		●
	SNMG 120408EN-MWR MSP25C2H		●
	SNMG 120412EN-MWR MSP25C2H		●
	TNMG 160408EN-MWR MSP25C2H		●
	TNMG 160412EN-MWR MSP25C2H		●
	WNMG 080408EN-MWR MSP25C2H		●
	WNMG 080412EN-MWR MSP25C2H		●

Turning steel neg roughing "P35"

Insert	Designation	Chipbreaker	Available
	DNMG 150608EN-MWR MSP35C	...-MWR	○
	DNMG 150612EN-MWR MSP35C		○

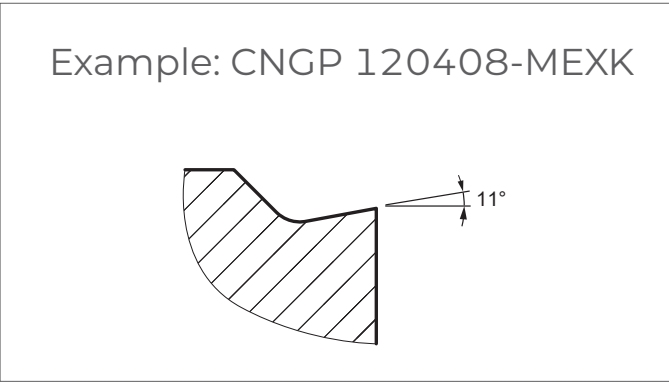
● available from stock, ○ available upon request

Cutting data



General cutting parameters depending on the application

		Coated carbide	
		MS25P	
Work piece material	Type of treatment / alloy	Hardness HB	v _c [m/min]
M	Ferritic	200	150 – 200
	Austenitic	180	120 – 200
	Duplex	230 – 260	90 – 160
	Martensitic	330	60 – 80
K	Grey cast iron	180	120 – 160
	Spheroidal cast iron	160	120 – 160
	Malleable/tempered iron	130	140 – 220
	Non-ferrous metals	100	100 – 400
		130	100 – 400
		90	100 – 600
		100	100 – 400
	Fe base	200	20 – 50
	Nickel or cobalt base	280	20 – 50
	Nickel or cobalt base	250	15 – 40
	Nickel or cobalt base		20 – 35
	Titanium	Rm 440*	80 – 140



Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MEXK	0.5 to 2.5	0.25 to 0.10

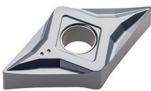
Ex: CNGP 120408-MEXK for 304
Different in each application

Consistent
cutting
depth

Inconsistent
cutting
depth

Interrupted
cut

Available range



Turning stainless steel neg finishing "M25"

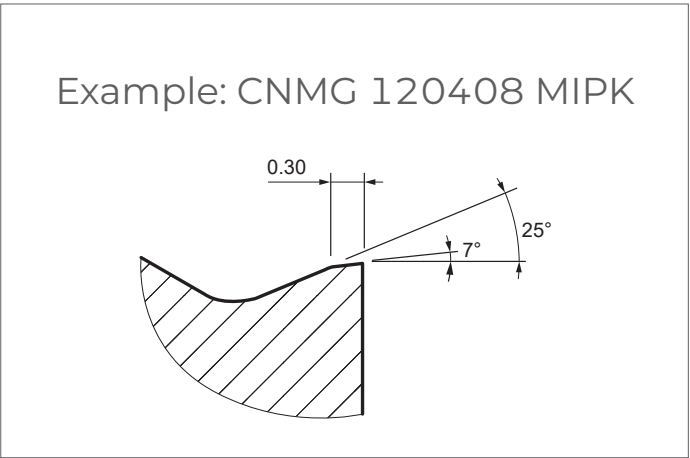
Insert	Designation	Chipbreaker	Available
	CNGP 120402EN-MEXK MS25P	...-MEXK	
	CNGP 120404EN-MEXK MS25P		
	CNGP 120408EN-MEXK MS25P		
	DNGP 150404EN-MEXK MS25P		
	DNGP 150602EN-MEXK MS25P		
	DNGP 150604EN-MEXK MS25P		
	DNGP 150608EN-MEXK MS25P		
	VNGP 160402EN-MEXK MS25P		
	VNGP 160404EN-MEXK MS25P		
	WNGP 080404EN-MEXK MS25P		
	WNGP 080408EN-MEXK MS25P		

● available from stock, ○ available upon request

New chipbreaker

Optimised by FEM:

- ▲ Reduced formation of burrs
- ▲ Good surface finish
- ▲ Low cutting forces



Cutting data

General cutting parameters depending on the application

		Coated carbide				Application		
Work piece material	Type of treatment / alloy	Hardness HB	MSM20CH	MSM25P	MSM35PM	Depth of cut / feed rate		
			v _c [m/min]	v _c [m/min]	v _c [m/min]	Chip groove	a _p [mm]	f [mm]
P	non-alloyed steel 0 – 0.45% C	150 – 250	150 – 250	130 – 250	150 – 190	MIPK	1.00 to 4.20	0.40 to 0.22
	low-alloyed steel	250 – 300	100 – 200	60 – 180	90 – 150			
	high-alloyed steel	200	120 – 220	80 – 200	120 – 200			
	corrosion-resistant steel	200	120 – 220	100 – 200	140 – 180			
M	Ferritic	200	190 – 250	120 – 250	140 – 200	Ex: CNMG 120408-MIPK for 304 Different in each application		
	Austenitic	180	140 – 220	100 – 220	110 – 190			
	Duplex	230 – 260	110 – 170	60 – 160	80 – 150			
	Martensitic	330	40 – 100	40 – 100	55 – 75			
						Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
						●	○	X

Available range



Turning stainless steel neg "M20"

