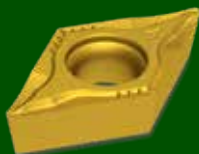
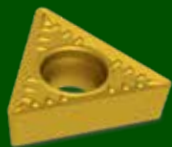
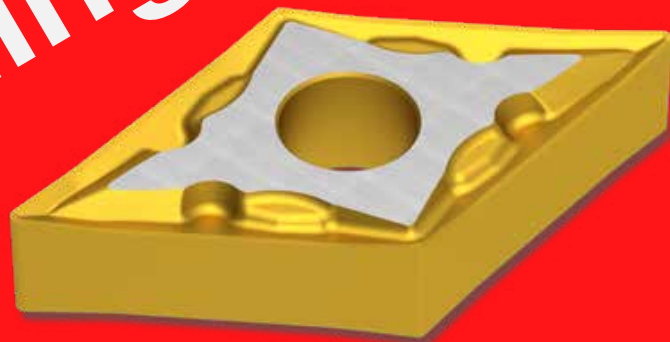


TUNGSTEN CARBIDE TOOLS

Hard Metal Inserts

Turning Inserts



Hard Metal Tools & Tips

www.tct-srl.it



TUNGSTEN CARBIDE TOOLS

The Right Insert, Tailor-Made, for 50 Years!

T.C.T. Srl is a company specializing in the production of tungsten carbide inserts for milling, turning, threading and special applications. The organization includes the production of inserts on behalf of third parties and the supply of standard inserts available in our warehouse

In addition we deal with the sharpening of metal parts not only for chip removal but also for less specific applications such as guide pins bushings wire drawing and woodworking and paper processing.

T.C.T. Srl: Your Partner for Precision Carbide Inserts

In the production of all its items, T.C.T. Srl pays the utmost attention to detail, informing the customer of any particularities encountered in special projects.

All products are delivered following a meticulous control of every detail and packaging that is attentive to the customer's needs.



TUNGSTEN CARBIDE TOOLS

Via G. Boccaccio, 19 - 20025 - Legnano (MI)

+39 0331 592303 - info@tct-srl.it



Headquarters
Legnano, Italy



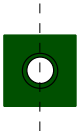
100 %
Green Energy



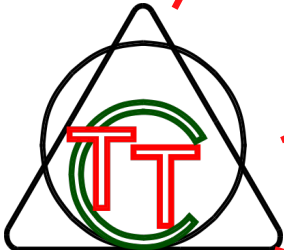
Growth
Continuous development



Packaging
Recycling



5 more than
00 000
annual production



TUNGSTEN CARBIDE
TOOLS



100 %
CO2 offset



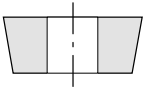
1 Centralized
Warehouse



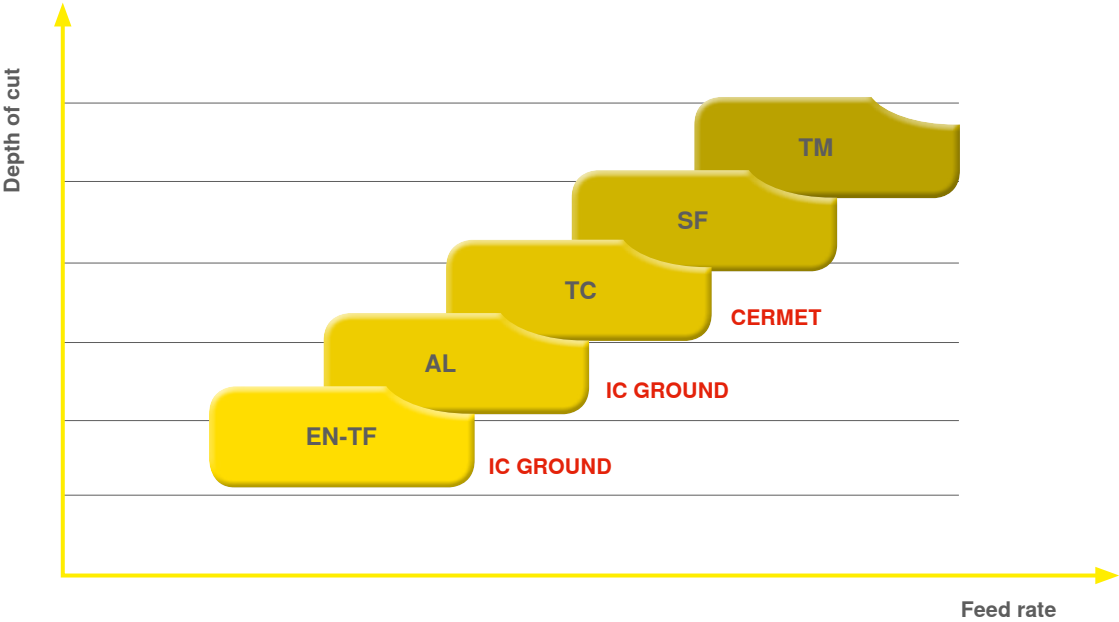
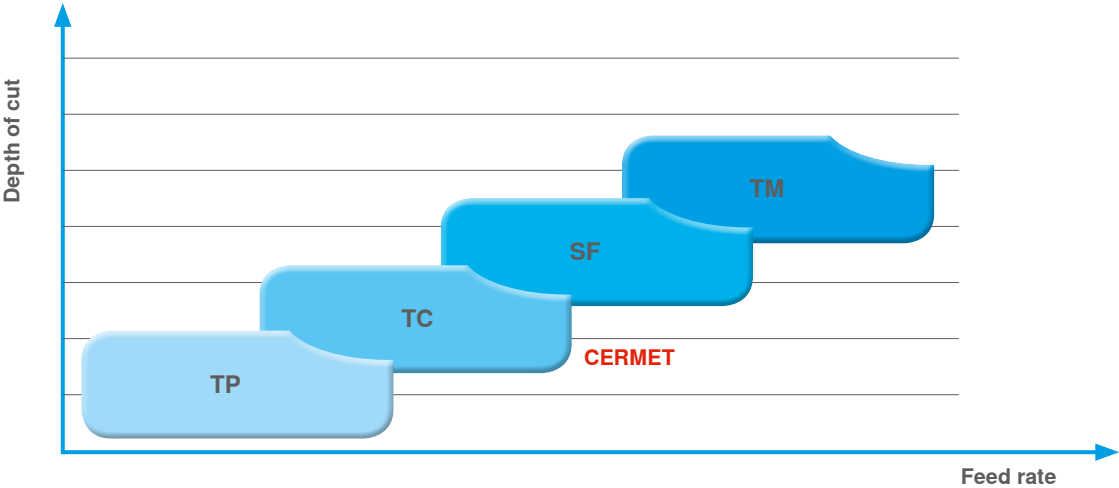
50 years
Our Story



PST – Positive Size Turning

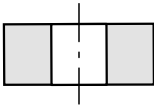


	STEEL EXTREME FINISHING	SUPER-FINISH	▼▼▼	TP	P	12
	STEEL FINISHING	CERMET	▼▼▼	TC	P	14
	STEEL FINISHING		▼▼▼	SF	P	16
	STEEL SEMI FINISHING		▼▼	TM	P	20
	STAINLESS STEEL EXTREME FINISHING	IC GROUND	▼▼▼	EN-TF	P	26
	STAINLESS STEEL FINISHING	IC GROUND	▼▼▼	AL	P	28
	STAINLESS STEEL FINISHING	CERMET	▼▼▼	TC	P	30
	STAINLESS STEEL FINISHING		▼▼▼	SF	P	32
	STAINLESS STEEL MEDIUM		▼▼	TM	P	36
	CAST IRON		▼▼	TM	P	42
	NON-FERROUS SEMI FINISHING MEDIUM	IC GROUND	▼▼	AL	P	44

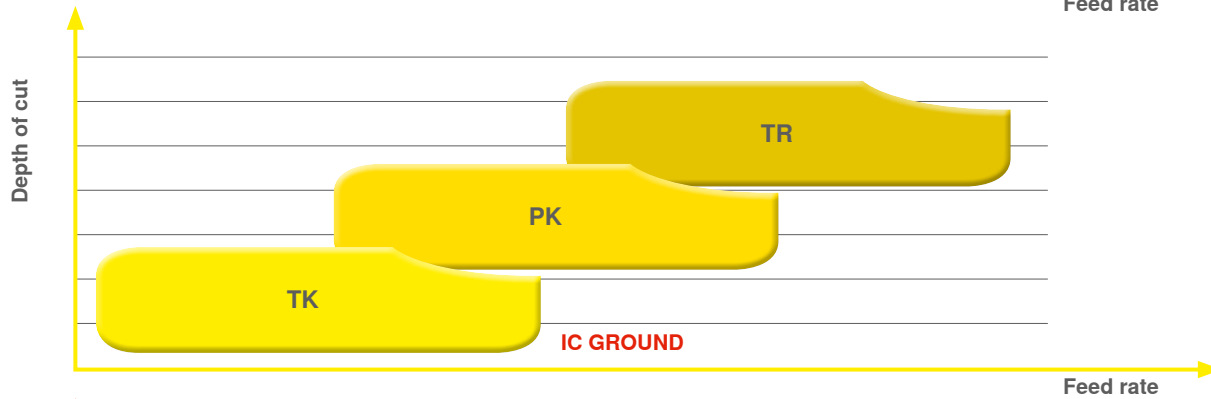
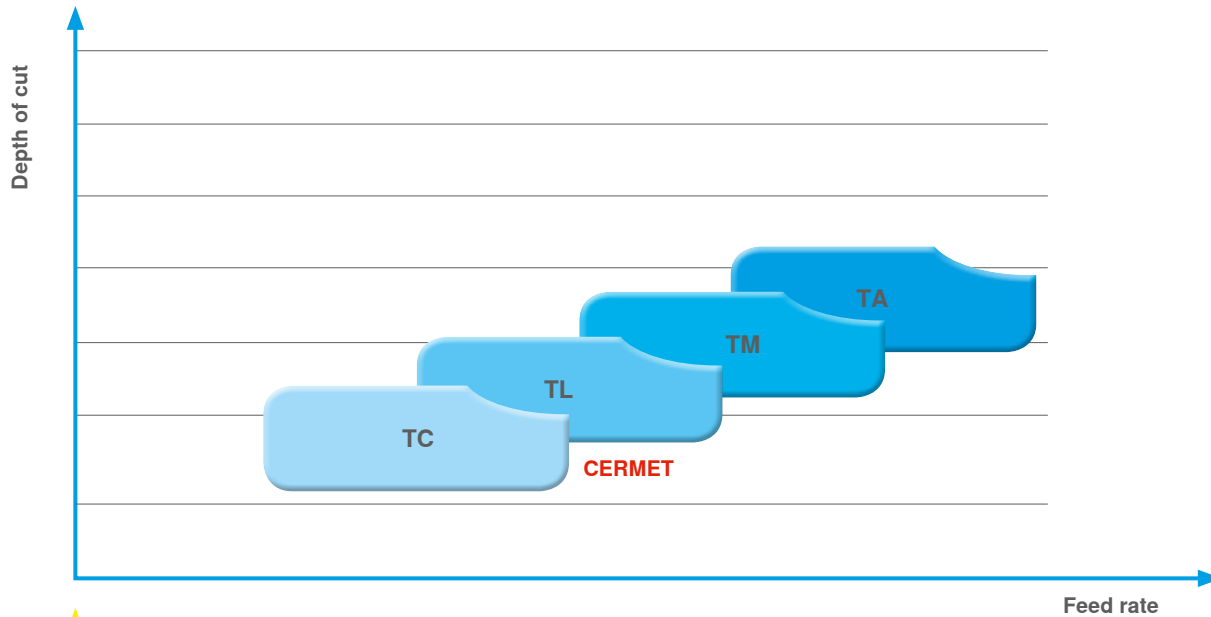




