

2022

Insert Catalogue
Turning

BEYOND THE MACHINING

www.karcan.com



IMAGINATION AND
FUNCTIONALITY IS
HARMONIZED WITH
MATERIALS AND
TOOL COMES TRUE...



BEYOND THE MACHINING



STARTING A NEW JOURNEY OF SUCCESS REQUIRES FORESEEN

EX-PERIENCE, EX-PERT TEAM, STRATEGY AND VISION BY STRIVING FOR
MANUFACTURING EXCELLENCE.

Dear Valued Customers and Business Partners

We, Karcan, as the biggest cutting tool manufacturer of Turkey with our modern machine and measuring park, R&D Center, number of qualified employees, sales figures and export share, owe you a great debt of gratitude for being a part of our journey all through these years and being a part of our achievement.

As the leading company steering the cutting tool industry of Turkey, we keep being your solution partner in machinability of hi-tech materials thanks to our highly skilled and trained R&D, process and technical sales team by following the recent developments in machining and material engineering and bringing the world's technology to your hands.

We are not just a Cutting Tools manufacturer! We make a difference in terms of our production improving activities, technical applications and consultancy services and we put all our efforts of our valued customers' gaining in 'cost per part' a competitive edge in global markets. From this point of view, we aim to provide products and services 'Beyond The Machining'.

We intend to present at our catalogue the carbide insert studies and improvements on the series within our standard program carried out together with our national and foreign universities, institutes, local and global partners.

We keep on bringing innovations to our customers in our country and 21 countries globally, and keep working with great passion in the belief that improvements are constant and a never ending process.

Welcome again to the world of Karcan Cutting Tools

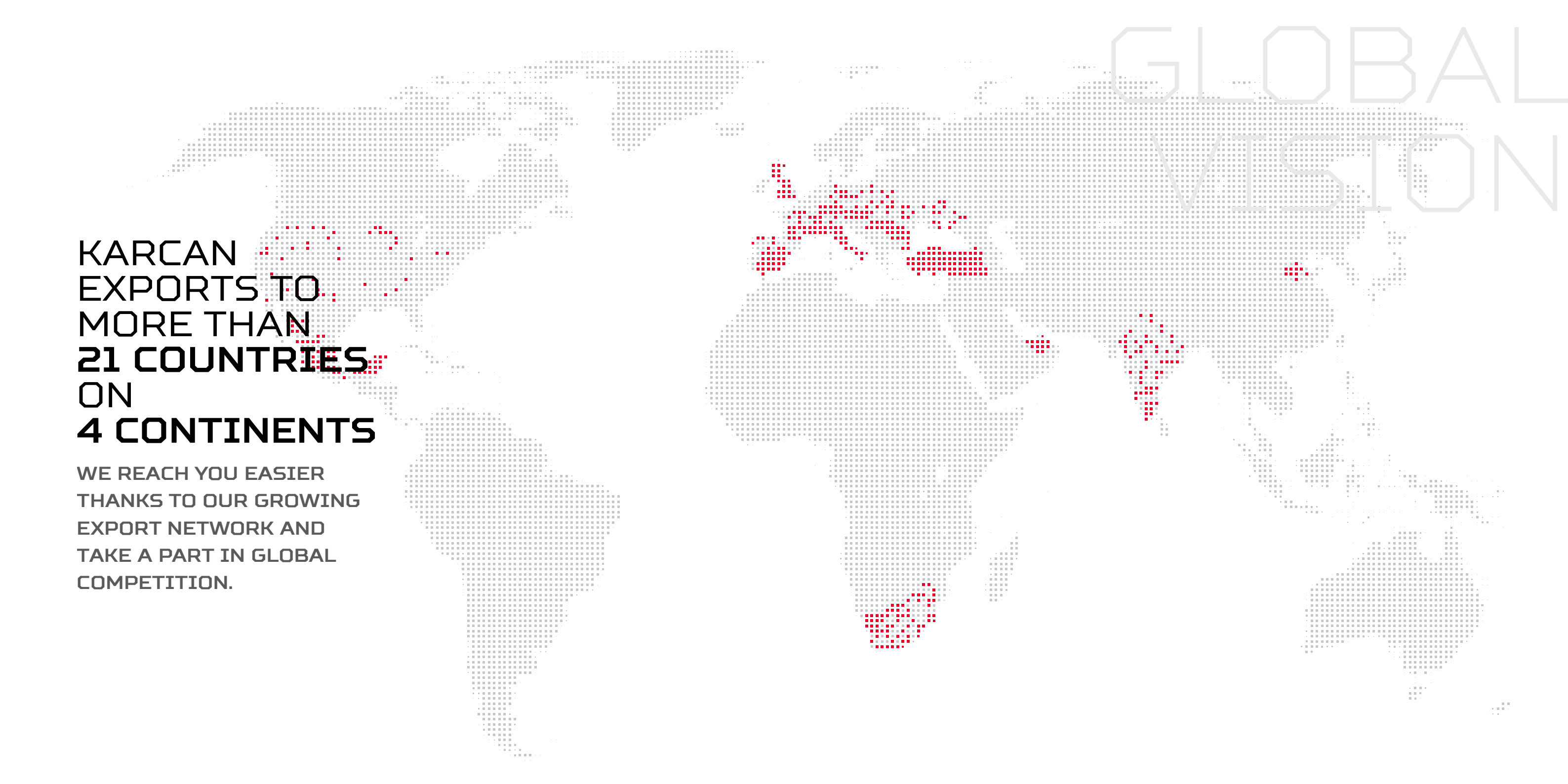
On behalf of Karcan Cutting Tools,

Ümit GEZER
Founder / General Manager

A handwritten signature in blue ink that reads "Ümit Gezer".