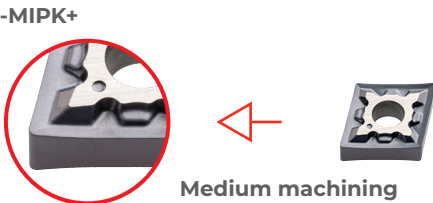
Insert	Designation	Chipbreaker	Available
	CNMG 090304-MIPK	MSM20CH	●
	CNMG 090308-MIPK	MSM20CH	●
	CNMG 120404-MIPK	MSM20CH	●
	CNMG 120408-MIPK	MSM20CH	●
	CNMG 120412-MIPK	MSM20CH	●
	DNMG 110404-MIPK	MSM20CH	●
	DNMG 110408-MIPK	MSM20CH	●
	DNMG 150404-MIPK	MSM20CH	●
	DNMG 150408-MIPK	MSM20CH	●
	DNMG 150604-MIPK	MSM20CH	●
	DNMG 150608-MIPK	MSM20CH	●
	SNMG 120408-MIPK	MSM20CH	●
	TNMG 160404-MIPK	MSM20CH	●
	TNMG 160408-MIPK	MSM20CH	●
	VNMG 160408-MIPK	MSM20CH	●
	WNMG 060404-MIPK	MSM20CH	●
	WNMG 060408-MIPK	MSM20CH	●
	WNMG 080404-MIPK	MSM20CH	●
	WNMG 080408-MIPK	MSM20CH	●

● available from stock, ○ available upon request

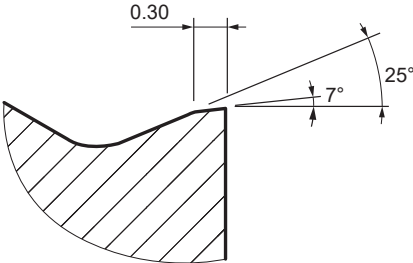
New chipbreaker

Optimised by FEM:

- ▲ Reduced formation of burrs
- ▲ Good surface finish
- ▲ Low cutting forces



Example: CNMG 120408 MIPK



Cutting data

General cutting parameters depending on the application

		Coated carbide		
Work piece material	Type of treatment / alloy	Hardness HB	MSM25P	MSM35PM
			V _c [m/min]	V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	130 – 250	170 – 190
	Low-alloyed steel	250 – 300	60 – 180	90 – 150
	High-alloyed steel	200	80 – 200	120 – 200
	Corrosion-resistant steel	200	100 – 200	140 – 180
M	Ferritic	200	120 – 250	140 – 200
	Austenitic	180	100 – 220	110 – 190
	Duplex	230 – 260	60 – 160	80 – 150
	Martensitic	330	40 – 100	55 – 75

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MIPK	1.00 to 4.20	0.40 to 0.22

Ex: CNMG 120408-MIPK for 304
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range



Turning stainless steel neg medium "M25"

Insert	Designation		Chipbreaker	Available
	CNMG 090304-MIPK	MSM25P	...-MIPK	●
	CNMG 090308-MIPK	MSM25P		●
	CNMG 120404-MIPK	MSM25P		●
	CNMG 120408-MIPK	MSM25P		●
	DNMG 110404-MIPK	MSM25P		●
	DNMG 110408-MIPK	MSM25P		●
	DNMG 150404-MIPK	MSM25P		●
	DNMG 150408-MIPK	MSM25P		●
	DNMG 150604-MIPK	MSM25P		●
	DNMG 150608-MIPK	MSM25P		●
	SNMG 120408-MIPK	MSM25P		●
	TNMG 160404-MIPK	MSM25P		●
	TNMG 160408-MIPK	MSM25P		●
	VNMG 160408-MIPK	MSM25P		●
	WNMG 060404-MIPK	MSM25P		●
	WNMG 060408-MIPK	MSM25P		●
	WNMG 080404-MIPK	MSM25P		●
	WNMG 080408-MIPK	MSM25P		●
	WNMG 080412-MIPK	MSM25P		○

● available from stock, ○ available upon request

New chipbreaker

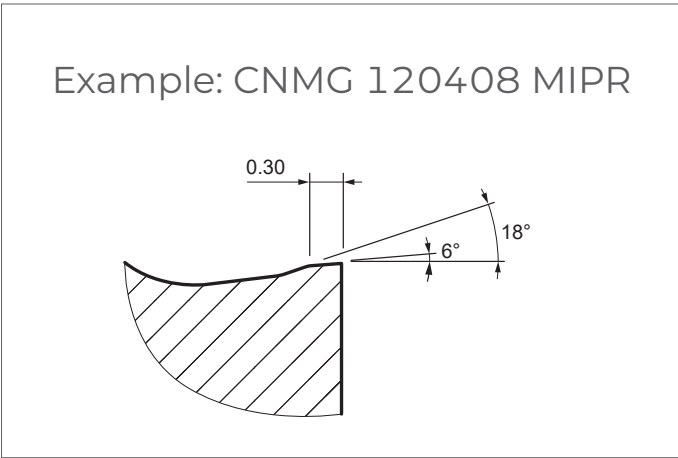
Sharp positive cutting edges:

- ▲ Reduced formation of burrs
- ▲ Good surface finish
- ▲ Low cutting forces

-MIPK+



Medium machining and light roughing



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			MSM25P V _c [m/min]	MSM35PM V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	130 – 250	170 – 190
	Low-alloyed steel	250 – 300	60 – 180	90 – 150
	High-alloyed steel	200	80 – 200	120 – 200
	Corrosion-resistant steel	200	100 – 200	140 – 180
M	Ferritic	200	120 – 250	140 – 200
	Austenitic	180	100 – 220	110 – 190
	Duplex	230 – 260	60 – 160	80 – 150
	Martensitic	330	40 – 100	55 – 75

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
MIPR	1.50 to 6.00	0.50 to 0.25

Ex: CNMG 120408-MIPR for 304
Different in each application


Consistent
cutting
depth


Inconsistent
cutting
depth

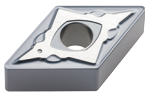

Interrupted
cut



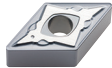




Available range

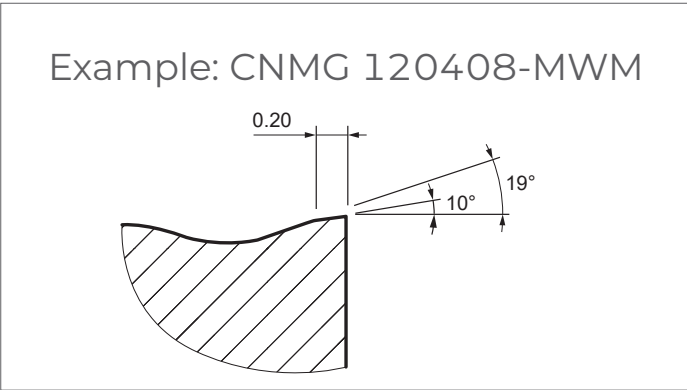
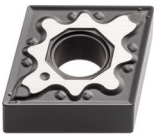