NST – Negative Size Turning



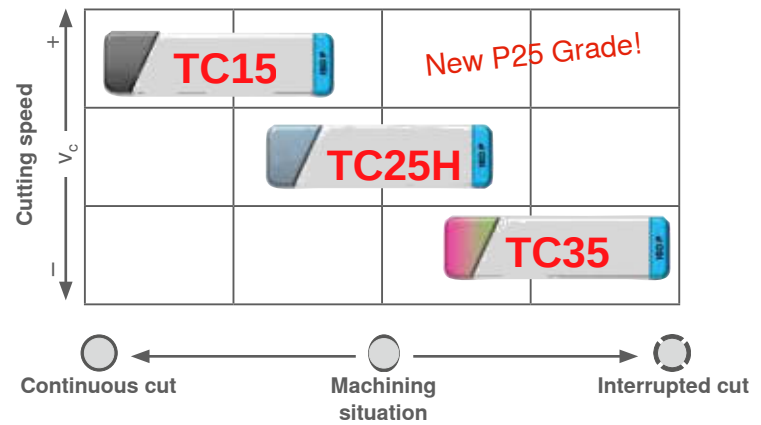
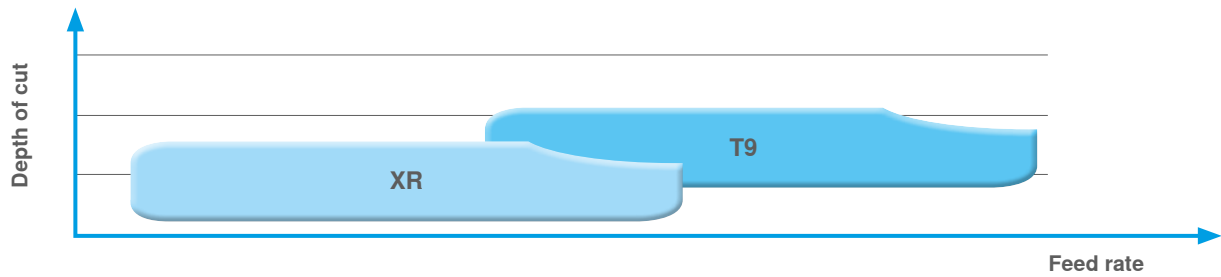
	STEEL SEMI FINISHING	CERMET	▼▼▼	TC	P 48
	STEEL SEMI FINISHING		▼▼▼	TL	P 50
	STEEL SEMI FINISHING		▼▼	TM	P 52
	STEEL ROUGHING		▼	TA	P 58
	STAINLESS STEEL FINISHING	IC GROUND	▼▼▼	TK	P 62
	STAINLESS STEEL MEDIUM		▼▼	PK	P 64
	STAINLESS STEEL ROUGHING		▼	TR	P 68
	CAST IRON MEDIUM		▼▼	TM	P 70
	CAST IRON LIGHT ROUGHING		▼	T9	P 72
	EXOTICS SEMI FINISHING		▼▼	TI	P 76





HDT – Heavy Duty Turning

	STEEL HEAVY ROUGHING	▼	T8	P 80
	STEEL MEDIUM	▼▼	XR (RCMT only)	P 82
	STEEL ROUGHING	▼	T9	P 82
	CAST IRON ROUGHING	▼	T9	P 86



NEW



Applications

- ▲ New PREMIUM choice for the universal turning of steels
- ▲ Highly wear-resistant grade with increased resistance to plastic deformation
- ▲ Designed for maximum cutting parameters / high productivity, long tool life, dry machining

Your advantages

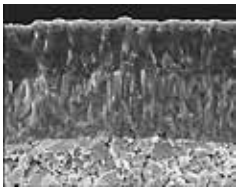
- ▲ Available from standard range
- ▲ Easy wear detection with special top layer on coating

Your benefits

- ▲ High productivity
- ▲ Increased tool life

TC25H

HC-P25 | HC-K30 | HC-K20



Specification:

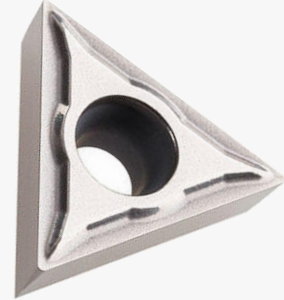
Composition: Co 7.3%; mixed carbides 7.0%; others 0.4%; WC balance | Grain size: 1-2 μ m | Hardness: HV₃₀ 1530 | Coating specification: CVD TiCN-Al₂O₃ Top layer

Recommended application:

The first and premium choice for the universal machining of steel



Positive Size Turning

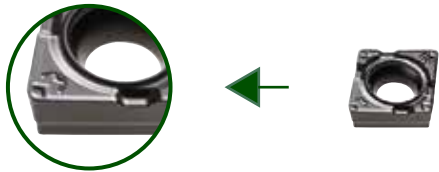




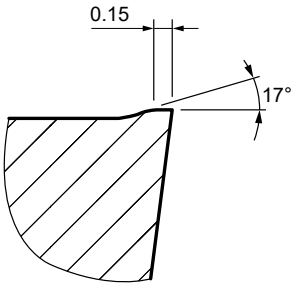
New chipbreaker

Optimised by FEM:

- ▲ Positive **Masterfinish** geometry
- ▲ High surface quality



Example: CCMX 09T308-TP



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	TC25H	
		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]
TP	1 to 3.5	0.3 to 0.15

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

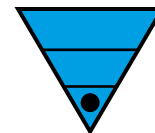
Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X

Available range

Steel extreme finishing – Masterfinish

Insert	Designation	Chipbreaker	Available
	CCMX 09T304-TP TC25H	...-TP	●
	CCMX 09T308-TP TC25H		●
	DCMX 070204-TP TC25H		●
	DCMX 11T304-TP TC25H		○
	DCMX 11T308-TP TC25H		○

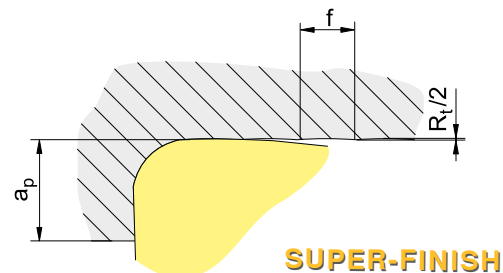
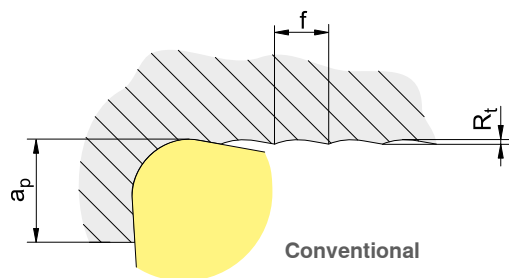
SUPER-FINISH



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.



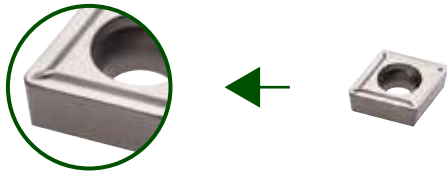
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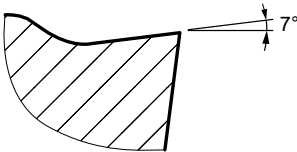
New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress



Example: DCMT 11T304-TC



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Cermet 30CF
			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]
TC	0.10 to 1.65	0.20 to 0.05

Ex: CCMT 09T304-TC
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	X	X

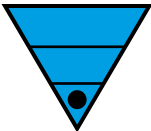


Available range

Turning steel pos finishing CERMET

Insert	Designation	Chipbreaker	Available
	CCMT 060204-TC 30CF	... -TC	●
	CCMT 09T304-TC 30CF		●
	DCMT 070204-TC 30CF		○
	DCMT 11T304-TC 30CF		●
	TCGT 110202-TC 30CF		●
	TCMT 110204-TC 30CF		●
	WCGT020102-TC 30CF		●

CERMET



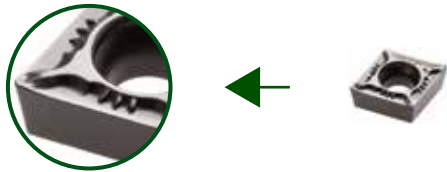
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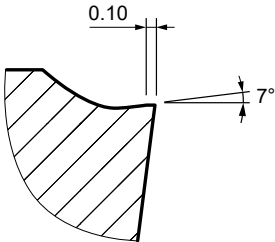
New chipbreaker

SF:

▲ To optimise chip control



Example: CCMT 09T308- SF



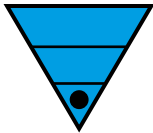
Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate		
			TC15	TC25H	TC35		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	SF	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- SF 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 pos finishing "P15"

Insert	Designation	Chipbreaker	Available
	CCMT 060204-SF TC15		●
	CCMT 09T304-SF TC15		○
	CCMT 09T308-SF TC15		●
	CCMT 120404-SF TC15	...-SF	●
	DCMT 070204-SF TC15		○
	DCMT 11T304-SF TC15		●

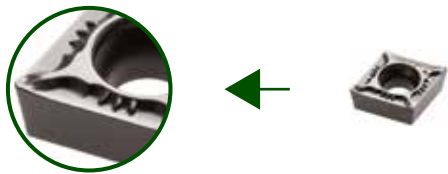




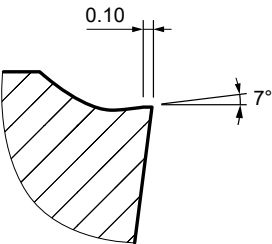
New chipbreaker

SF:

▲ To optimise chip control



Example: CCMT 09T308- SF



Cutting data

General cutting parameters depending on the application

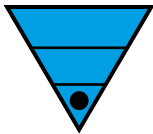
Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide			Application		
				TC15 v_c [m/min]	TC25H v_c [m/min]	TC35 v_c [m/min]	Chip groove	Depth of cut / feed rate a_p [mm]	f [mm]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	SF	0.50 to 2.25	0.14 to 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			
		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	–			
		Spheroidal cast iron	160	190 – 430	140 – 270	–			
		Malleable/tempered iron	130	180 – 520	170 – 290	–			

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
X	o	X



Available range



Turning steel pos finishing "P25"

Insert	Designation	Chipbreaker	Available
	CCMT 060202-SF TC25H	...- SF	●
	CCMT 060204-SF TC25H		●
	CCMT 09T302-SF TC25H		●
	CCMT 09T304-SF TC25H		●
	CCMT 09T308-SF TC25H		●
	DCMT 070202-SF TC25H		●
	DCMT 070204-SF TC25H		●
	DCMT 11T302-SF TC25H		●
	DCMT 11T304-SF TC25H		●
	DCMT 11T308-SF TC25H		●
	VCMT 110302-SF TC25H		●
	VCMT 110304-SF TC25H		●
	VCMT 160404-SF TC25H		●
	VCMT 160408-SF TC25H		●



● available from stock, ○ available upon request



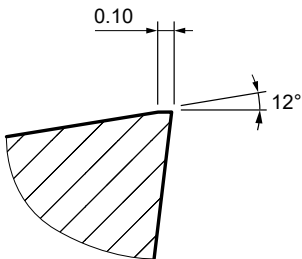
New chipbreaker

Optimised by FEM:

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



Example: CCMT 09T308-TM



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			TC15 v_c [m/min]	TC25H v_c [m/min]	TC35 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

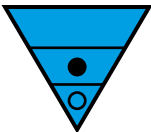
Chip groove	a_p [mm]	f [mm]
TM	0.50 to 3.00	0.21 to 0.12

Ex: CCMT 09T304-TM 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-TM TC15	...-TM	●
	CCMT 09T304-TM TC15		●
	CCMT 09T308-TM TC15		●
	DCMT 11T304-TM TC15		●
	DCMT 11T308-TM TC15		●
	TCMT 110204-TM TC15		●
	VBMT 160404-TX TC15	...-TX	●



TX





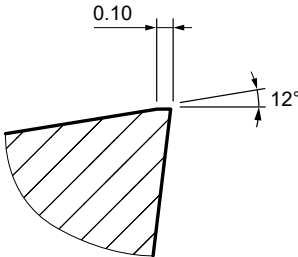
New chipbreaker

Optimised by FEM:

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



Example: CCMT 09T308-TM



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			TC15	TC25H	TC35
			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	–

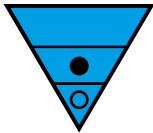
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
TM	0.50 to 3.00	0.21 to 0.12

Ex: CCMT 09T304-TM 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-TM TC25H	...	●
	CCMT 060208-TM TC25H		●
	CCMT 09T304-TM TC25H		●
	CCMT 09T308-TM TC25H		●
	CCMT 120404-TM TC25H		●
	CCMT 120408-TM TC25H		●
	CCMT 120412-TM TC25H		●
	DCMT 070204-TM TC25H		●
	DCMT 070208-TM TC25H		●
	DCMT 11T304-TM TC25H		●
	DCMT 11T308-TM TC25H		●
	SCMT 09T304-TM TC25H		●
	SCMT 09T308-TM TC25H		●
	SCMT 120404-TM TC25H		●
	SCMT 120408-TM TC25H		●
	SCMT 120412-TM TC25H		●
	TCMT 090204-TM TC25H		●
	TCMT 110204-TM TC25H		●
	TCMT 110208-TM TC25H		●
	TCMT 16T304-TM TC25H		●
	TCMT 16T308-TM TC25H		●
	TCMT 16T312-TM TC25H		●
	VCMT 110304-TM TC25H		●
	VCMT 110308-TM TC25H		●
	VCMT 160404-TM TC25H		●
	VCMT 160408-TM TC25H		●
	VBMT 160404-TX TC25H	...	●
	VBMT 160408-TX TC25H		●
	WCMT 06T304-TM TC25H		●
	WCMT 06T308-TM TC25H		●
	WCMT 080404-TM TC25H		●

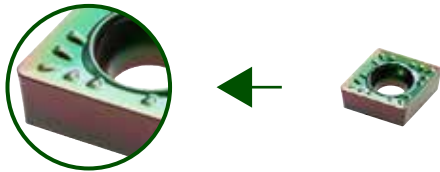
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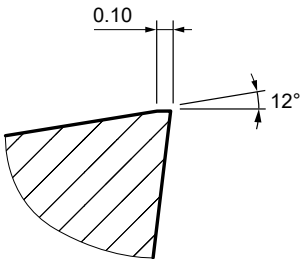
New chipbreaker

Optimised by FEM:

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



Example: CCMT 09T308-TM



Cutting data

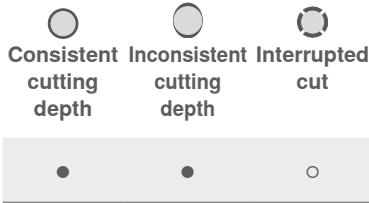
General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			TC15	TC25H	TC35
			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

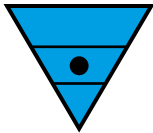
Chip groove	a_p [mm]	f [mm]
TM	0.50 to 3.00	0.21 to 0.12

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





Available range



Turning steel pos medium "P35"

Insert	Designation	Chipbreaker	Available
	CCMT 060204-TM TC35	...-TM	●
	CCMT 060208-TM TC35		●
	CCMT 09T304-TM TC35		●
	CCMT 09T308-TM TC35		●
	DCMT 070204-TM TC35		○
	DCMT 11T304-TM TC35		●
	DCMT 11T308-TM TC35		●
	RCMT 0803MO-TM TC35		●
	RCMT 1003MO-TM TC35		●
	RCMT 1204MO-TM TC35		●
	SCMT 09T308-TM TC35		●
	SCMT 120408-TM TC35		●
	SCMT 120412-TM TC35		●
	TCMT 110204-TM TC35		●
	TCMT 110208-TM TC35		○
	TCMT 16T304-TM TC35		●
	TCMT 16T308-TM TC35		●
	VCMT 110304-TM TC35		○
	VCMT 160404-TM TC35		●
	VCMT 160408-TM TC35		●

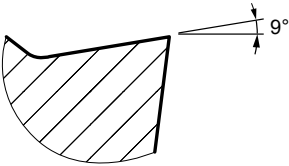
● available from stock, ○ available upon request



Cutting data



Example: CCGT 09T301EN-TF



General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	TC20 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		100	100 – 400
		130	100 – 400
		90	100 – 600
		100	100 – 400
Exotic materials	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]
EN-TF	0.05 to 1.35	0.02 to 0.10

Ex: CCGT 09T0301EN-TF 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 060200EN-TF TC20	...EN-TF	●
	CCGT 060201EN-TF TC20		●
	CCGT 09T300EN-TF TC20		●
	CCGT 09T301EN-TF TC20		●
	DCGT 070200EN-TF TC20		●
	DCGT 070201EN-TF TC20		●
	DCGT 11T300EN-TF TC20		●
	DCGT 11T301EN-TF TC20		●
	VCGT 110300EN-TF TC20		●
	VCGT 110301EN-TF TC20		●
	VCGT 160400EN-TF TC20		●
	VCGT 160401EN-TF TC20		●





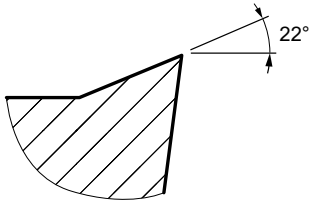
New chipbreaker

Optimised by FEM:

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



Example: CCGT 120408FN-AL



Cutting data

General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	A15M
			v_c [m/min]
K	Cast iron	180	—
	Spheroidal cast iron	160	—
	Malleable/tempered iron	130	—
Non Ferrous		100	100 – 2000
		130	100 – 800
		90	100 – 600
		100	100 – 300
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

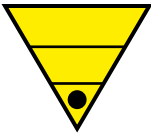
Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
AL	0.05 to 1.35	0.02 to 0.10

Ex: CCGT 120408FN-AL 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-AL A15M	...-AL	○
	CCGT 060202FN-AL A15M		●
	CCGT 060202FN-AL A15M		●
	CCGT 09T302FN-AL A15M		●
	CCGT 09T304FN-AL A15M		●
	CCGT 09T308FN-AL A15M		●
	CCGT 120404FN-AL A15M		○
	CCGT 120408FN-AL A15M		●
	DCGT 070201FN-AL A15M	...-AL	○
	DCGT 070202FN-AL A15M		●
	DCGT 070204FN-AL A15M		●
	DCGT 11T302FN-AL A15M		●
	DCGT 11T304FN-AL A15M		●
	DCGT 11T308FN-AL A15M		●
	SCGT 09T304FN-AL A15M	...-AL	●
	SCGT 120408FN-AL A15M		●
	VCGT 110302FN-AL A15M	...-AL	●
	VCGT 110304FN-AL A15M		●
	VCGT 130302FN-AL A15M		●
	VCGT 130304FN-AL A15M		●
	VCGT 160404FN-AL A15M		●
	VCGT 160408FN-AL A15M		●

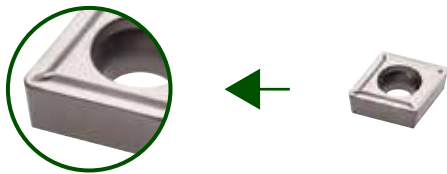
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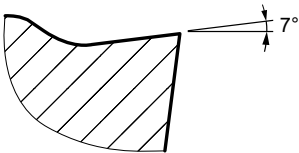
New chipbreaker

Optimised by FEM:

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



Example: DCMT 11T304-TC



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Cermet 30CF 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

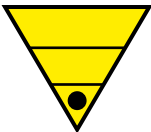
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
TC	0.10 to 1.65	0.20 to 0.05

Ex: CCMT 09T304-TC
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-TC 30CF	... -TC	●
	CCMT 09T304-TC 30CF		●
	DCMT 070204-TC 30CF		○
	DCMT 11T304-TC 30CF		●
	TCGT 110202-TC 30CF		●
	TCMT 110204-TC 30CF		●
	WCGT 020102-TC 30CF		●



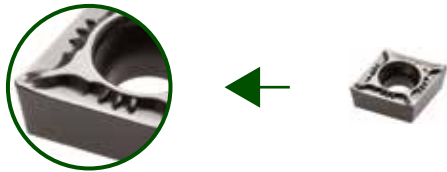
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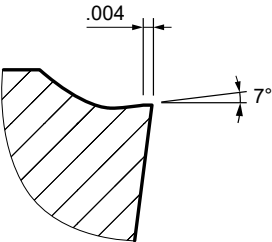
New chipbreaker

SF:

▲ To optimise chip control



Example: CCMT 09T308- SF



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Coated carbide				Application	Depth of cut / feed rate			
			Hardness HB	20H	TM25	TM35		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	SF	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- SF for 304 Different in each application				
		Austenitic	180	140 – 220	100 – 220	110 – 190				Consistent cutting depth	Interrupted cut
		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

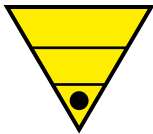








Available range



Turning steel pos finishing "M20"

Insert	Designation	Chipbreaker	Available
	CCMT 060202- SF 20H	...- SF	●
	CCMT 060204- SF 20H		●
	CCMT 09T302- SF 20H		●
	CCMT 09T304- SF 20H		●
	DCMT 070202- SF 20H		●
	DCMT 070204- SF 20H		●
	DCMT 11T302- SF 20H		●
	DCMT 11T304- SF 20H		●
	VCMT 110302- SF 20H		●
	VCMT 110304- SF 20H		●
	VCMT 160404- SF 20H		●
	VCMT 160408- SF 20H		●

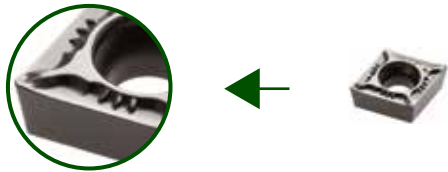
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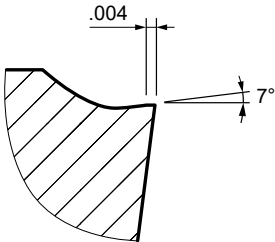
New chipbreaker

SF:

▲ To optimise chip control



Example: CCMT 09T308- SF



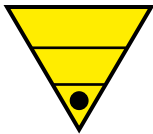
Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Coated carbide				Application	Depth of cut / feed rate		
			Hardness HB	20H	TM25	TM35		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	SF	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- SF 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 steel pos finishing "M25"

Insert	Designation	Chipbreaker	Available
	CCMT 060202- SF TM25	...- SF	●
	CCMT 060204- SF TM25		●
	CCMT 09T302- SF TM25		●
	CCMT 09T304- SF TM25		●
	CCMT 09T308- SF TM25		●
	DCMT 070202- SF TM25		●
	DCMT 070204- SF TM25		●
	DCMT 11T302- SF TM25		●
	DCMT 11T304- SF TM25		●
	DCMT 11T308- SF TM25		●
	TCMT 110202- SF TM25		●
	VCMT 110302- SF TM25		●
	VCMT 110304- SF TM25		●
	VCMT 160404- SF TM25		●



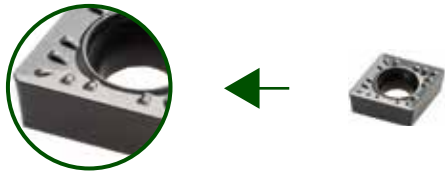
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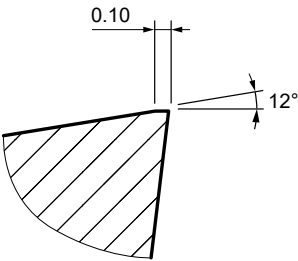
New chipbreaker

Optimised by FEM:

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



Example: CCMT 09T308-TM



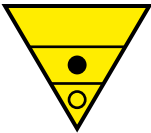
Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Coated carbide				Application	Depth of cut / feed rate			
			Hardness HB	20H	TM25	TM35		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	SF	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-TM for 304 Different in each application				
		Austenitic	180	140 – 220	100 – 220	110 – 190				Consistent cutting depth	Inconsistent cutting depth
		Duplex	230 – 260	110 – 170	60 – 160	80 – 150					
		Martensitic	330	40 – 100	40 – 100	55 – 75					
								Interrupted cut			
									X		