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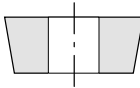


KARCAN
EXPORTS TO
MORE THAN
21 COUNTRIES
ON
4 CONTINENTS

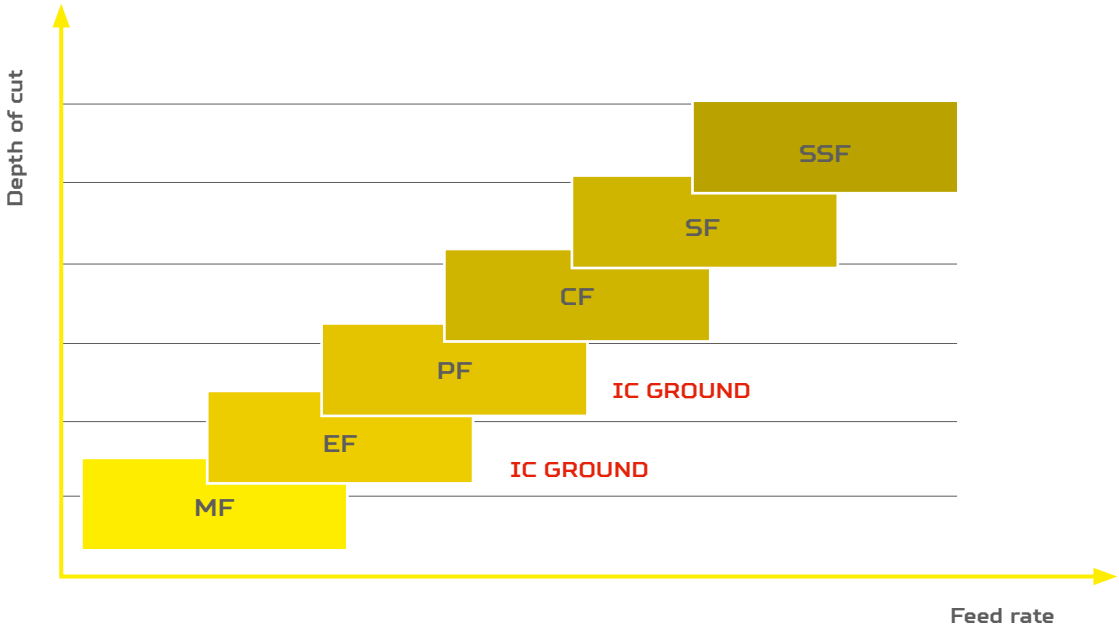
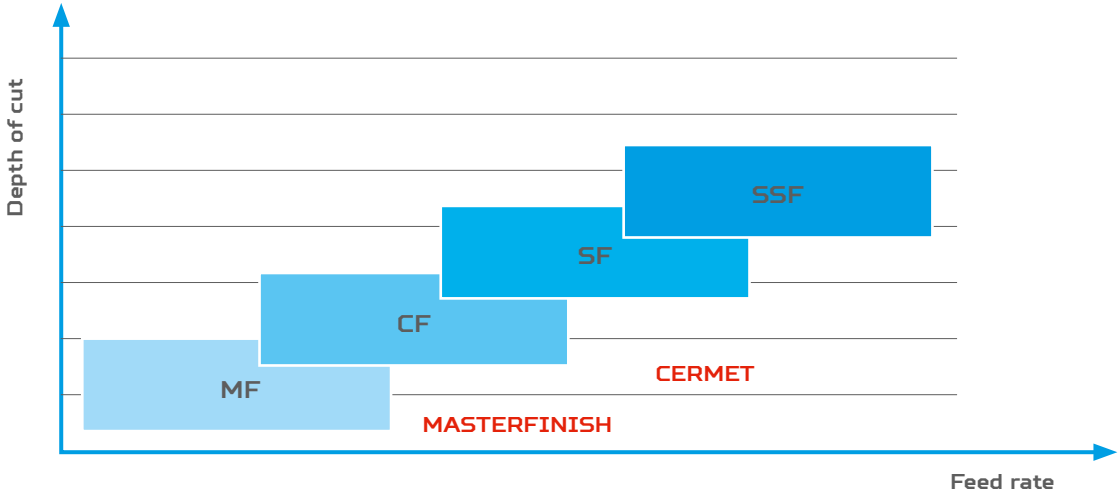
WE REACH YOU EASIER
THANKS TO OUR GROWING
EXPORT NETWORK AND
TAKE A PART IN GLOBAL
COMPETITION.