Turning stainless steel neg roughing "M25"

Insert	Designation		Chipbreaker	Available
	CNMG 120408-MIPR	MSM25P	...-MIPR	
	CNMG 120412-MIPR	MSM25P		
	DNMG 150608-MIPR	MSM25P		
	DNMG 150612-MIPR	MSM25P		
	TNMG 160408-MIPR	MSM25P		
	TNMG 160412-MIPR	MSM25P		
	WNMG 080408-MIPR	MSM25P		
	WNMG 080412-MIPR	MSM25P		

● available from stock, ○ available upon request

Cutting data



General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	MSK20C
			v_c [m/min]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250
		Low-alloyed steel	250 – 300
		High-alloyed steel	200
		Corrosion-resistant steel	200
K	Cast iron	Grey cast iron	180
		Spheroidal cast iron	160
		Malleable/tempered iron	130

Application Depth of cut / feed rate

Chip groove	a_p [mm]	f [mm]
MWM	1.00 to 4.00	0.44 to 0.22

Ex: CCMG 120408-MWM for GG25
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range



Turning cast iron neg "K20"

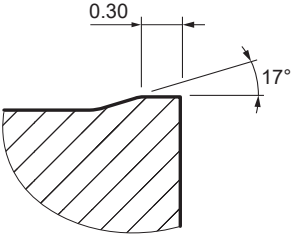
Insert	Designation		Chipbreaker	Available
	CNMG 120408-MWM	MSK20C	...-MWM	●
	CNMG 120412-MWM	MSK20C		○
	DNMG 150608-MWM	MSK20C		●
	DNMG 150612-MWM	MSK20C		○
	TNMG 160408-MWM	MSK20C		○
	TNMG 160412-MWM	MSK20C		○
	TNMG 220408-MWM	MSK20C		●
	WNMG 080408-MWM	MSK20C		●
	WNMG 080412-MWM	MSK20C		○

● available from stock, ○ available upon request

Cutting data



Example: CNMG 120408-M09



General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	MSK20C v _c [m/min]
P	Steel		
	Non-alloyed steel 0 – 0.45% C	150 – 250	200 – 340
	Low-alloyed steel	250 – 300	150 – 290
	High-alloyed steel	200	150 – 290
	Corrosion-resistant steel	200	160 – 290
K	Cast iron		
	Grey cast iron	180	150 – 400
	Spheroidal cast iron	160	200 – 450
	Malleable/tempered iron	130	200 – 550

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
M09	2.00 to 4.80	0.48 to 0.30

Ex: CNMG 120408-M09 for GG25
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut	Interrupted cut
●	●	X	○ Only .NMA

Available range



Turning cast iron neg "K20"

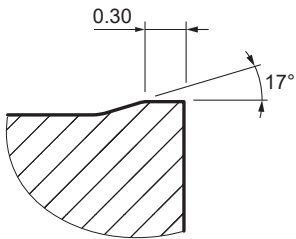
Insert	Designation	Chipbreaker	Available
	CNMG 120408-M09 MSK20C	...-M09	●
	CNMG 120412-M09 MSK20C		●
	CNMG 160612-M09 MSK20C		○
	SNMG 120408-M09 MSK20C		●
	WNMG 080408-M09 MSK20C		●
	WNMG 080412-M09 MSK20C		●
	CNMA 120408-EN MSK20C	...-EN	○
	CNMA 120412-EN MSK20C		●
	SNMA 120408-EN MSK20C		○
	TNMA 160408-EN MSK20C		○
	WNMA 080408-EN MSK20C		●

● available from stock, ○ available upon request

Cutting data



Example: CNMG 120408-M09



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Coated carbide	
		Hardness HB	MSK10CH V _c [m/min]
P	Steel		
	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400
	Low-alloyed steel	250 – 300	170 – 340
	High-alloyed steel	200	170 – 340
	Corrosion-resistant steel	200	200 – 300
K	Cast iron		
	Grey cast iron	180	170 – 450
	Spheroidal cast iron	160	220 – 430
	Malleable/tempered iron	130	220 – 400

Application Depth of cut / feed rate

Chip groove	a_p [mm]	f [mm]	
M09	2.0 to 4.8	0.48 to 0.30	
Ex: CNMG 120408-M09 for GG25			
Different in each application			
			
Consistent cutting depth	Inconsistent cutting depth	Interrupted cut	Interrupted cut
●	●	X	○ Only .NMA

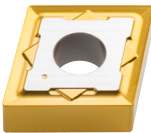
Available range



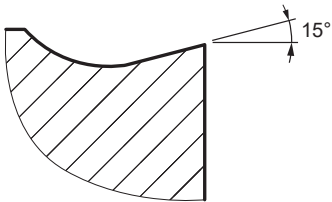
Insert	Designation		Chipbreaker	Available
	CNMG 120408-M09	MSK10CH	...-M09	●
	CNMG 120412-M09	MSK10CH		●
	CNMG 160612-M09	MSK10CH		○
	SNMG 120412-M09	MSK10CH		●
	WNMG 080408-M09	MSK10CH		○
	WNMG 080412-M09	MSK10CH		○
	CNMA 120408-EN	MSK10CH	...-EN	○
	WNMA 080412-EN	MSK10CH		●

● available from stock, ○ available upon request

Cutting data



Example: CNMG 120408-MIPE



General cutting parameters depending on the application

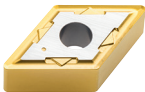
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide
			MSP115 V _c [m/min]
M	Stainless steel		
	Ferritic	200	130 – 220
	Austenitic	180	120 – 180
	Duplex	230 – 260	50 – 90
	Martensitic	330	–
	Exotic materials		
	Fe base	200	80 – 120
	Nickel or cobalt base	280	60 – 120
	Nickel or cobalt base	250	35 – 90
	Nickel or cobalt base		30 – 50
	Titanium	Rm 440*	70 – 120