Available range



Turning stainless steel pos "M20"

Insert	Designation	Chipbreaker	Available
	CCMT 060204-TM 20H	...-TM	●
	CCMT 060208-TM 20H		●
	CCMT 09T304-TM 20H		●
	CCMT 09T308-TM 20H		●
	CCMT 120404-TM 20H		●
	CCMT 120408-TM 20H		●
	DCMT 070204-TM 20H		●
	DCMT 070208-TM 20H		●
	DCMT 11T304-TM 20H		●
	DCMT 11T308-TM 20H		●
	SCMT 09T304-TM 20H		●
	SCMT 09T308-TM 20H		●
	SCMT 120404-TM 20H		●
	SCMT 120408-TM 20H		●
	TCMT 090204-TM 20H		●
	TCMT 16T304-TM 20H		●
	TCMT 16T308-TM 20H		●
	VCMT 110304-TM 20H		●
	VCMT 110308-TM 20H		●
	VCMT 160404-TM 20H		●
	VCMT 160408-TM 20H		●

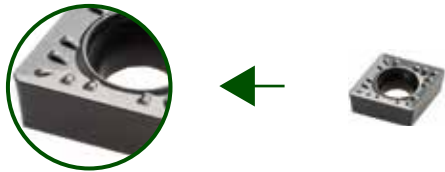
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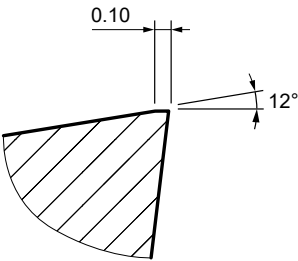
New chipbreaker

Optimised by FEM:

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



Example: CCMT 09T308-TM



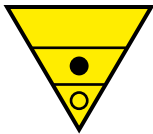
Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Coated carbide				Application	Depth of cut / feed rate		
			Hardness HB	20H	TM25	TM35		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	SF	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-TM 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 pos "M25"

Insert	Designation	Chipbreaker	Available
	CCMT 060204-TM TM25	...-TM	●
	CCMT 060208-TM TM25		●
	CCMT 09T304-TM TM25		●
	CCMT 09T308-TM TM25		●
	CCMT 120404-TM TM25		●
	CCMT 120408-TM TM25		●
	CCMT 120412-TM TM25		●
	DCMT 070204-TM TM25		●
	DCMT 070208-TM TM25		●
	DCMT 11T304-TM TM25		●
	DCMT 11T308-TM TM25		●
	SCMT 09T304-TM TM25		●
	SCMT 09T308-TM TM25		●
	SCMT 120404-TM TM25		●
	SCMT 120408-TM TM25		●
	TCMT 090204-TM TM25		○
	TCMT 110204-TM TM25		●
	TCMT 110208-TM TM25		○
	TCMT 16T304-TM TM25		●
	TCMT 16T308-TM TM25		●
	TCMT 16T312-TM TM25		○
	VCMT 110304-TM TM25		●
	VCMT 110308-TM TM25		●
	VCMT 160404-TM TM25		●
	VCMT 160408-TM TM25		●
	WCMT 06T304-TM TM25		●
	WCMT 06T308-TM TM25		●
	WCMT 080404-TM TM25		○
	WCMT 080408-TM TM25		●

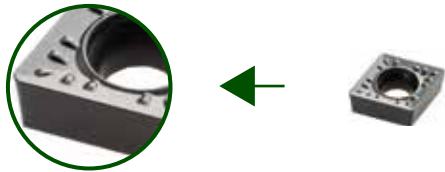
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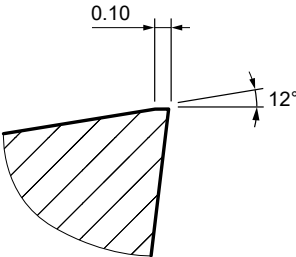
New chipbreaker

Optimised by FEM:

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



Example: CCMT 09T308-TM



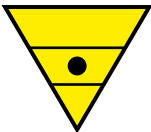
Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Coated carbide				Application	Depth of cut / feed rate			
			Hardness HB	20H	TM25	TM35		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	SF	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-TM for 304 Different in each application				
		Austenitic	180	140 – 220	100 – 220	110 – 190				Consistent cutting depth	Inconsistent cutting depth
		Duplex	230 – 260	110 – 170	60 – 160	80 – 150					
		Martensitic	330	40 – 100	40 – 100	55 – 75					
									Interrupted cut		
										X	



Available range



Turning stainless steel pos "M35"

Insert	Designation	Chipbreaker	Available
	CCMT 09T304-TM TM35	...-TM	●
	CCMT 09T308-TM TM35		○
	DCMT 11T304-TM TM35		●
	DCMT 11T308-TM TM35		●
	TCMT 110208-TM TM35		○
	VCMT 110304-TM TM35		●
	VCMT 110308-TM TM35		●



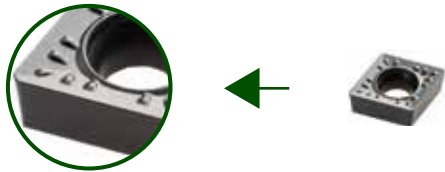
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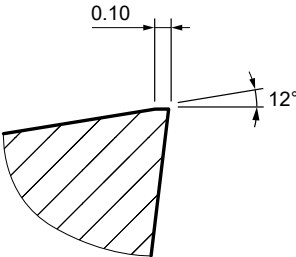
New chipbreaker

Optimised by FEM:

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



Example: CCMT 09T308-TM



Cutting data

General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	TK20
			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

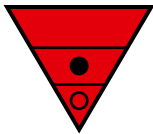
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
TM	1.00 to 3.00	0.41 to 0.22

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	●	X



Available range



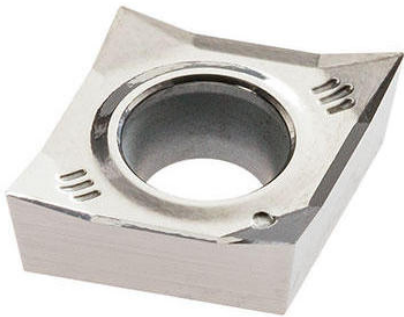
Turning cast iron pos "K20"

Insert	Designation	Chipbreaker	Available
	CCMT 060204-TM TK20	...-TM	●
	CCMT 09T304-TM TK20		●
	CCMT 09T308-TM TK20		●
	CCMT 120408-TM TK20		●
	DCMT 11T304-TM TK20		●
	DCMT 11T308-TM TK20		●
	SCMT 09T308-TM TK20		●
	SCMT 120408-TM TK20		●
	TCMT 110204-TM TK20		●
	TCMT 16T304-TM TK20		●
	TCMT 16T308-TM TK20		●

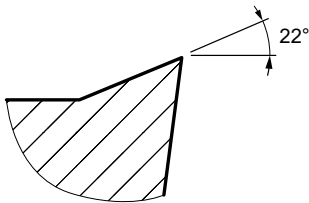
● available from stock, ○ available upon request



Cutting data



Example: CCGT 120408FN-AL



General cutting parameters depending on the application

Uncoated carbide				Application		
Work piece material	Type of treatment / alloy	Hardness HB	A10M	Chip groove	Depth of cut / feed rate	
			v_c [m/min]		a_p [mm]	f [mm]
K	Cast iron	Grey cast iron 180	120 – 160	AL	1,5 to 6,5	0,50 to 0,20
		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			

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

Consistent cutting depth

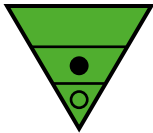
Inconsistent cutting depth

Interrupted cut

44



Available range



Turning non-ferrous pos "K15"

Insert	Designation	Chipbreaker	Available
	CCGT 060201FN-AL A10M	...-AL	○
	CCGT 060202FN-AL A10M		●
	CCGT 060204FN-AL A10M		●
	CCGT 09T302FN-AL A10M		●
	CCGT 09T304FN-AL A10M		●
	CCGT 09T308FN-AL A10M		●
	CCGT 120404FN-AL A10M		●
	CCGT 120408FN-AL A10M		●
	DCGT 070201FN-AL A10M		○
	DCGT 070202FN-AL A10M		●
	DCGT 070204FN-AL A10M		●
	DCGT 11T302FN-AL A10M		●
	DCGT 11T304FN-AL A10M		●
	DCGT 11T308FN-AL A10M		●
	SCGT 09T304FN-AL A10M		●
	SCGT 09T308FN-AL A10M		○
	TCGT 110204FN-AL A10M		●
	TCGT 16T304FN-AL A10M		●
	TCGT 16T308FN-AL A10M		●
	VCGT 110302FN-AL A10M		●
	VCGT 110304FN-AL A10M		●
	VCGT 130302FN-AL A10M		●
	VCGT 160404FN-AL A10M		●
	VCGT 160408FN-AL A10M		●
	VCGT 160412FN-AL A10M		●
	VCGT 220530FN-AL A10M		●

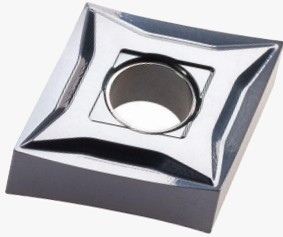
● available from stock, ○ available upon request



Notes: _____



Negative Size Turning

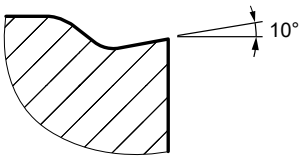




Cutting data



Example: CNMG 120408EN-TC



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Cermet 30CF 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

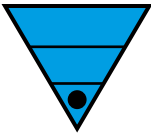
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
TC	0.10 to 2.00	0.20 to 0.05

Ex: CNMG 120404EN-TC
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	X	X



Available range



Turning steel neg finishing CERMET

Insert	Designation	Chipbreaker	Available
	CNMG 120404EN-TC 30CF	...-TC	○
	CNMG 120408EN-TC 30CF		○
	DNMG 110404EN-TC 30CF		○
	DNMG 150604EN-TC 30CF		○

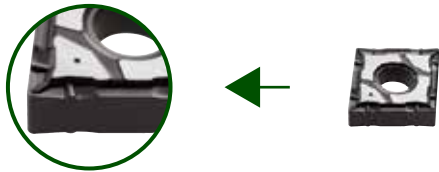
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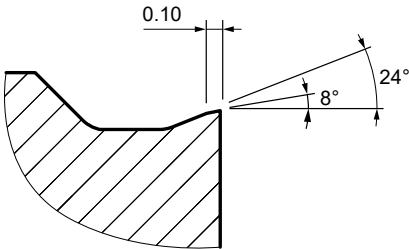
New chipbreaker

Optimised by FEM:

- ▲ Increase life time
- ▲ Reduce temperature and stress



Example: CNMG 120408EN-TL



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			TC15 v_c [m/min]	TC25H 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	–	–

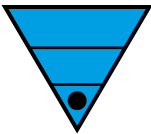
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
TL	0.50 to 2.00	0.20 to 0.10

Ex: CNMX 120408-TL 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-TL TC15	...-TL	○
	DNMG 110404EN-TL TC15		○
	DNMG 150604EN-TL TC15		○
	DNMG 150608EN-TL TC15		●
	VNMG 160404EN-TL TC15		●
	WNMG 080404EN-TL TC15		○

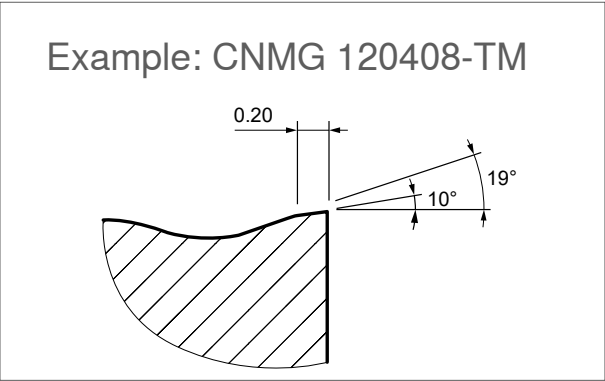
Heavy turning steel neg "P25"