GLOBAL
VISION

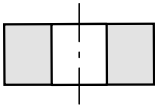
PST – Positive Size Turning



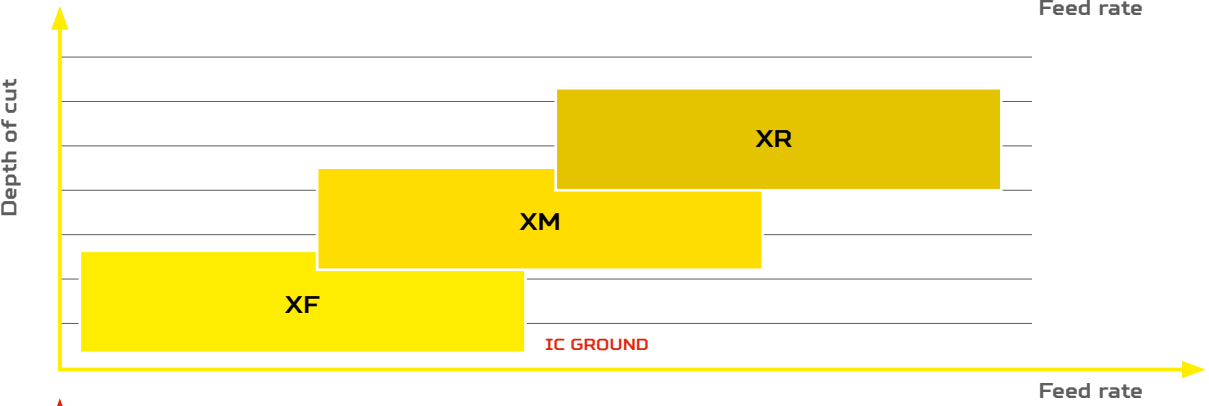
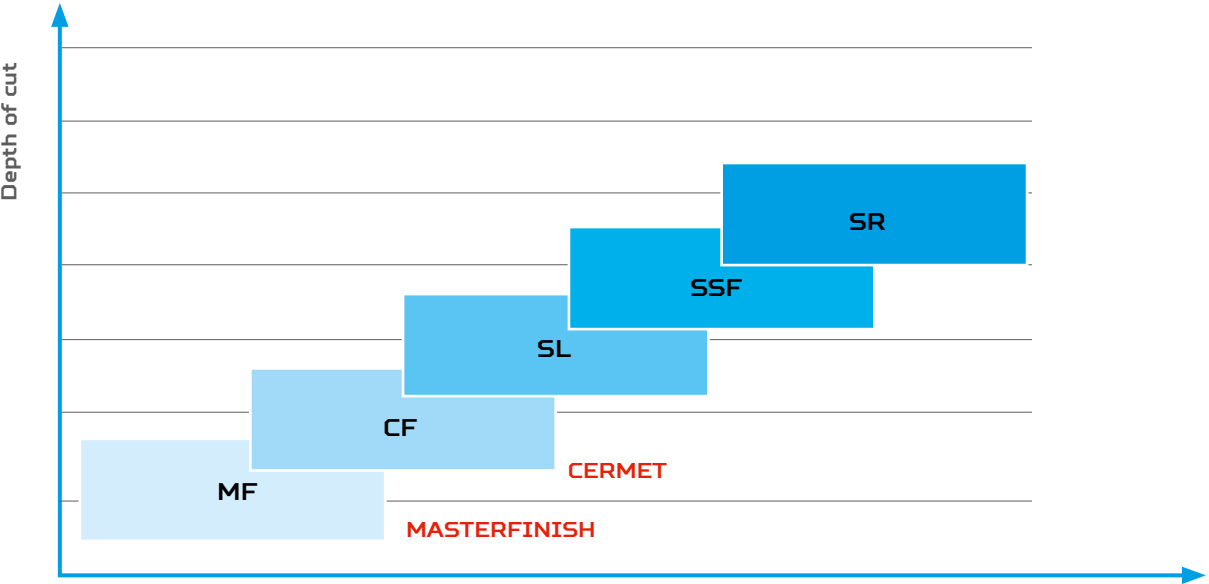
	STEEL EXTREME FINISHING	MASTERFINISH	▼▼▼	MF
	STEEL FINISHING	CERMET	▼▼▼	CF
	STEEL FINISHING		▼▼▼	SF
	STEEL SEMI FINISHING		▼▼	SSF
	STAINLESS STEEL EXTREME FINISHING	MASTERFINISH	▼▼▼	MF
	STAINLESS STEEL EXTREME FINISHING	IC GROUND	▼▼▼	EF
	STAINLESS STEEL FINISHING	IC GROUND	▼▼▼	PF
	STAINLESS STEEL FINISHING	CERMET	▼▼▼	CF
	STAINLESS STEEL FINISHING		▼▼▼	SF
	STAINLESS STEEL MEDIUM		▼▼	SSF
	CAST IRON		▼▼	SSF
	NON-FERROUS SEMI FINISHING MEDIUM	IC GROUND	▼▼	PF



NST – Negative Size Turning



	STEEL EXTREME FINISHING	MASTERFINISH	▼▼▼	MF
	STEEL SEMI FINISHING	CERMET	▼▼▼	CF
	STEEL SEMI FINISHING		▼▼▼	SL
	STEEL SEMI FINISHING		▼▼	SSF
	STEEL ROUGHING		▼	SR
	STAINLESS STEEL FINISHING	IC GROUND	▼▼▼	XF
	STAINLESS STEEL MEDIUM		▼▼	XM
	STAINLESS STEEL ROUGHING		▼	XR
	CAST IRON MEDIUM		▼▼	SSF
	CAST IRON LIGHT ROUGHING		▼	RG
	EXOTICS SEMI FINISHING		▼▼	XE

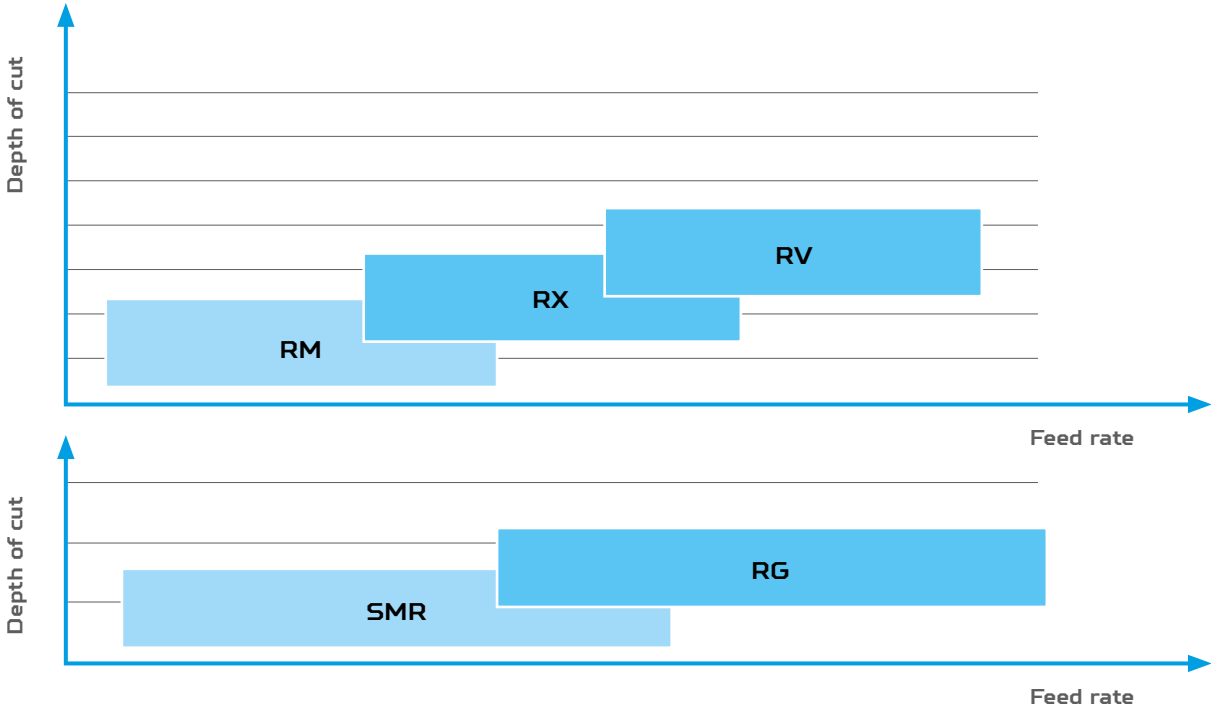


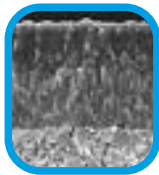
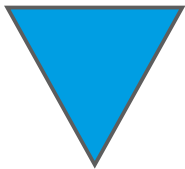
HDT – Heavy Duty Turning