Application	Depth of cut / feed rate	
Chip groove	a _p [mm]	f [mm]
MIPE	0.80 to 3.00	0.30 to 0.10

Ex: CNMG 120408-MIPE for Super Alloys
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range



Turning titanium "S15"

Insert	Designation	Chipbreaker	Available
	CNMG 120404-MIPE MSP115	...-MIPE	●
	CNMG 120408-MIPE MSP115		●
	DNMG 150608-MIPE MSP115		●
	SNMG 120408-MIPE MSP115		●
	TNMG 160408-MIPE MSP115		●
	VNMG 160408-MIPE MSP115		●
	WNMG 080408-MIPE MSP115		●

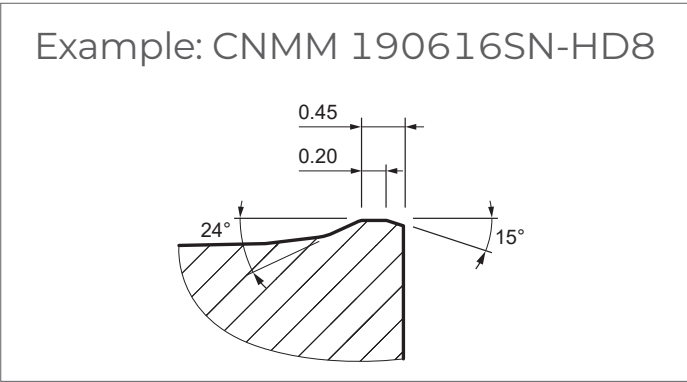
● available from stock, ○ available upon request

Heavy Duty Turning

HDT



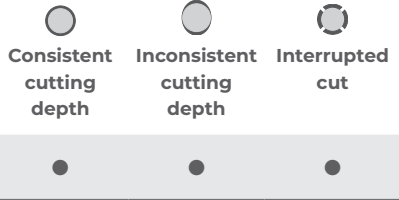
Cutting data



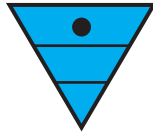
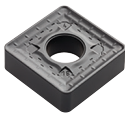
General cutting parameters depending on the application

		Coated carbide				Application		
Work piece material	Type of treatment / alloy	Hardness HB	MSP15C	MSP25C2H	MSP35C	Depth of cut / feed rate		
			v_c [m/min]	v_c [m/min]	v_c [m/min]	Chip groove	a_p [mm]	f [mm]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	HD8	2.50 to 12.00
		Low-alloyed steel	250 – 300	200 – 320	115 – 210	90 – 150		
		High-alloyed steel	200	180 – 320	150 – 240	120 – 200		
		Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180		
M	Stainless steel	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CNMM 190616SN-HD8 for CK60 Different in each application	
		Austenitic	180	–	115 – 240	110 – 190		
		Duplex	230 – 260	–	–	80 – 150		
		Martensitic	330	–	80 – 115	55 – 75		
K	Cast iron	Grey cast iron	180	140 – 370	150 – 240	–	Consistent cutting depth	Inconsistent cutting depth
		Spheroidal cast iron	160	190 – 430	140 – 270	–		
		Malleable/tempered iron	130	180 – 520	170 – 290	–		

Ex: CNMM 190616SN-HD8 for CK60
Different in each application



Available range



Heavy turning steel neg "P25"

Insert	Designation		Chipbreaker	Available
	CNMM 190616SN-HD8	MSP25C2H	...-HD8	●
	CNMM 190624SN-HD8	MSP25C2H		●
	CNMM 250924SN-HD8	MSP25C2H		●
	CNMM 250932SN-HD8	MSP25C2H		●
	SNMM 190616SN-HD8	MSP25C2H		●
	SNMM 190624SN-HD8	MSP25C2H		●
	SNMM 250924SN-HD8	MSP25C2H		●
	SNMM 250932SN-HD8	MSP25C2H		●

Heavy turning steel neg "P35"

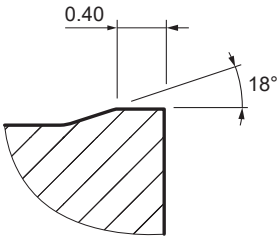
Insert	Designation		Chipbreaker	Available
	CNMM 250924SN-HD8	MSP35C	...-HD8	●
	SNMM 250924SN-HD8	MSP35C		●

● available from stock, ○ available upon request

Cutting data



Example: CNMG 160612-M09



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	MSP25C2H	MSP35C
			V _c [m/min]	V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	200 – 270	170 – 190
	Low-alloyed steel	250 – 300	115 – 210	90 – 150
	High-alloyed steel	200	150 – 240	120 – 200
	Corrosion-resistant steel	200	150 – 240	140 – 180
M	Ferritic	200	160 – 240	140 – 200
	Austenitic	180	115 – 240	110 – 190
	Duplex	230 – 260	–	80 – 150
	Martensitic	330	80 – 115	55 – 75
K	Grey cast iron	180	150 – 240	–
	Spheroidal cast iron	160	140 – 270	–
	Malleable/tempered iron	130	170 – 290	–

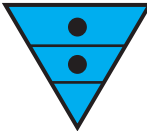
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
M09	3.20 to 7.60	1.00 to 0.60

Ex: CNMG 190616-M09 for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range

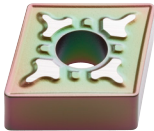


Medium and roughing turning steel

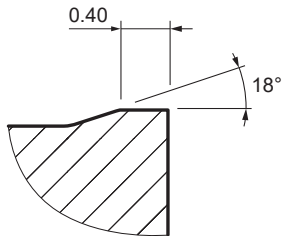
Insert	Designation		Chipbreaker	Available
	CNMG 160612-M09	MSP25C2H	...-M09	●
	CNMG 160616-M09	MSP25C2H		●
	CNMG 190612-M09	MSP25C2H		●
	CNMG 190616-M09	MSP25C2H		●
	SNMG 150612-M09	MSP25C2H	...-M09	●
	SNMG 190612-M09	MSP25C2H		●
	TNMG 220412-M09	MSP25C2H		●
	RCMT 1606MOSN-MXR	MSP25C2H	...-MXR	●
	RCMT 2006MOSN-MXR	MSP25C2H		●