Insert	Designation	Chipbreaker	Available
	CNMG 120404EN-TL TC25H	...-TL	●
	CNMG 120408EN-TL TC25H		●
	DNMG 110404EN-TL TC25H		●

● available from stock, ○ available upon request



Cutting data



General cutting parameters depending on the application

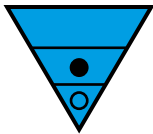
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate	
			TC15	TC25H	TC35		Chip groove	a _p [mm]
			v _c [m/min]	v _c [m/min]	v _c [m/min]			f [mm]
P	Steel							
	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	TM	1.00 to 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			
M	Corrosion-resistant steel	200	200 – 320	150 – 240	140 – 180			
	Stainless steel							
	Ferritic	200	220 – 320	160 – 240	140 – 200			
	Austenitic	180	–	115 – 240	110 – 190			
K	Duplex	230 – 260	–	–	80 – 150			
	Martensitic	330	–	80 – 115	55 – 75			
	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	–			

Ex: CNMG 120408-TM for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut



Available range



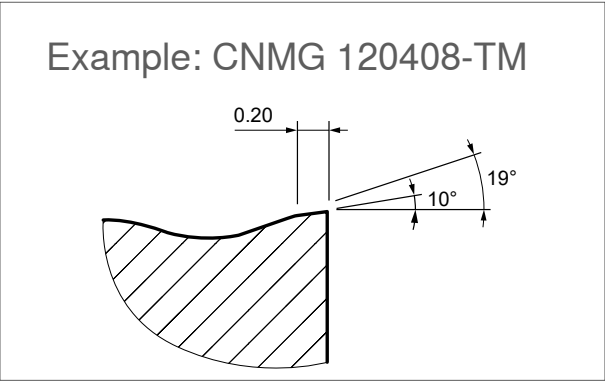
Turning steel neg semi finishing "P15"

Insert	Designation	Chipbreaker	Available
	CNMG 120404-TM TC15	...-TM	●
	CNMG 120408-TM TC15		●
	CNMG 120412-TM TC15		●
	DNMG 150604-TM TC15		●
	DNMG 150608-TM TC15		●
	SNMG 120408-TM TC15		○
	TNMG 160404-TM TC15		○
	TNMG 160408-TM TC15		○
	TNMG 160412-TM TC15		○
	VNMG 160404-TM TC15		●
	VNMG 160408-TM TC15		●
	WNMG 060404-TM CTCP 115		○
	WNMG 060408-TM CTCP 115		○
	WNMG 080404-TM CTCP 115		●
	WNMG 080408-TM CTCP 115		●
	WNMG 080412-TM CTCP 115		●

● available from stock, ○ available upon request



Cutting data

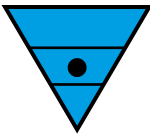


General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate	
			TC15 v_c [m/min]	TC25H v_c [m/min]	TC35 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	TM	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	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CNMG 120408-TM 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		
	Spheroidal cast iron	160	190 – 430	140 – 270	–			
	Malleable/tempered iron	130	180 – 520	170 – 290	–			



Available range



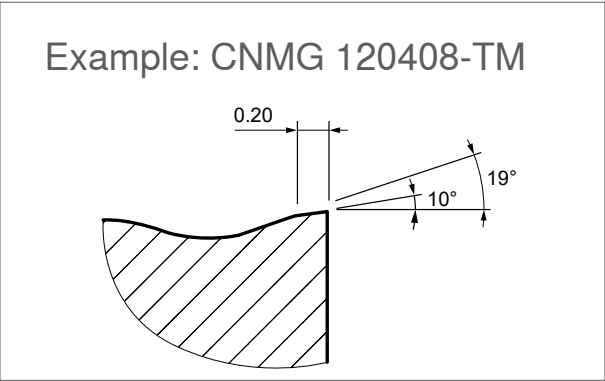
Turning steel neg medium "P25"

Insert	Designation	Chipbreaker	Available
	CNMG 120404-TM TC25H	...-TM	●
	CNMG 120408-TM TC25H		●
	CNMG 120412-TM TC25H		●
	DNMG 110404-TM TC25H		●
	DNMG 110408-TM TC25H		●
	DNMG 150404-TM TC25H		●
	DNMG 150408-TM TC25H		●
	DNMG 150604-TM TC25H		●
	DNMG 150608-TM TC25H		●
	SNMG 120408-TM TC25H		●
	SNMG 120412-TM TC25H		●
	TNMG 160404-TM TC25H		●
	TNMG 160408-TM TC25H		●
	TNMG 160412-TM TC25H		●
	TNMG 220404-TM TC25H		●
	TNMG 220408-TM TC25H		●
	VNMG 160404-TM TC25H		●
	VNMG 160408-TM TC25H		●
	WNMG 060404-TM TC25H		●
	WNMG 060408-TM TC25H		●
	WNMG 080404-TM TC25H		●
	WNMG 080408-TM TC25H		●
	WNMG 080412-TM TC25H		●

● available from stock, ○ available upon request



Cutting data

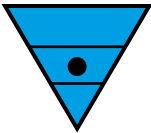
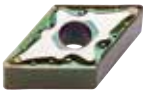


General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate	
			TC15 v_c [m/min]	TC25H v_c [m/min]	TC35 v_c [m/min]		a_p [mm]	f [mm]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	TM	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	Ferritic	200	220 – 320	160 – 240	140 – 200	Ex: CNMG 120408-TM 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	–			



Available range



Turning steel neg medium roughing "P35"

Insert	Designation	Chipbreaker	Available
	CNMG 120408-TM TC35	...-TM	●
	CNMG 120412-TM TC35		●
	DNMG 150608-TM TC35		●
	DNMG 150612-TM TC35		●
	SNMG 120408-TM TC35		●
	SNMG 120412-TM TC35		○
	TNMG 160408-TM TC35		●
	WNMG 080408-TMTC35		●
	WNMG 080412-TMTC35		●

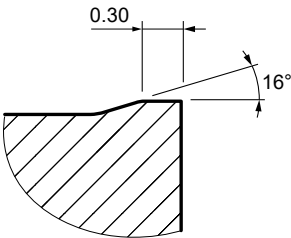
● available from stock, ○ available upon request



Cutting data



Example: CNMG 120408EN-TA



General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate	
				TC15 v_c [m/min]	TC25H v_c [m/min]	TC35 v_c [m/min]		a_p [mm]	f [mm]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	TA	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-TA 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	–			
		Spheroidal cast iron	160	190 – 430	140 – 270	–			
		Malleable/tempered iron	130	180 – 520	170 – 290	–			

Consistent cutting depth

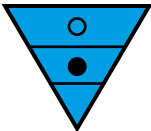
Inconsistent cutting depth

Interrupted cut

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Available range



Turning steel neg roughing "P15"

Insert	Designation		Chipbreaker	Available
	CNMG 120408EN-TA	TC15	...-TA	●
	DNMG 150608EN-TA	TC15		●
	DNMG 150612EN-TA	TC15		●

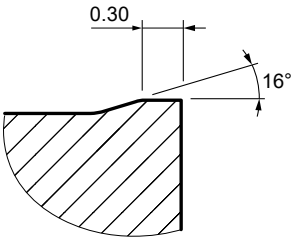
● available from stock, ○ available upon request



Cutting data

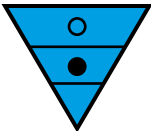


Example: CNMG 120408EN-TA



General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide			Application	Depth of cut / feed rate	
				TC15 v_c [m/min]	TC25H v_c [m/min]	TC35 v_c [m/min]		a_p [mm]	f [mm]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	TA	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-TA 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	–			



Turning steel neg roughing "P25"

Insert	Designation	Chipbreaker	Available
	CNMG 120408EN-TA TC25H		●
	CNMG 120412EN-TA TC25H		●
	DNMG 150608EN-TA TC25H		●
	DNMG 150612EN-TA TC25H		●
	SNMG 120408EN-TA TC25H	...-TA	●
	SNMG 120412EN-TA TC25H		●
	TNMG 160408EN-TA TC25H		●
	TNMG 160412EN-TA TC25H		●
	WNMG 080408EN-TA TC25H		●
	WNMG 080412EN-TA TC25H		●

Turning steel neg roughing "P35"

Insert	Designation	Chipbreaker	Available
	DNMG 150608EN-TA TC35	...-TA	○
	DNMG 150612EN-TA TC35		○

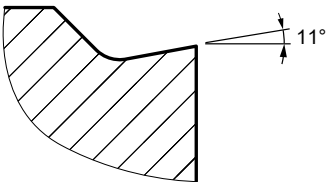
● available from stock, ○ available upon request



Cutting data



Example: CNGP 120408-TK



General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	TC20
			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]
TK	0.5 to 2.5	0.25 to 0.10

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X



Available range



Turning stainless steel neg finishing "M25"

Insert	Designation	Chipbreaker	Available
	CNGP 120402-TK TC20	...-TK	●
	CNGP 120404-TK TC20		●
	CNGP 120408-TK TC20		●
	DNGP 150404-TK TC20		●
	DNGP 150602-TK TC20		●
	DNGP 150604-TK TC20		●
	DNGP 150608-TK TC20		●
	VNGP 160402-TK TC20		●
	VNGP 160404-TK TC20		●
	WNGP 080404-TK TC20		●
	WNGP 080408-TK TC20		●

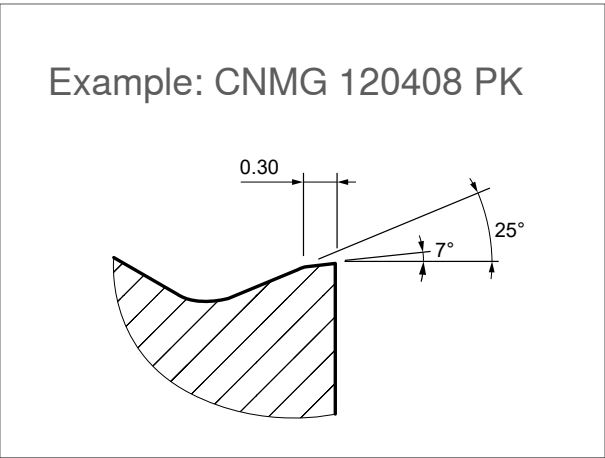
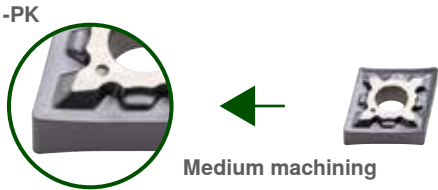
● available from stock, ○ available upon request



New chipbreaker

Optimised by FEM:

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



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Coated carbide				Application	Depth of cut / feed rate			
			Hardness HB	20H	TM25	TM35		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	PK	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	Stainless steel	Ferritic	200	190 – 250	120 – 250	140 – 200	Ex: CNMG 120408-PK for 304 Different in each application				
		Austenitic	180	140 – 220	100 – 220	110 – 190				Consistent cutting depth	Interrupted cut
		Duplex	230 – 260	110 – 170	60 – 160	80 – 150					
		Martensitic	330	40 – 100	40 – 100	55 – 75					
											



Available range



Turning stainless steel neg "M20"

Insert	Designation	Chipbreaker	Available
	CNMG 090304-PK 20H	...	●
	CNMG 090308-PK 20H		●
	CNMG 120404-PK 20H		●
	CNMG 120408-PK 20H		●
	CNMG 120412-PK 20H		●
	DNMG 110404-PK 20H	...	●
	DNMG 110408-PK 20H		●
	DNMG 150404-PK 20H		●
	DNMG 150408-PK 20H		●
	DNMG 150604-PK 20H		●
	DNMG 150608-PK 20H	...-PK	●
	SNMG 120408-PK 20H		●
	TNMG 160404-PK 20H	...	●
	TNMG 160408-PK 20H		●
	VNMG 160408-PK 20H	...	●
	WNMG 060404-PK 20H	...	●
	WNMG 060408-PK 20H		●
	WNMG 080404-PK 20H		●
	WNMG 080408-PK 20H		●