	STEEL TUBE CHAMFERING	▼▼	STC
	STEEL ROUGHING	▼	RM
	STEEL ROUGHING	▼	RX
	STEEL HEAVY ROUGHING	▼	RV
	STEEL MEDIUM	▼▼	SMR (RCMT only)
	STEEL ROUGHING	▼	RG
	CAST IRON ROUGHING	▼	RG

Various

	STEEL MEDIUM	▼▼	CBK
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Applications

- PREMIUM choice for the universal turning of steels
- Highly wear-resistant grade
- 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

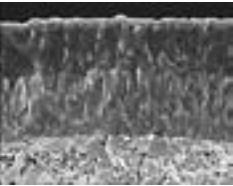
Your benefits

- High productivity
- Increased tool life

KRP125 X-PER

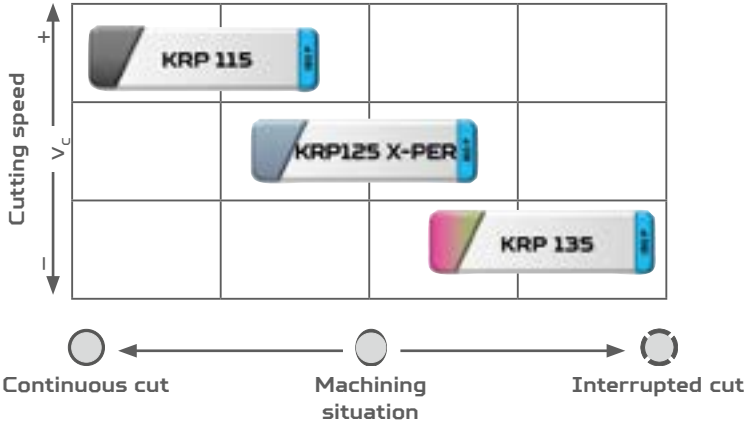
Extra performance
by X-Per grade in universal
turning of steels.

KRP125 X-PER



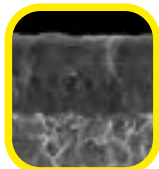
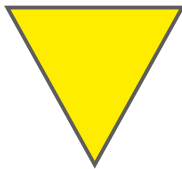
Specification:
Composition: Co 7.6%; mixed carbides 7.0%; others 0.4%; WC balance | Grain size: 1-2µm | Hardness: HV₃₀ 1470 | Coating specification: CVD TiCN-Al₂O₃ top layer

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



Available range

Inserts	Designation	Chipbreaker
	CNMG 120408-SSF KRP125 X-PER	... -SSF
	CNMG 120412-SSF KRP125 X-PER	
	DNMG 150608-SSF KRP125 X-PER	
	TNMG 160408-SSF KRP125 X-PER	
	SNMG 120408-SSF KRP125 X-PER	
	WNMG 080408-SSF KRP125 X-PER	... -SSF
	WNMG 080412-SSF KRP125 X-PER	



Applications

- The KRM120 X-PER is suitable for:
- High cutting parameters in wet cutting
- Better resistance to plastic dEformation and higher heat resistance in operation
- Continuous to slightly interrupted cut

Your advantages

- Two grades for everything in stainless steel
- Easy selection of inserts
- Easy wear detection with yellow top layer on coating
- Tool life increased

Your benefits

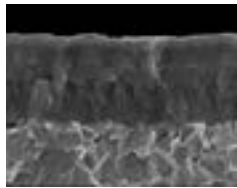
- Productivity
- Reduced warehousing costs

KRM120 X-PER

Extra performance choice for the universal turning of steels with X-Per Grade.

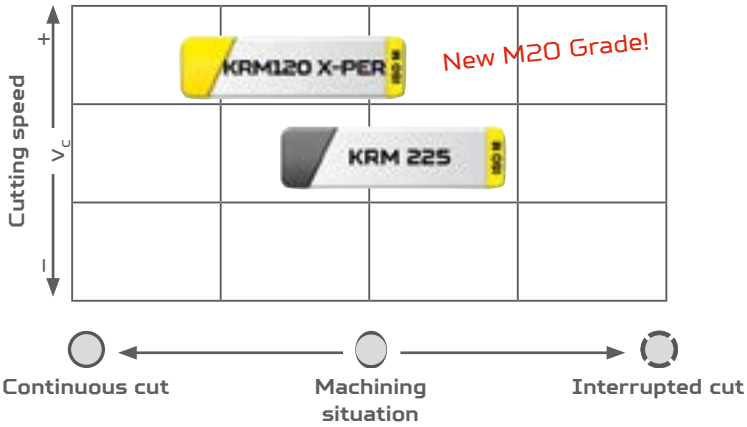
KRM120 X-PER

HC-M20|HC-P30



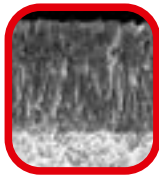
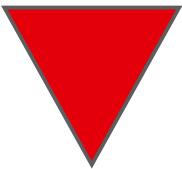
Specification:
Composition: Co 7.6%; mixed carbides 7.0%; others 0.4%; WC balance | Grain size: 1-2µm | Hardness: HV₃₀ 1470 | Coating specification: CVD TiCN-Al₂O₃-Top layer.