● available from stock, ○ available upon request

Cutting data



Example: CNMG 160612-M09



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	MSP25C2H	MSP35C
			V _c [m/min]	V _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	200 – 270	170 – 190
	Low-alloyed steel	250 – 300	115 – 210	90 – 150
	High-alloyed steel	200	150 – 240	120 – 200
	Corrosion-resistant steel	200	150 – 240	140 – 180
M	Ferritic	200	160 – 240	140 – 200
	Austenitic	180	115 – 240	110 – 190
	Duplex	230 – 260	–	80 – 150
	Martensitic	330	80 – 115	55 – 75
K	Grey cast iron	180	150 – 240	–
	Spheroidal cast iron	160	140 – 270	–
	Malleable/tempered iron	130	170 – 290	–

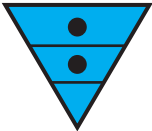
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
M09	3.20 to 7.60	1.00 to 0.60

Ex: CNMG 190616-M09 for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range



Medium and roughing turning steel

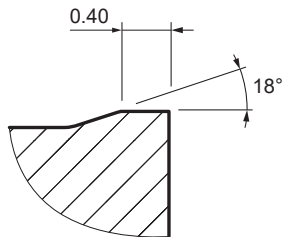
Insert	Designation	Chipbreaker	Available
	CNMG 160608-M09	MSP35C	●
	CNMG 160612-M09	MSP35C	●
	CNMG 190612-M09	MSP35C	●
	CNMG 190616-M09	MSP35C	●
	SNMG 190612-M09	MSP35C	●
	RCMT 1606MOSN-MXR	MSP35C	●
	RCMT 2006MOSN-MXR	MSP35C	●

● available from stock, ○ available upon request

Cutting data



Example: CNMG 160612-M09



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Coated carbide	
		Hardness HB	MSK20C V _c [m/min]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250
		Low-alloyed steel	250 – 300
		High-alloyed steel	200
		Corrosion-resistant steel	200
K	Cast iron	Grey cast iron	180
		Spheroidal cast iron	160
		Malleable/tempered iron	130

Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
M09	3.20 to 5.60	0.60 to 0.38
Ex: CNMG 160612-M09 for GG25 Different in each application		
		
Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range



Turning cast iron neg "K20"

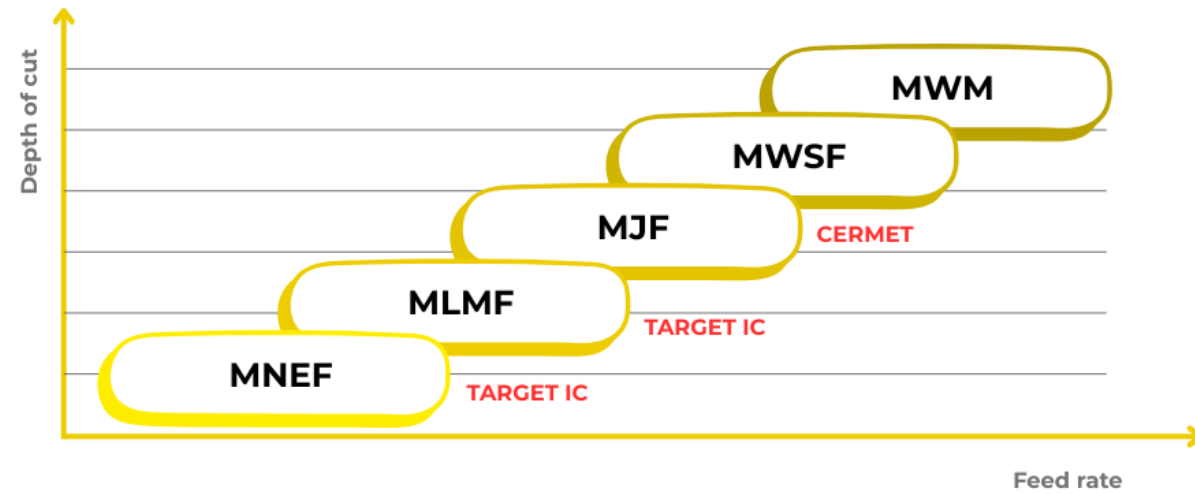
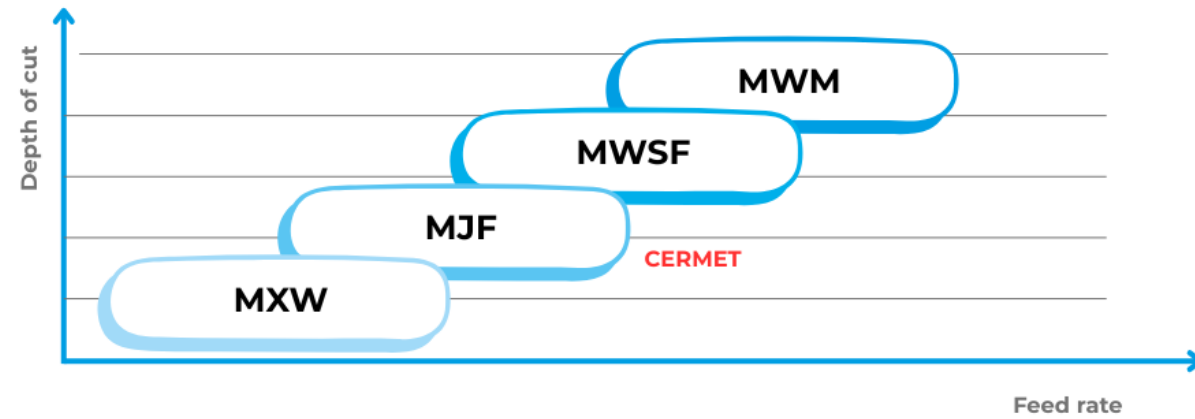
Insert	Designation	Chipbreaker	Available
	CNMG 160608-M09 MSK20C	...-M09	○
	CNMG 160612-M09 MSK20C		○
	CNMG 190612-M09 MSK20C		●