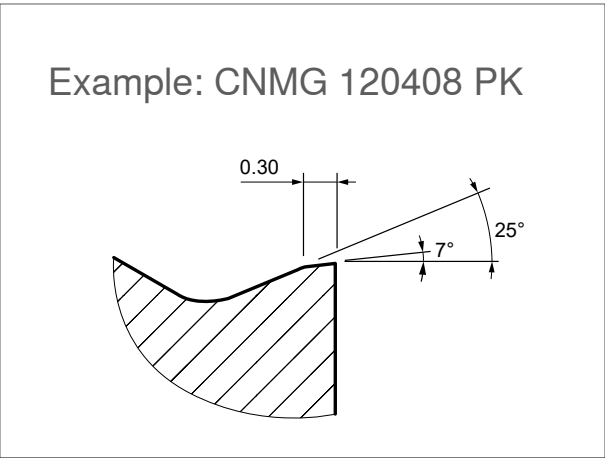
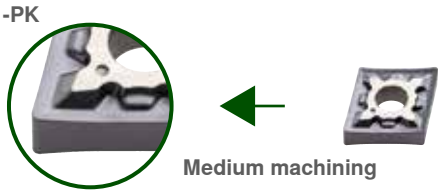
● available from stock, ○ available upon request



New chipbreaker

Optimised by FEM:

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



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			TM25 v_c [m/min]	CTPM135 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

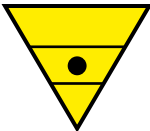
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
PK	1.00 to 4.20	0.40 to 0.22

Ex: CNMG 120408-PK 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-PK TM25	---	●
	CNMG 090308-PK TM25		●
	CNMG 120404-PK TM25		●
	CNMG 120408-PK TM25		●
	DNMG 110404-PK TM25		●
	DNMG 110408-PK TM25		●
	DNMG 150404-PK TM25		●
	DNMG 150408-PK TM25		●
	DNMG 150604-PK TM25		●
	DNMG 150608-PK TM25		●
	SNMG 120408-PK TM25		●
	TNMG 160404-PK TM25		●
	TNMG 160408-PK TM25		●
	VNMG 160408-PK TM25		●
	WNMG 060404-PK TM25		●
	WNMG 060408-PK TM25		●
	WNMG 080404-PK TM25		●
	WNMG 080408-PK TM25		●
	WNMG 080412-PK TM25		○

● available from stock, ○ available upon request



New chipbreaker

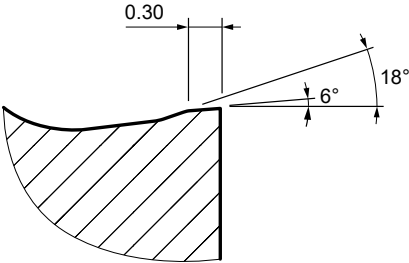
Sharp positive cutting edges:

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



Medium machining and light roughing

Example: CNMG 120408 TR



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide	
				TM25	CTPM135
				v_c [m/min]	v_c [m/min]
P	Steel	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	Stainless steel	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

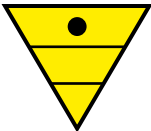
Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
TR	1.50 to 6.00	0.50 to 0.25

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	●	○



Available range



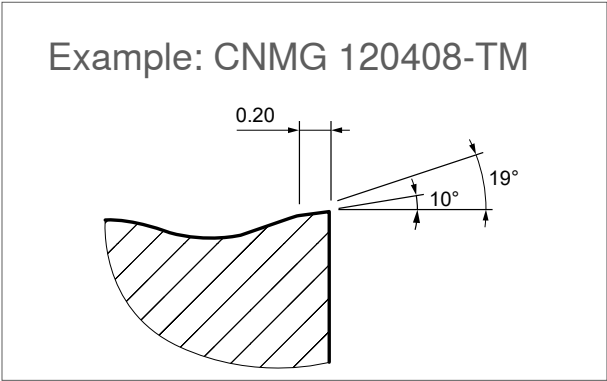
Turning stainless steel neg roughing "M25"

Insert	Designation		Chipbreaker	Available
	CNMG 120408-TR	TM25	...-TR	●
	CNMG 120412-TR	TM25		●
	DNMG 150608-TR	TM25		●
	DNMG 150612-TR	TM25		●
	TNMG 160408-TR	TM25		●
	TNMG 160412-TR	TM25		●
	WNMG 080408-TR	TM25		●
	WNMG 080412-TR	TM25		●

● 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	TK20
			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

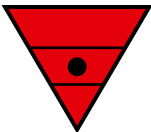
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
TM	1.00 to 4.00	0.44 to 0.22

Ex: CCM. 120408-TM for GC25
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X



Available range



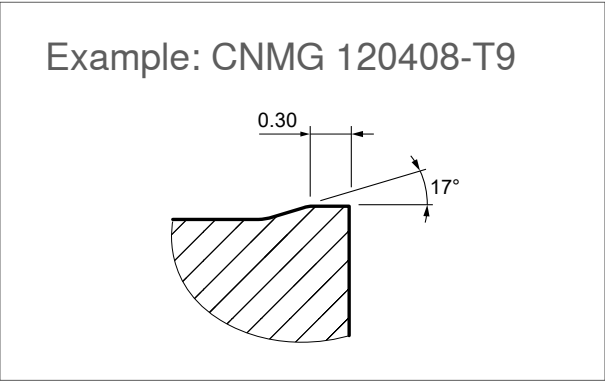
Turning cast iron neg "K20"

Insert	Designation		Chipbreaker	Available
	CNMG 120408-TM	TK20	...-TM	●
	CNMG 120412-TM	TK20		○
	DNMG 150608-TM	TK20		●
	DNMG 150612-TM	TK20		○
	TNMG 160408-TM	TK20		○
	TNMG 160412-TM	TK20		○
	TNMG 220408-TM	TK20		●
	WNMG 080408-TM	TK20		●
	WNMG 080412-TM	TK20		○

● available from stock, ○ available upon request



Cutting data



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Coated carbide	
		Hardness HB	TK20 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

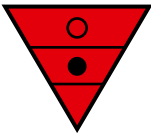
Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
T9	2.00 to 4.80	0.48 to 0.30

Ex: CNM. 120408-T9 for GC25
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-T9 TK20	...-T9	●
	CNMG 120412-T9 TK20		●
	CNMG 160612-T9 TK20		○
	SNMG 120408-T9 TK20		●
	WNMG 080408-T9 TK20	...-EN	●
	WNMG 080412-T9 TK20		●
	CNMA 120408-EN TK20		○
	CNMA 120412-EN TK20		●
	SNMA 120408-EN TK20		○
	TNMA 160408-EN TK20		○
	WNMA 080408-EN TK20		●

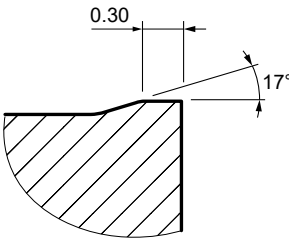
● available from stock, ○ available upon request



Cutting data



Example: CNMG 120408-T9



General cutting parameters depending on the application

		Coated carbide	
Work piece material	Type of treatment / alloy	Hardness HB	10H 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]

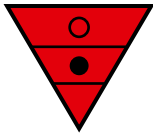
T9	2.0 to 4.8	0.48 to 0.30
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Ex: CNM. 120408-T9 for GC25
Different in each application

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



Available range

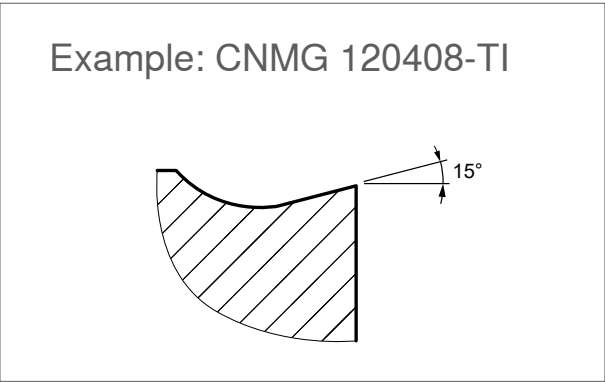
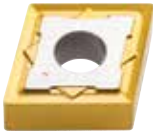


Insert	Designation	Chipbreaker	Available
	CNMG 120408-T9 10H	...	●
	CNMG 120412-T9 10H		●
	CNMG 160612-T9 10H		○
	SNMG 120412-T9 10H	...-T9	●
	WNMG 080408-T9 10H	...	○
	WNMG 080412-T9 10H		○
	CNMA 120408-EN 10H	...-EN	○
	WNMA 080412-EN 10H		●

● 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 TC50
			v_c [m/min]
M	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

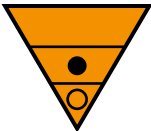
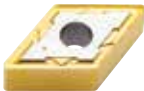
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
TI	0.80 to 3.00	0.30 to 0.10

Ex: CNMG 120408-TI for Super Alliage
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X



Available range



Turning titanium "S15"

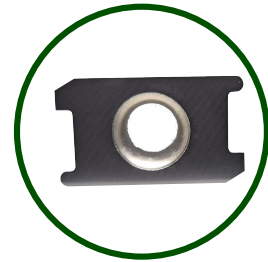
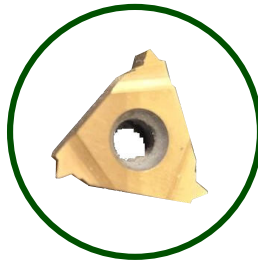
Insert	Designation	Chipbreaker	Available
	CNMG 120404-TI TC50	...-TI	●
	CNMG 120408-TI TC50		●
	DNMG 150608-TI TC50		●
	SNMG 120408-TI TC50		●
	TNMG 160408-TI TC50		●
	VNMG 160408-TI TC50		●
	WNMG 080408-TI TC50		●

● available from stock, ○ available upon request

Modifying

Customizing standard inserts

- ▲ Precision work following customer instructions
- ▲ Special profiles created according to specific requirements
- ▲ Tailor-made machining solutions for technical needs



Tailor-Made Service

Special Work on Standard Inserts

Our company specializes in quickly modifying and customizing standard inserts, precisely following customer instructions. We create special profiles and tailor-made machining solutions to meet every technical requirement.