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



Available range

Inserts	Designation	Chipbreaker
	CNMG 120404-XM KRM120 X-PER	... -XM
	CNMG 120408-XM KRM120 X-PER	
	DNMG 150604-XM KRM120 X-PER	
	DNMG 150608-XM KRM120 X-PER	
	WNMG 080404-XM KRM120 X-PER	
	WNMG 080408-XM KRM120 X-PER	



Applications

- The KRK110 X-PER is suitable for:
- Stable machining conditions
- High cutting speeds
- Continuous to slightly interrupted cut
- Dry machining of spheroidal cast iron (GGG) / compacted graphite iron (CGI) (grey cast iron (GG) at high Vc with smooth cut)

KRK110 X-PER

Extra performance choice for the universal turning of steels with X-Per Grade.

Your advantages

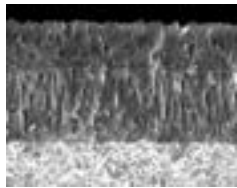
- Available from standard range
- Highly wear-resistant grade
- Very good process security
- Two grades for everything in cast iron
- Easy selection of inserts

Your benefits

- Reduced warehousing costs
- The right insert available for every application
- Maximum cutting parameters / high productivity, long tool life, dry machining

KRK110 X-PER

HC-K10 HC-P05

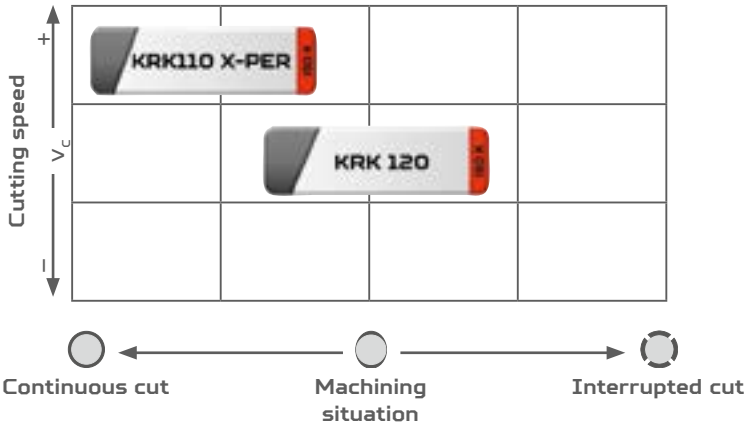


Specification:

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



Available range

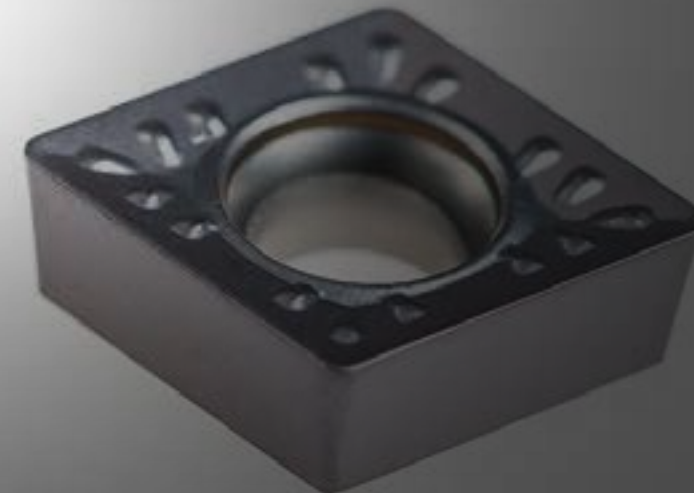
Inserts	Designation	Chipbreaker
	CNMG 120408-RG KRK110 X-PER	...
	CNMG 120412-RG KRK110 X-PER	
	CNMG 160612-RG KRK110 X-PER	
	SNMG 120412-RG KRK110 X-PER	... RG
	WNMG 080408-RG KRK110 X-PER	
	WNMG 080412-RG KRK110 X-PER	...
	CNMA 120408-EN KRK110 X-PER	
	WNMA 080412-EN KRK110 RG	-
	WNMA 080412-EN KRK110 X-PER	-

BEYOND THE MACHINING

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**Positive Size
Turning**

PST



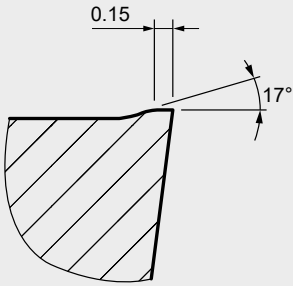
MF Chipbreaker

Optimised by FEM:

Positive **Masterfinish** geometry
High surface quality



Example: CCMX
09T308-MF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	KRP125 v_c [m/min]	
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	170 – 240
		Low-alloyed steel	250 – 300	100 – 190
		High-alloyed steel	200	130 – 210
		Corrosion-resistant steel	200	130 – 210
M	Stainless steel	Ferritic	200	140 – 210
		Austenitic	180	100 – 210
		Duplex	230 – 260	–
		Martensitic	330	70 – 100
K	Cast iron	Grey cast iron	180	130 – 210
		Spheroidal cast iron	160	120 – 240
		Malleable/tempered iron	130	150 – 250

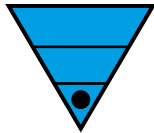
Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
MF	1 to 3.5	0.3 to 0.15

Ex: CCMX 09T308-MF for CK60

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	o	X

Available range



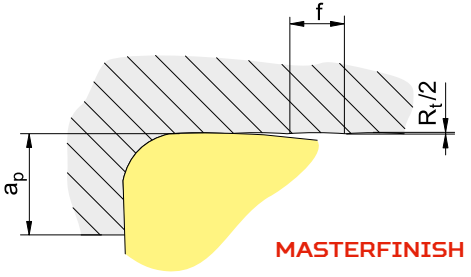
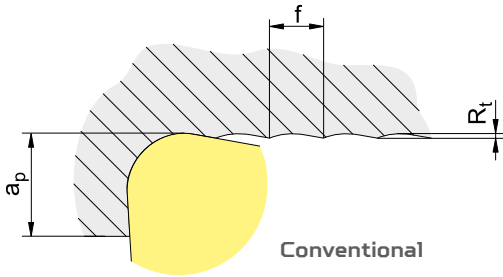
Steel extreme finishing – Masterfinish

Insert	Designation	Chipbreaker	Available
	CCMX 09T304-MF KRP125	...MF	•
	CCMX 09T308-MF KRP125		•
	DCMX 070204-MF KRP125		•
	DCMX 11T304-MF KRP125		•
	DCMX 11T308-MF KRP125		•

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.