● available from stock, ○ available upon request

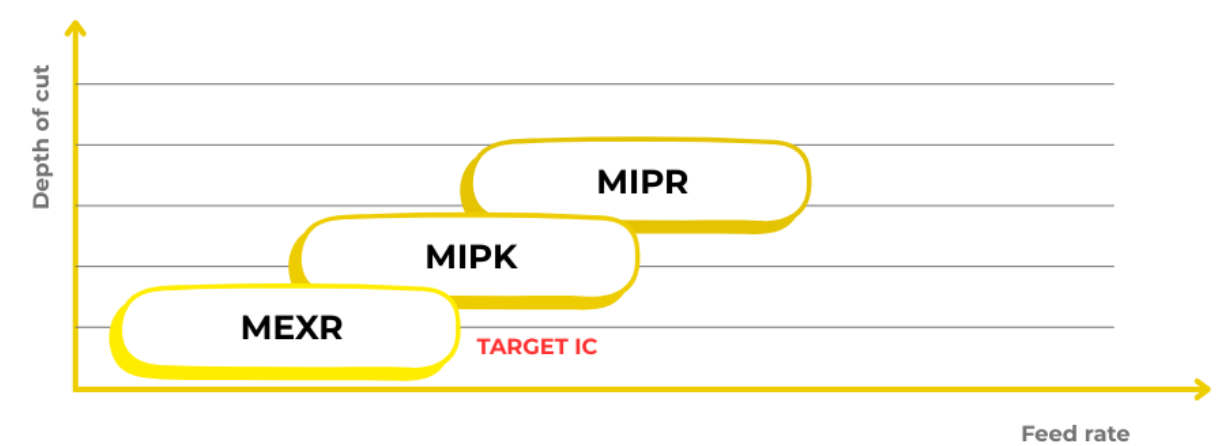
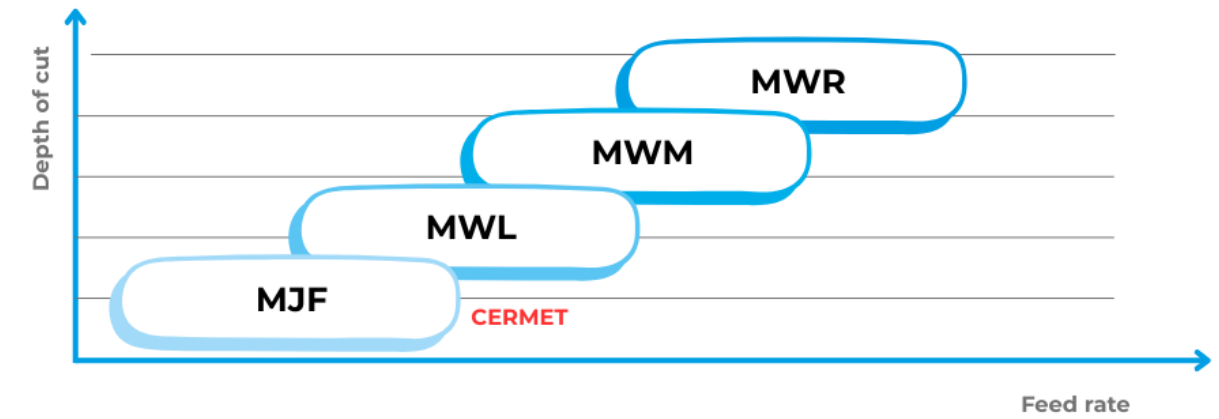
Application information



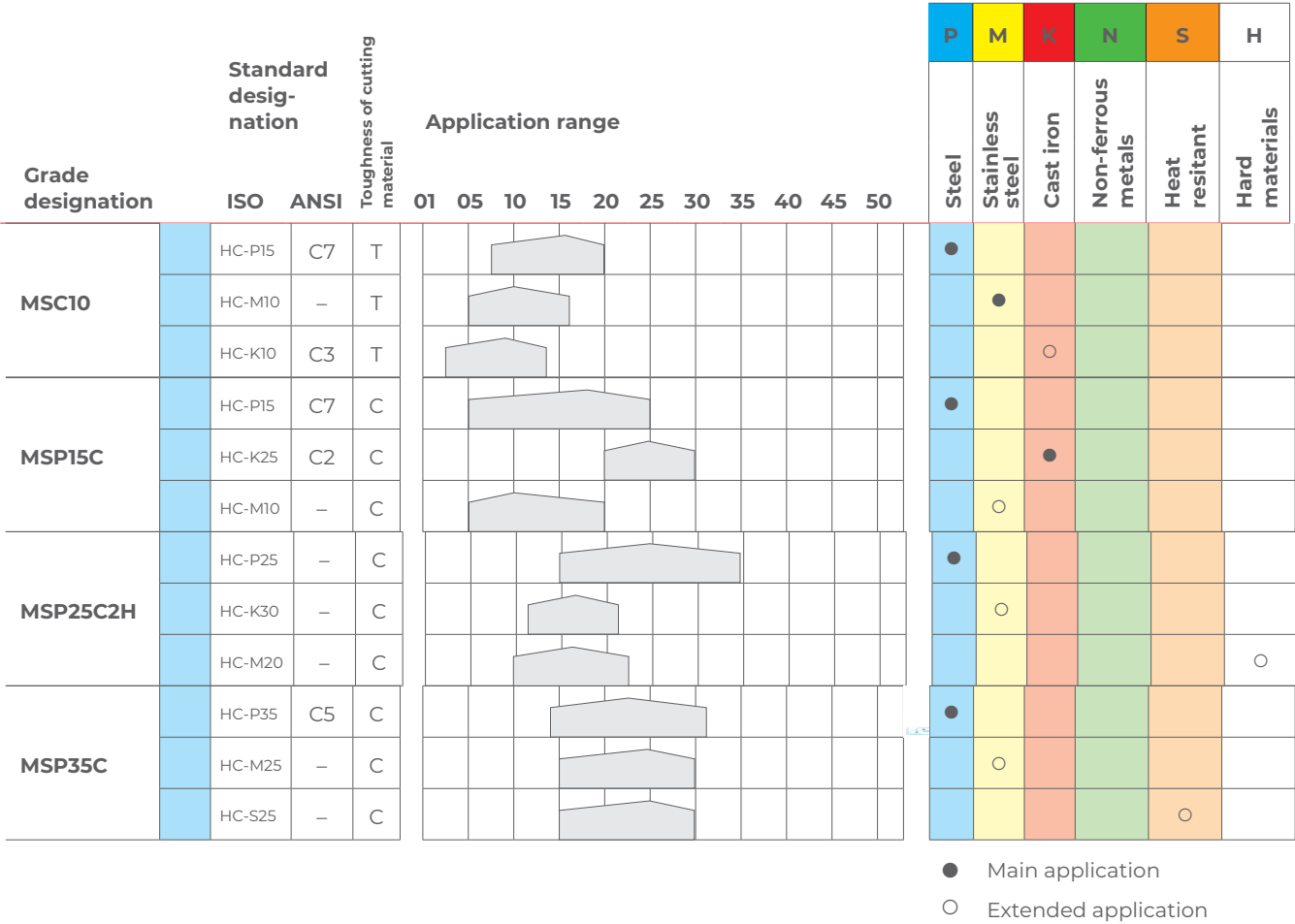
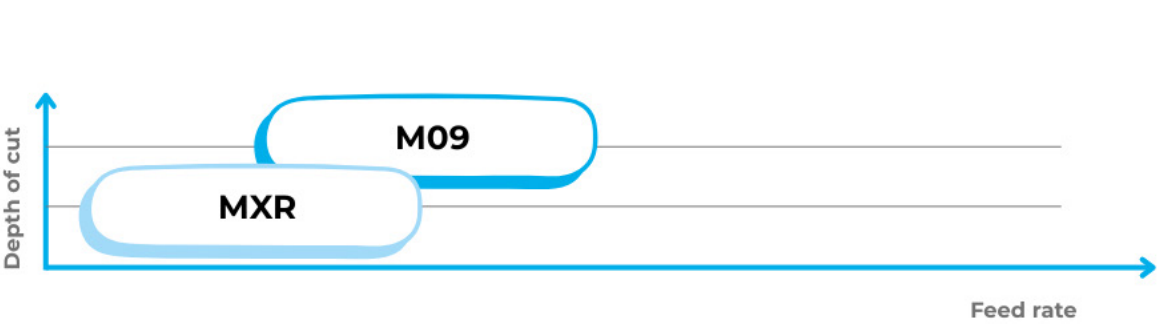
PST – Positive Size Turning