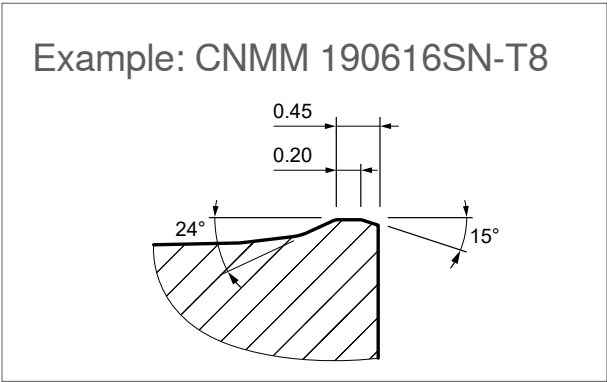


Heavy Duty Turning





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	
				TC15 v_c [m/min]	TC25H v_c [m/min]	TC35 v_c [m/min]		a_p [mm]	f [mm]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	200 – 270	170 – 190	T8	2.50 to 12.00	1.20 to 0.35
		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-T8 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	–			
		Spheroidal cast iron	160	190 – 430	140 – 270	–			
		Malleable/tempered iron	130	180 – 520	170 – 290	–			

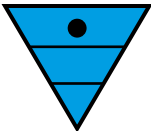
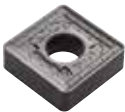
Consistent cutting depth

Inconsistent cutting depth

Interrupted cut



Available range



Heavy turning steel neg "P25"

Insert	Designation	Chipbreaker	Available
	CNMM 190616SN-T8 TC25H	...-T8	●
	CNMM 190624SN-T8 TC25H		●
	CNMM 250924SN-T8 TC25H		●
	CNMM 250932SN-T8 TC25H		●
	SNMM 190616SN-T8 TC25H		●
	SNMM 190624SN-T8 TC25H		●
	SNMM 250924SN-T8 TC25H		●
	SNMM 250932SN-T8 TC25H		●

Heavy turning steel neg "P35"

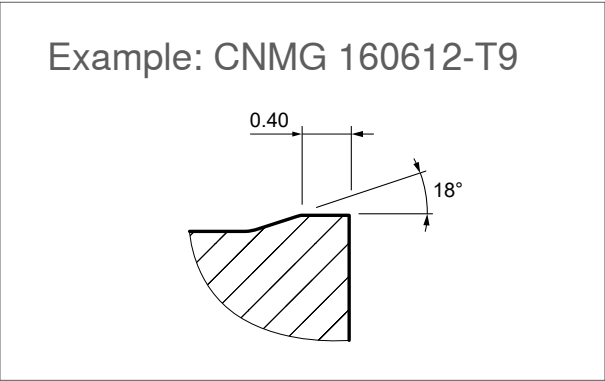
Insert	Designation	Chipbreaker	Available
	CNMM 250924SN-T8 TC35	...-T8	●
	SNMM 250924SN-T8 TC35		●



● available from stock, ○ available upon request



Cutting data



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	TC25H	TC35
			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	–

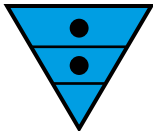
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
T9	3.20 to 7.60	1.00 to 0.60

Ex: CNMG 190616-T9 for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X



Available range



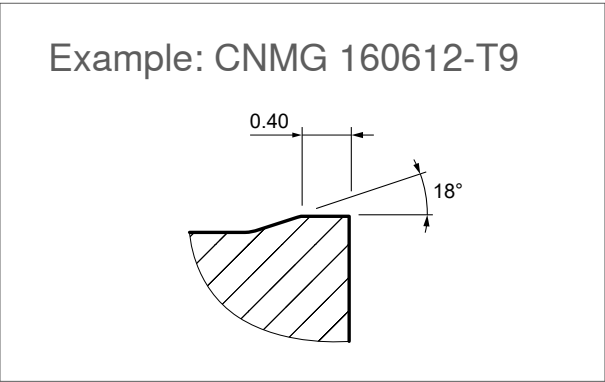
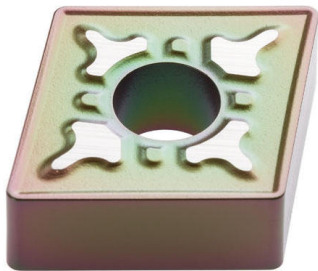
Medium and roughing turning steel

Insert	Designation	Chipbreaker	Available
	CNMG 160612-T9 TC25H	...-T9	●
	CNMG 160616-T9 TC25H		●
	CNMG 190612-T9 TC25H		●
	CNMG 190616-T9 TC25H		●
	SNMG 150612-T9 TC25H	...-T9	●
	SNMG 190612-T9 TC25H		●
	TNMG 220412-T9 TC25H	...-T9	●
	RCMT 1606MOSN-XR TC25H	...-XR	●
	RCMT 2006MOSN-XR TC25H		●

● available from stock, ○ available upon request



Cutting data



General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	TC25H	TC35
			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	–

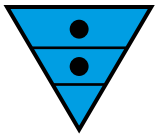
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
T9	3.20 to 7.60	1.00 to 0.60

Ex: CNMM 190616-T9 for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X



Available range



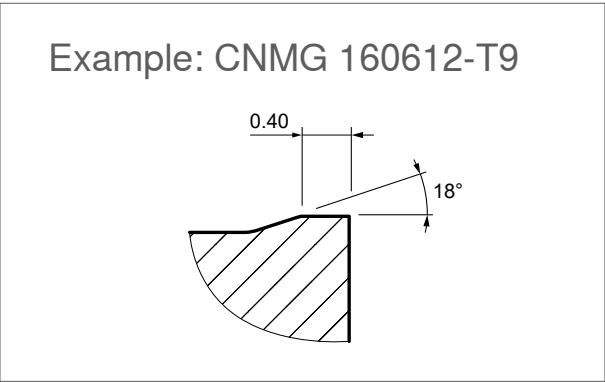
Medium and roughing turning steel

Insert	Designation	Chipbreaker	Available
	CNMG 160608-T9 TC35	...-T9	●
	CNMG 160612-T9 TC35		●
	CNMG 190612-T9 TC35		●
	CNMG 190616-T9 TC35		●
	SNMG 190612-T9 TC35		●
	RCMT 1606MOSN-XR TC35	...-XR	●
	RCMT 2006MOSN-XR TC35		●

● 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	TK20
			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

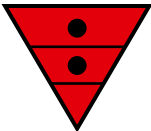
Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
T9	3.20 to 5.60	0.60 to 0.38

Ex: CNMG 160612-T9 for GC25
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
●	○	X



Available range

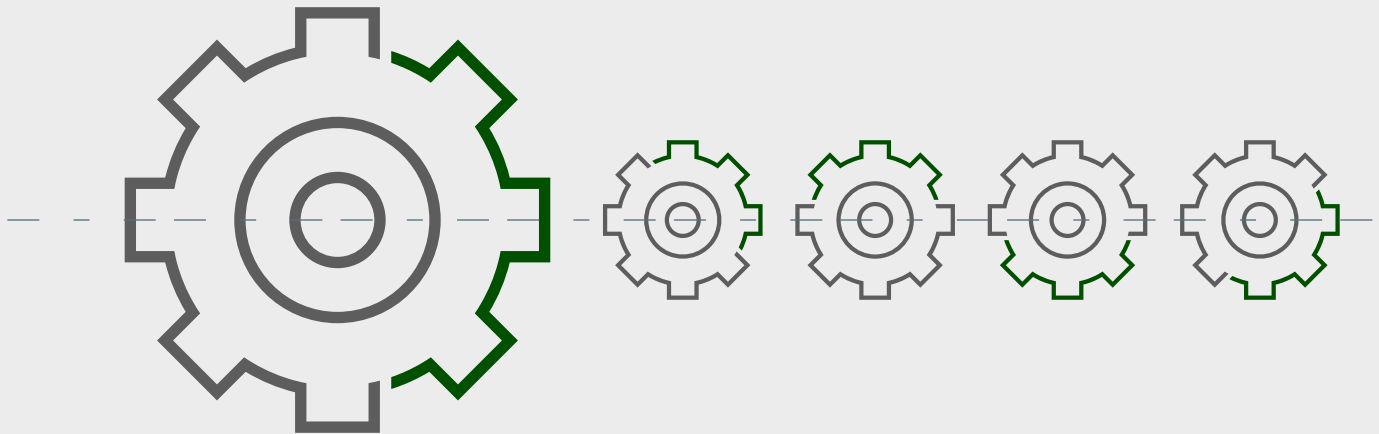


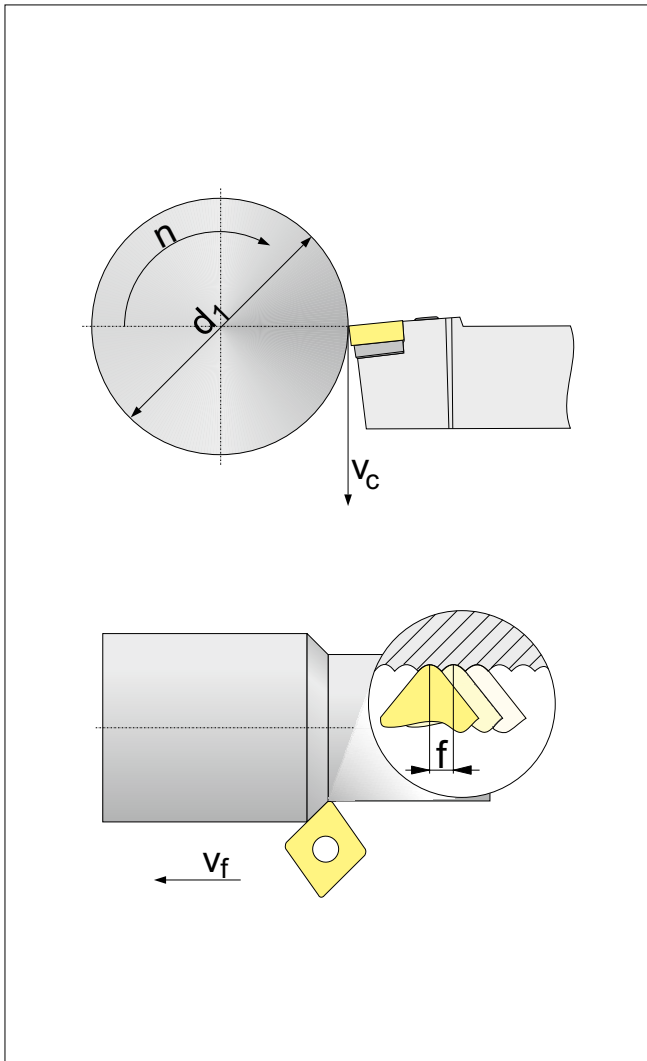
Turning cast iron neg "K20"

Insert	Designation	Chipbreaker	Available
	CNMG 160608-T9 TK20		○
	CNMG 160612-T9 TK20	...-T9	○
	CNMG 190612-T9 TK20		●

● available from stock, ○ available upon request

Technical information



**Cutting speed (v_c)**

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

Revolutions per minute (n)

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

Feed rate (v_f)

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

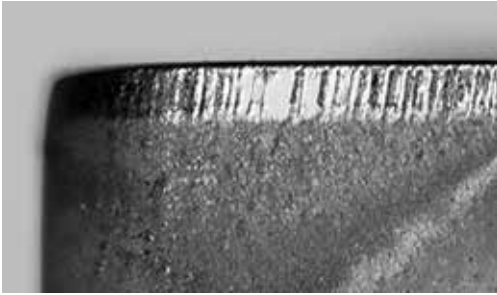


Type of problem											
Type of wear						Work piece problems				Chip control	
Flank wear	Cratering	Edge chipping	Plastic deformation	Insert breakage	Built-up edge	Vibration	Formation of pips and burrs	Chattered surface	Surface quality	Chip too long (tangled swarf)	Chip too short (fragmented chip)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

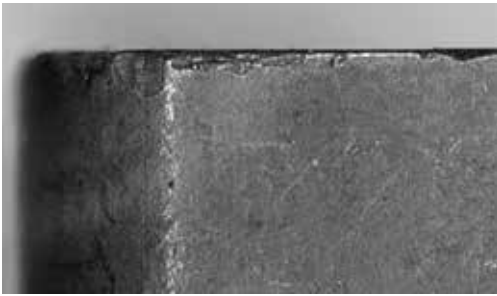
raise, increase, large influence
 raise, increase low influence

avoid, reduce large influence
 avoid, reduce low influence

check, optimise
 use



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



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



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

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)

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)

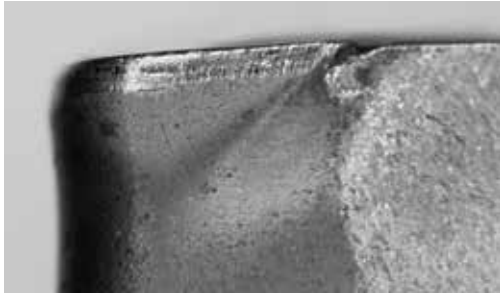
Cratering

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.