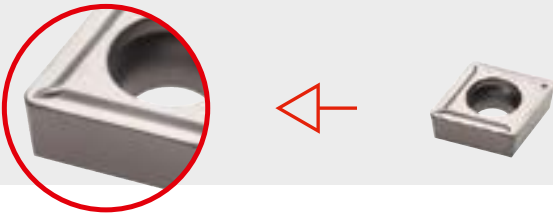


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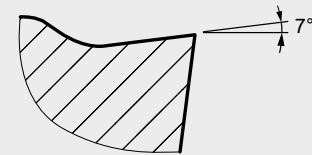
CF Chipbreaker

Optimised by FEM:

Increase life time
Reduce temperature and stress



Example: DCMT
11T304-CF



Cutting data

General cutting parameters depending on the application

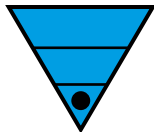
Work piece material	Type of treatment / alloy	Hardness HB	Cermet KRC010
			v_c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	230 – 270
	Low-alloyed steel	250 – 300	180 – 230
	High-alloyed steel	200	160 – 200
	Corrosion-resistant steel	200	230 – 270
M Stainless steel	Ferritic	200	170 – 240
	Austenitic	180	200 – 240
	Duplex	230 – 260	–
	Martensitic	330	130 – 160
K Cast iron	Grey cast iron	180	–
	Spheroidal cast iron	160	220 – 300
	Malleable/tempered iron	130	250 – 350

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

Ex: CCMT 09T304-CF
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-CF KRC010	... -CF	•
	CCMT 09T304-CF KRC010		•
	DCMT 070204-CF KRC010		•
	DCMT 11T304-CF KRC010		•
	TCGT 110202-CF KRC010		•
	TCMT 110204-CF KRC010		•
	WCGT 020102-CF KRC010		•

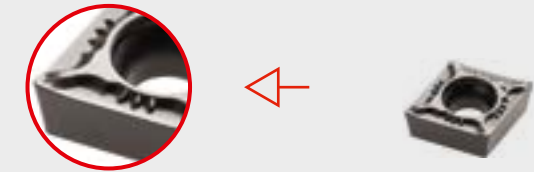
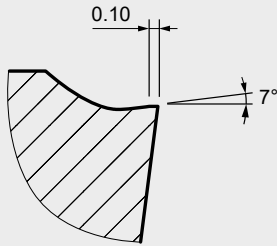
• available from stock, ○ available upon request

SF Chipbreaker

SF:

To optimise chip control

Example: CCMT
09T308-SF



Cutting data

General cutting parameters depending on the application

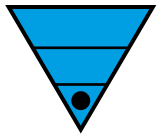
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			KRP115 v_c [m/min]	KRP125 v_c [m/min]	KRP135 v_c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
SF	0.50 to 2.25	0.14 to 0.07

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 "P15"

Insert	Designation	Chipbreaker	Available
	CCMT 060204-SF KRP115	...-SF	•
	CCMT 09T304-SF KRP115		•
	CCMT 09T308-SF KRP115		•
	CCMT 120404-SF KRP115		•
	DCMT 070204-SF KRP115		•
	DCMT 11T304-SF KRP115		•

• available from stock, o available upon request

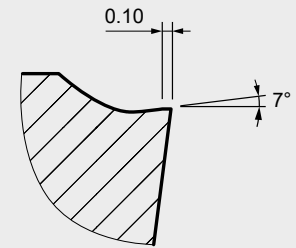
SF Chipbreaker

SF:

To optimise chip control



Example: CCMT
09T308-SF



Cutting data

General cutting parameters depending on the application

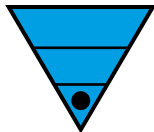
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			KRP115	KRP125	KRP135
			v_c [m/min]	v_c [m/min]	v_c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
SF	0.50 to 2.25	0.14 to 0.07

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"

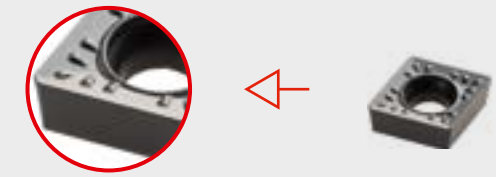
Insert	Designation	Chipbreaker	Available
	CCMT 060202-SF KRP125		•
	CCMT 060204-SF KRP125		•
	CCMT 09T302-SF KRP125		•
	CCMT 09T304-SF KRP125		•
	CCMT 09T308-SF KRP125		•
	DCMT 070202-SF KRP125		•
	DCMT 070204-SF KRP125		•
	DCMT 11T302-SF KRP125	...-SF	•
	DCMT 11T304-SF KRP125		•
	DCMT 11T308-SF KRP125		•
	VCMT 110302-SF KRP125		•
	VCMT 110304-SF KRP125		•
	VCMT 160404-SF KRP125		•
	VCMT 160408-SF KRP125		•
	CCMT 060202-SF KRP125 X-PER		•
	CCMT 060204-SF KRP125 X-PER		•
	CCMT 09T302-SF KRP125 X-PER		•
	CCMT 09T304-SF KRP125 X-PER		•
	CCMT 09T308-SF KRP125 X-PER		•
	DCMT 070202-SF KRP125 X-PER	...-SF	•
	DCMT 070204-SF KRP125 X-PER		•
	DCMT 11T302-SF KRP125 X-PER		•
	DCMT 11T304-SF KRP125 X-PER		•
	DCMT 11T308-SF KRP125 X-PER		•

• available from stock, o available upon request

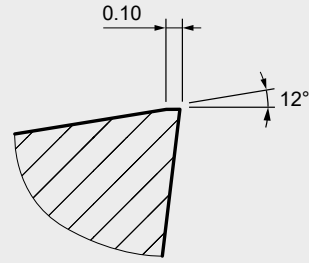
SFF Chipbreaker

Optimised by FEM:

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



Example: CCMT
09T308-SSF



Cutting data

General cutting parameters depending on the application

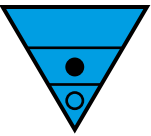
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			KRP115 v _c [m/min]	KRP125 v _c [m/min]	KRP135 v _c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

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

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	◦	X

Available range



Turning steel pos semi finishing "P15"

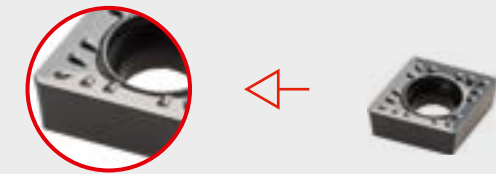
Insert	Designation	Chipbreaker	Available
	CCMT 060204-SSF KRP115		•
	CCMT 060208-SSF KRP115		•
	CCMT 09T304-SSF KRP115		•
	CCMT 09T308-SSF KRP115		•
	DCMT 11T304-SSF KRP115	...-SSF	•
	DCMT 11T308-SSF KRP115		•
	SCMT 120404-SSF KRP115		•
	TCMT 110204-SSF KRP115		•
	VBMT 160404-XP KRP115	...-XP	•

• available from stock, ◦ available upon request

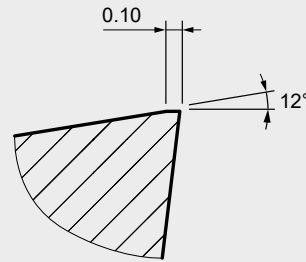
SSF Chipbreaker

Optimised by FEM:

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



Example: CCMT
09T308-SSF



Cutting data

General cutting parameters depending on the application

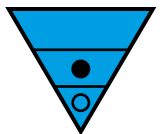
		Coated carbide			
			KRP115	KRP125	KRP135
Work piece material	Type of treatment / alloy	Hardness HB	v _c [m/min]	v _c [m/min]	v _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

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

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Turning steel pos medium "P25"

Insert	Designation	Chip.	Av.
	CCMT 060204-SSF KRP125		•
	CCMT 060208-SSF KRP125		•
	CCMT 09T304-SSF KRP125		•
	CCMT 09T308-SSF KRP125		•
	CCMT 120404-SSF KRP125		•
	CCMT 120408-SSF KRP125		•
	CCMT 120412-SSF KRP125		•
	DCMT 070204-SSF KRP125		•
	DCMT 070208-SSF KRP125		•
	DCMT 11T304-SSF KRP125		•
	DCMT 11T308-SSF KRP125		•
	SCMT 09T304-SSF KRP125		•
	SCMT 09T308-SSF KRP125	...-SSF	•
	SCMT 120404-SSF KRP125		•
	SCMT 120408-SSF KRP125		•
	SCMT 120412-SSF KRP125		•
	TCMT 090204-SSF KRP125		•
	TCMT 110204-SSF KRP125		•
	TCMT 110208-SSF KRP125		•
	TCMT 16T304-SSF KRP125		•
	TCMT 16T308-SSF KRP125		•
	TCMT 16T312-SSF KRP125		•
	VCMT 110304-SSF KRP125		•
	VCMT 110308-SSF KRP125		•
	VCMT 160404-SSF KRP125		•
	VCMT 160408-SSF KRP125		•
	VBMT 160404-XP KRP125		•
	VBMT 160408-XP KRP125	...-XP	•
	WCMT 040204-SSF KRP125		•
	WCMT 040208-SSF KRP125		•
	WCMT 06T304-SSF KRP125		•
	WCMT 06T308-SSF KRP125	...-SSF	•
	WCMT 080404-SSF KRP125		•
	WCMT 080408-SSF KRP125		•
	WCMT 080412-SSF KRP125		•
			•

• available from stock, ○ available upon request

Turning steel pos medium "P25"

Insert	Designation	Chip.	Av.
	CCMT 060204-SSF KRP125 X-PER		•
	CCMT 09T304-SSF KRP125 X-PER		•
	CCMT 09T308-SSF KRP125 X-PER		•
	CCMT 120404-SSF KRP125 X-PER		•
	CCMT 120408-SSF KRP125 X-PER	...-WM+	•
	CCMT 120412-SSF KRP125 X-PER		•
	DCMT 070204-SSF KRP125 X-PER		•
	DCMT 11T304-SSF KRP125 X-PER		•
	DCMT 11T308-SSF KRP125 X-PER		•
			•
			•
			•

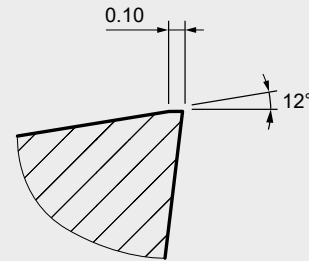
SSF Chipbreaker

Optimised by FEM:

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



Example: CCMT
09T308-SSF



Cutting data

General cutting parameters depending on the application

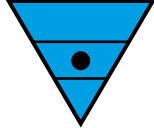
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			KRP115 v _c [m/min]	KRP125 v _c [m/min]	KRP135 v _c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

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

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Turning steel pos medium "P35"

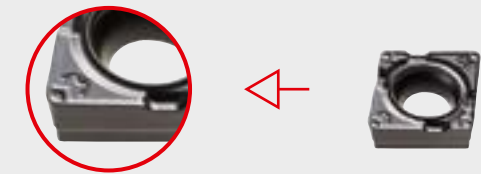
Insert	Designation	Chipbreaker	Available
	CCMT 060204-SSF KRP135	...-SSF	•
	CCMT 060208-SSF KRP135		•
	CCMT 09T304-SSF KRP135		•
	CCMT 09T308-SSF KRP135		•
	DCMT 070204-SSF KRP135		•
	DCMT 070208-SSF KRP135		•
	DCMT 11T304-SSF KRP135		•
	DCMT 11T308-SSF KRP135		•
	RCMT 0803M0-SSF KRP135		•
	RCMT 1003M0-SSF KRP135		•
	RCMT 1204M0-SSF KRP135		•
	SCMT 09T308-SSF KRP135		•
	SCMT 120408-SSF KRP135		•
	SCMT 120412-SSF KRP135		•
	TCMT 110204-SSF KRP135		•
	TCMT 110208-SSF KRP135		•
	TCMT 16T304-SSF KRP135		•
	TCMT 16T308-SSF KRP135		•
	VCMT 110304-SSF KRP135		•
	VCMT 110308-SSF KRP135		•
	VCMT 160404-SSF KRP135		•
	VCMT 160408-SSF KRP135		•