NST – Negative Size Turning



HDT – Heavy Duty Turning



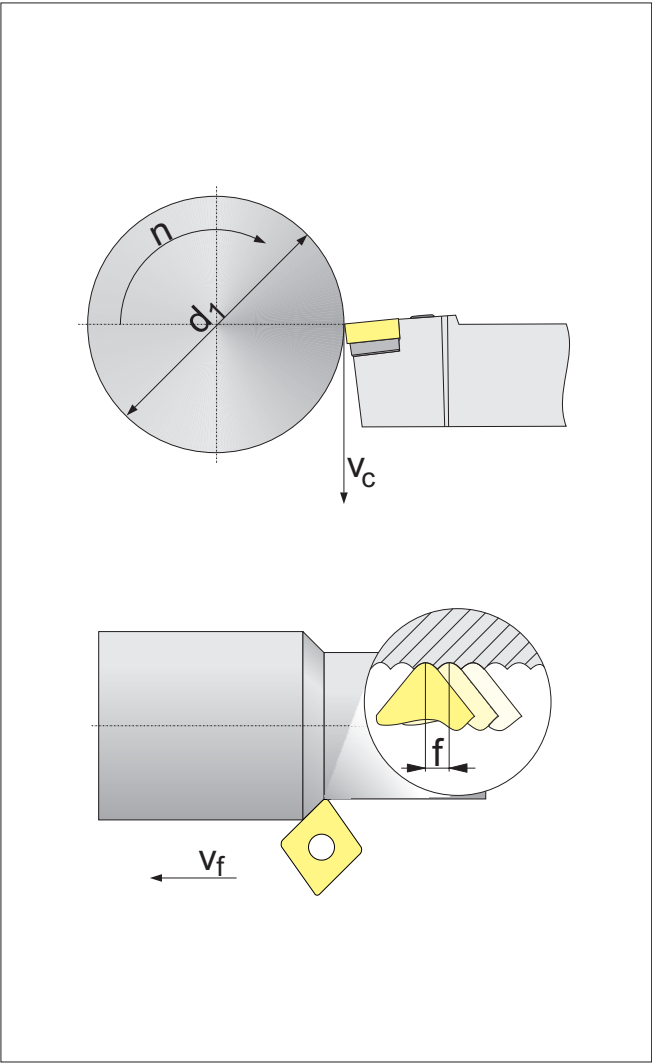
Grade designation	Standard designation		Toughness of cutting material	Application range																	P	M	K	N	S	H
	ISO	ANSI		01	05	10	15	20	25	30	35	40	45	50	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resitant	Hard materials						
MSM20CH	HC-M20	–	C													●										
	HC-P25	–	C												○											
MSM25P	HC-M25	–	P													●										
	HC-P35	C7	P																							
	HC-S25	–	P																○							
MS25P	HC-M20	C3	P													●										
	HC-K20	C2	P														○									
MSM35PM	HC-M35	C5	P													●										
	HC-P35	–	P													○										
MS2197	HC-M15	–	P													●										
	HC-S15	–	P																○							
MSK10CH	HC-K10	–	C														●									
	HC-P05	–	C												○											
MSK20C	HC-K20	C2	C														●									
	HC-P10	C8	C												○											

- Main application
- Extended application

Grade designation	Standard designation		Toughness of cutting material	Application range																	P	M	K	N	S	H
	ISO	ANSI		01	05	10	15	20	25	30	35	40	45	50	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resitant	Hard materials						
MSN10-	HW-N15	C3	W															●								
	HW-K15	C3	W														●									
MSN15-	HW-N15	C3	W															●								
	HW-K15	C3	W														●									
MSP115	HC-S15	–	P																●							
	HC-M15	–	P																			○				