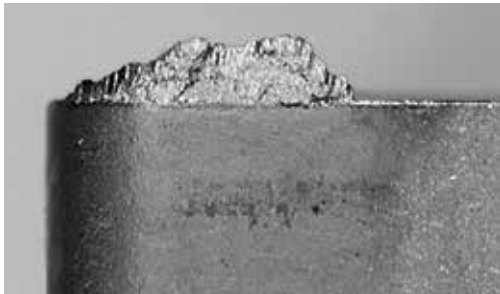
Plastic deformation

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



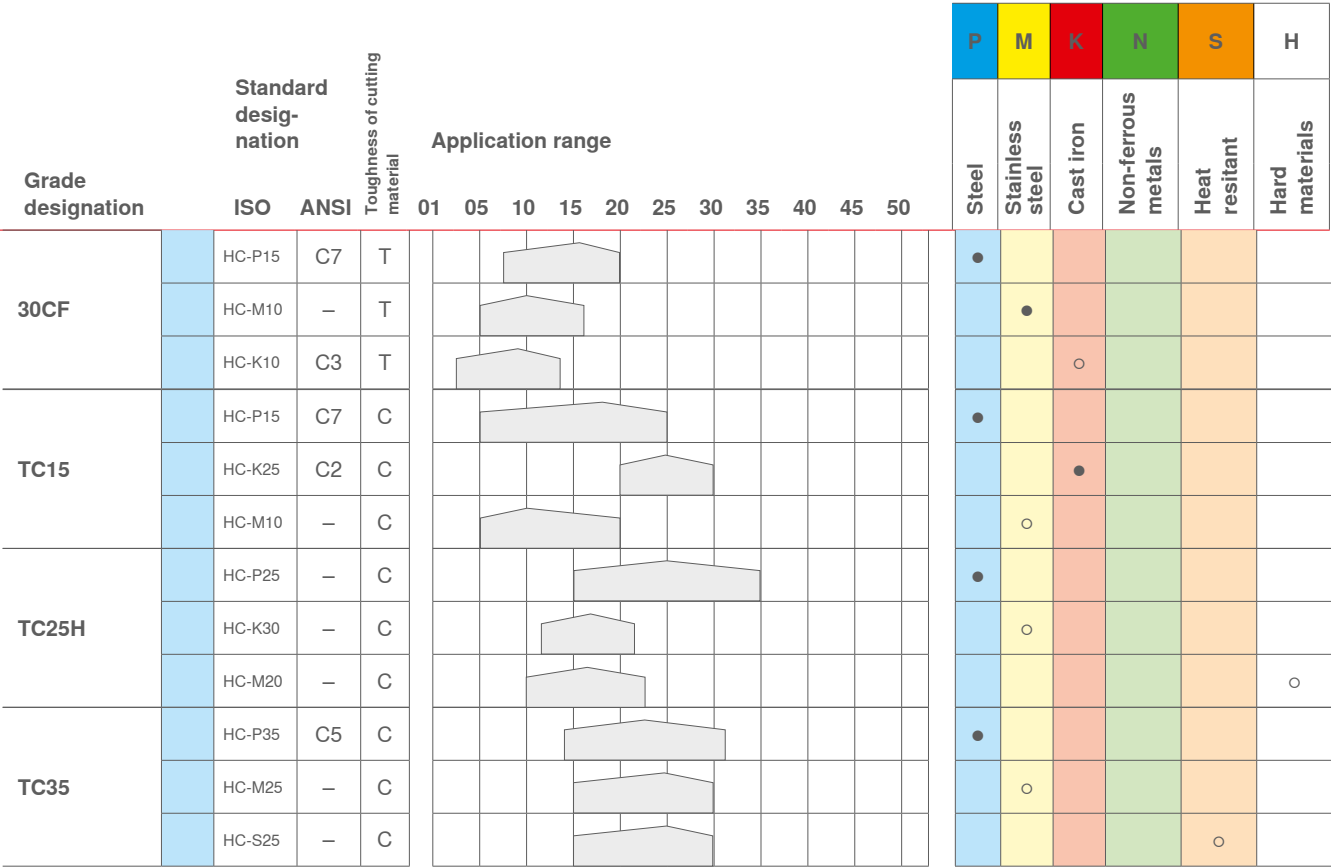
TUNGSTEN CARBIDE **GRADE**



+



= WC





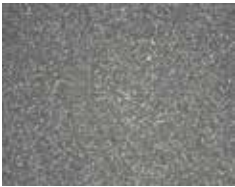
Grade designation	Standard designation				Toughness of cutting material	Application range																	P	M	K	N	S	H
	ISO	ANSI	01	05		10	15	20	25	30	35	40	45	50	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat resitant	Hard materials								
20H		HC-M20	—	C																								
		HC-P25	—	C																								
TM25		HC-M25	—	P																								
		HC-P35	C7	P																								
		HC-S25	—	P																								
TC20		HC-M20	C3	P																								
		HC-K20	C2	P																								
TM35		HC-M35	C5	P																								
		HC-P35	—	P																								
A15M		HC-M15	—	P																								
		HC-S15	—	P																								
10H		HC-K10	—	C																								
		HC-P05	—	C																								
TK20		HC-K20	C2	C																								
		HC-P10	C8	C																								
A10M		HW-N15	C3	W																								
		HW-K15	C3	W																								
TC50		HC-S15	—	P																								
		HC-M15	—	P																								

○ Extended application ● Main application



30CF

HT-P15 | HT-M10 | HT-K10



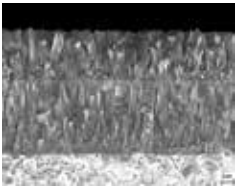
Specification:
Composition: cermet Co/Ni 12.2%; WC 15.0%; TaNbC 10.0%; TiCN balance | Hardness: HV₃₀ 1620

Recommended application:
The uncoated cermet grade for the finishing of hardened steel

CERMET

TC15

HC-P15 | HC-K25 | HC-M10

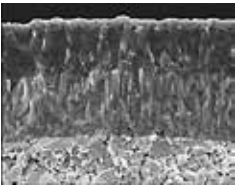


Specification:
Composition: Co 5.8%; mixed carbides 6.4%; WC balance | Grain size: 1 - 2 μm | Hardness: HV₃₀ 1550
| Coating specification: CVD TiCN-Al₂O₃

Recommended application:
The wear-resistant high-performance grade for steel machining

TC25H

HC-P25 | HC-K30 | HC-K20



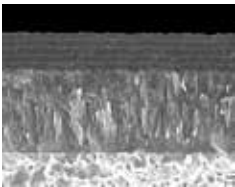
Specification:
Composition: Co 7.6%; mixed carbides 7.0%; others 0.4%; WC balance | Grain size: 1-2 μm
| Hardness: HV₃₀ 1470 | Coating specification: CVD TiCN-Al₂O₃ top layer

Recommended application:
The first and premium choice for the universal machining of steel

NEW

TC35

HC-P35 | HC-M25 | HC-S25



Specification:
Composition: Co 9.6%; mixed carbides 6.7%; WC balance | Grain size: 1 - 2 μm | Hardness: HV₃₀ 1460
| Coating specification: CVD TiCN-Al₂O₃ multi-layer

Recommended application:
The tough alternative for heavily interrupted cutting action



TC20

HC-M20 | HC-K20

**Specification:**

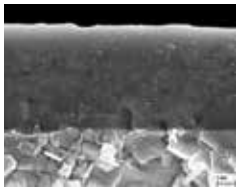
Composition: Co 10.5%; mixed carbides 2.0%; WC balance | Grain size: 1-2mm | Hardness: HV₃₀ 1400 | Coating specification: PVD TiAlTaN

Recommended application:

Particularly suitable for the wet machining of steels

TM25

HC-M25 | HC-P35 | HC-S25

**Specification:**

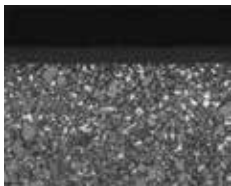
Composition: Co 9.6%; mixed carbides 7.8%; others 0.4%; WC balance | Grain size: 1 - 2 μm | Hardness: HV₃₀ 1460 | Coating specification: PVD TiAlTaN

Recommended application:

The first choice for the machining of austenitic steels

TM35

HC-M35 | HC-P35

**Specification:**

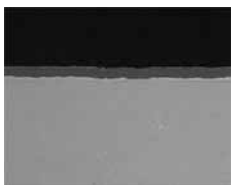
Composition: Co 8.0%; WC balance; mixed carbides 4.2% | Grain size: 1.5 - 3.0 μm | Hardness: HV₃₀ 1330

Recommended application:

Universal stainless steel turning grade, best grade in difficult conditions

A15M

HC-M15 | HC-S15

**Specification:**

Composition: Co 6.0%; WC balance | Grain size: 0.8 - 1,3 μm | Hardness: HV₃₀ 1630 | Coating specification: PVD TiAlN

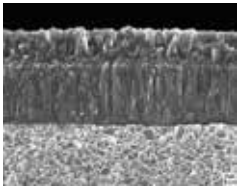
Recommended application:

The first choice for the machining of stainless steels and exotic materials



TK20

HC-K20 | HC-P10



Specification:

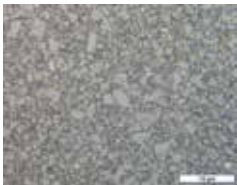
Composition: Co 6.0%; TaC 2.0%; WC balance | Grain size: 1 μm | Hardness: HV₃₀ 1630 | Coating specification: CVD TiCN-Al₂O₃

Recommended application:

The grade for cast iron machining with high toughness reserves for difficult conditions and interrupted cut

A10M

HW-N15 | HW-K15



Specification:

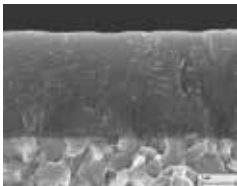
Composition: Co 6.0%; WC balance | Grain size: 1 μm | Hardness: HV₃₀ 1630

Recommended application:

The uncoated carbide grade for the machining of aluminium and other non-ferrous metals

TC50

HC-S15 | HC-M15



Specification:

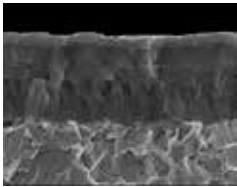
Composition: Co 6.0%; WC balance | Grain size: 0.8 μm | Hardness: HV₃₀ 1820 | Coating specification: PVD TiAlN-TiN

Recommended application:

The first choice for the machining of heat-resistant materials

20H

HC-M20 | HC-P30



Specification:

Composition: Co 7.6%; mixed carbides 7.0%; others 0.4%; WC balance | Grain size: 1-2 μm | Hardness: HV₃₀ 1470 | Coating specification: CVD TiCN-Al₂O₃-Top layer.

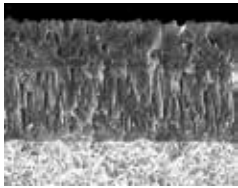
Recommended application:

It brings advantages to dry machining, at even higher cutting speeds, and makes long tool life possible.



10H

HC-K10 | HC-P05



Specification:

Composition: Co 5.0%; mixed carbides 2.0%; WC balance | Grain size: submicron |
Hardness: HV₃₀ 1810 | Coating specification: CVD TiCN-Al₂O₃

Recommended application:

The wear-resistant grade for the machining of cast iron at high cutting speed with continuous cut

Commitment to Sustainability

Environmental Achievements

TUNGSTEN CARBIDE TOOLS Srl is proud to share the progress we've made in our journey toward sustainable and eco-friendly business practices. In recent years, we have implemented a series of initiatives aimed at reducing our environmental impact and enhancing energy efficiency.

Here are some of our key achievements:

- ◆ **Photovoltaic Energy:** By upgrading our photovoltaic system, we now produce 25% of our internal energy needs. The additional energy required is sourced exclusively from renewable suppliers, ensuring transparent and sustainable energy management.
- ◆ **LED Lighting:** We have replaced all external and internal lighting with high-efficiency LED systems, reducing energy consumption while improving lighting quality and operational cost savings.
- ◆ **Packaging Reuse:** 95% of the materials used in our shipments are reused, helping to reduce waste and promote a more sustainable supply chain.
- ◆ **- Sustainable Mobility:** All our company vehicles are hybrid or plug-in. We've also installed electric charging stations powered by our photovoltaic system to encourage the use of electric vehicles among our employees.

With these initiatives, TUNGSTEN CARBIDE TOOLS Srl remains committed to promoting environmental sustainability and corporate social responsibility, contributing to a greener future.





Notes: _____

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Hard Metal Tools & Tips

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