Production





Cutting speed (vc)

$$v_c = \frac{d_1 \cdot \pi \cdot n}{1000} \text{ [m/min]}$$

Revolutions per minute (n)

$$n = \frac{v_c \cdot 1000}{d_1 \cdot \pi} \text{ [rev./min]}$$

Feed rate (vf)

$$v_f = f \cdot n \text{ [mm/min]}$$

Type of problem												Corrective measures	
Type of wear						Work place problems				Chip control			
Flank wear	Cratering	Edge chipping	Plastic deformation	Insert breakage	Built-up edge	Vibration	Formation of pips and burrs	Chattered surface	Surface quality	Chip too long (tangled swarf)	Chip too short (fragmented swarf)		
↓					↑	↓			↑	↓		Cutting speed	Cutting values
≈		↓	↓	↓		↑		↓		↑	↓	Feed rate	
	↓					↓	↓	↓				Feed - centre area	
		↑	≈		↓	≈	↓		↓	↓	↑	Chip groove	Selection of inserts
↑		↑	↑			↓	↓	↓	↑			Corner radius	
↑	↑	↓	↑	↓								Cutting material	
		≈		≈		≈		≈	≈			Clamping of tool	General criteria
		≈		≈		≈		≈	≈			Clamping of work piece	
		≈		≈		≈			↓			Overhang	
≈		≈				≈	≈		≈			Tip height	
□	≈		□		□				□	□		Cooling lubricant	

↑ raise, increase, large influence

↑ raise, increase, low influence

↓ avoid, reduce large influence

↓ avoid, reduce low influence

≈ check, optimased

□ use

- ↑ raise, increase, large influence
- ↑ raise, increase, low influence
- ↓ avoid, reduce large influence
- ↓ avoid, reduce low influence
- ≈ check, optimised
- use



Abrasion on flank, normal wear after a certain machining time.

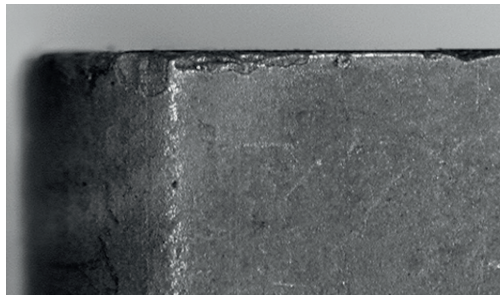
Flank wear

Reasons

- ▲ Cutting speed too high
- ▲ Carbide grade with insufficient wear resistance
- ▲ Incorrect feed rate

Remedies

- ▲ Reduce cutting speed
- ▲ Select more wear resistant carbide grade
- ▲ Adapt feed rate to cutting speed and cutting depth (increase feed rate)



Through excessive mechanical stress at the cutting edge fracture and chipping can occur.

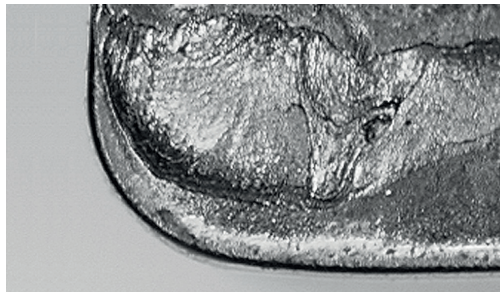
Edge chipping

Reasons

- ▲ Grade with too high wear resistance
- ▲ Vibration
- ▲ Feed rate too high or excessive cutting depth
- ▲ Interrupted cut
- ▲ Swarf damage

Remedies

- ▲ Use tougher grade
- ▲ Use negative cutting edge geometry with chip groove
- ▲ Increase stability (tool, work piece)



The hot chip which is being evacuated causes cratering at the rake face of the cutting edge.

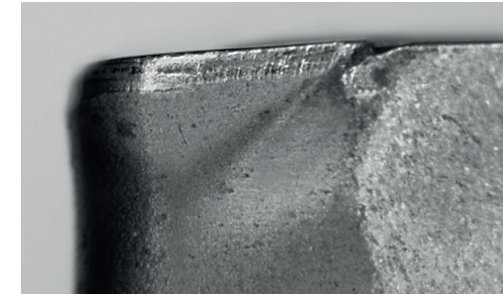
Cratering

Reasons

- ▲ Cutting speed and / or feed rate too high
- ▲ Rake angle too shallow
- ▲ Grade with low wear resistance
- ▲ Insufficient coolant supply

Remedies

- ▲ Reduce cutting speed and / or feed rate
- ▲ Increase coolant quantity and / or pressure, optimise coolant supply
- ▲ Use grade with higher resistance to cratering



High machining temperature and simultaneous mechanical stress can lead to plastic deformation.

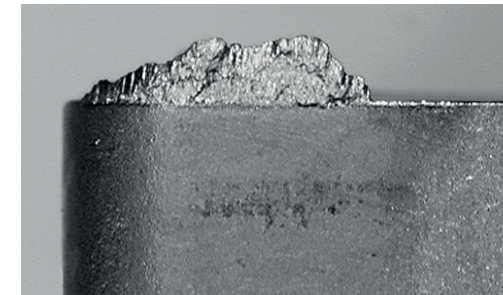
Plastic deformation

Reasons

- ▲ Too high machining temperature, resulting in softening of substrate
- ▲ Damaged coatings
- ▲ Chip groove too narrow

Remedies

- ▲ Reduce cutting speed
- ▲ Choose carbide grade with higher wear resistance
- ▲ Provide cooling



Built-up edge occurs when the chip is not evacuated properly due to insufficient cutting temperature.

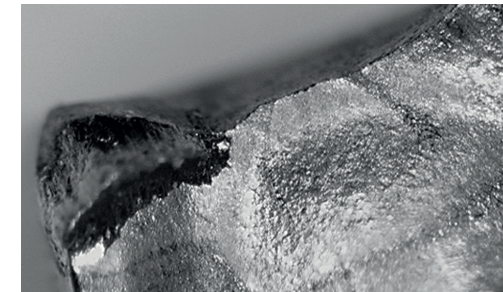
Built-up edge

Reasons

- ▲ Cutting speed too low
- ▲ Rake angle too small
- ▲ Wrong cutting material
- ▲ Lack of cooling / lubrication

Remedies

- ▲ Increase cutting speed
- ▲ Increase rake angle
- ▲ Apply TiN-coating
- ▲ Use emulsion with higher concentration



Excessive stress of the insert causes breakage.

Insert breakage

Reasons

- ▲ Excessive stress of cutting material
- ▲ Lack of stability
- ▲ Corner angle too small
- ▲ Excessive notching

Remedies

- ▲ Use tougher cutting material
- ▲ Use protective edge chamfer
- ▲ Increase honing of edge
- ▲ Use more stable geometry

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