• available from stock, ○ available upon request

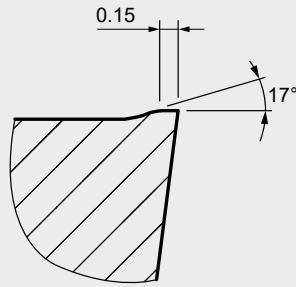
MF Chipbreaker

Optimised by FEM:

- Positive Masterfinish geometry
- High surface quality



Example: CCMX
09T308-MF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	KRP125	KRP135M	
			v _c [m/min]	v _c [m/min]	
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	170 – 240	170 – 190
		Low-alloyed steel	250 – 300	100 – 190	90 – 150
		High-alloyed steel	200	130 – 210	120 – 200
		Corrosion-resistant steel	200	130 – 210	140 – 180
M	Stainless steel	Ferritic	200	140 – 210	140 – 200
		Austenitic	180	100 – 210	110 – 190
		Duplex	230 – 260	–	80 – 150
		Martensitic	330	70 – 100	55 – 75
K	Cast iron	Grey cast iron	180	130 – 210	–
		Spheroidal cast iron	160	120 – 240	–
		Malleable/tempered iron	130	150 – 250	–

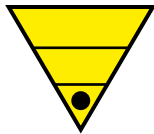
Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
PWX	1 to 3.50	0.30 to 0.15

Ex: CCMX 09T308-MF for 304

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	○	X

Available range



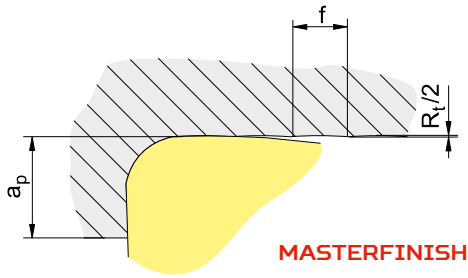
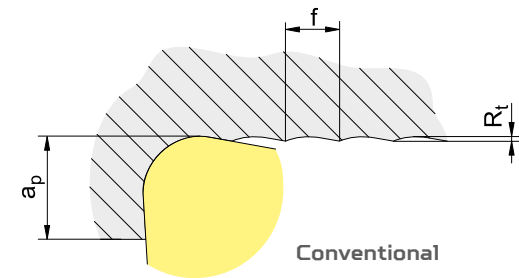
Heavy turning steel pos "P35" – Masterfinish

Insert	Designation	Chipbreaker	Available
	CCMX 09T304-MF KRM235	...MF	•
	CCMX 09T308-MF KRM235		•
	DCMX 11T304-MF KRM235		•
	DCMX 11T308-MF KRM235		•

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.

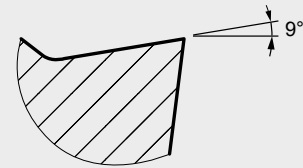


• available from stock, ○ available upon request

EN-EF Chipbreaker



Example: CCGT
09T301-EN-EF



Cutting data

General cutting parameters depending on the application

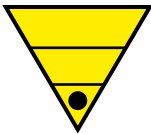
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide KRW220
			V_c [m/min]
M Stainless steel	Ferritic	200	150 – 200
	Austenitic	180	120 – 200
	Duplex	230 – 260	90 – 160
	Martensitic	330	60 – 80
K Cast iron	Grey cast iron	180	120 – 160
	Spheroidal cast iron	160	120 – 160
	Malleable/tempered 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	
	a_p [mm]	f [mm]
Chip groove		
-EN-EF	0.05 to 1.35	0.02 to 0.10

Ex: CCGT 09T0301-EN-EF 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 060200-EN-EF KRW220		•
	CCGT 060201-EN-EF KRW220		•
	CCGT 09T300-EN-EF KRW220		•
	CCGT 09T301-EN-EF KRW220		•
	DCGT 070200-EN-EF KRW220	...-EN-EF	•
	DCGT 070201-EN-EF KRW220		•
	DCGT 11T300-EN-EF KRW220		•
	DCGT 11T301-EN-EF KRW220		•
	VCGT 110300-EN-EF KRW220		•
	VCGT 110301EN-EF KRW220		•
	VCGT 160400EN-EF KRW220		•
	VCGT 160401EN-EF KRW220		•

• available from stock, ○ available upon request

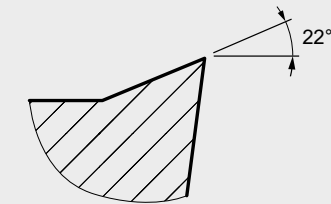
FN-PF Chipbreaker

Optimised by FEM:

- Increased tool life
- Small feed rate when bar turning



Example: CCGT
120408-FN-PF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide KRS215	
			v_c [m/min]	
Cast iron	Grey 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		
PF	0.05 to 1.35	0.02 to 0.10

Ex: CCGT 120408-FN-PF 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 060201-FN - PF KRS215		•
	CCGT 060202-FN - PF KRS215		•
	CCGT 060202-FN - PF KRS215		•
	CCGT 09T302-FN - PF KRS215		•
	CCGT 09T304-FN - PF KRS215		•
	CCGT 09T308-FN - PF KRS215		•
	CCGT 120404-FN - PF KRS215		•
	CCGT 120408-FN - PF KRS215		•
	DCGT 070201-FN - PF KRS215		•
	DCGT 070202-FN - PF KRS215		•
	DCGT 070204-FN - PF KRS215		•
	DCGT 11T302-FN - PF KRS215		•
	DCGT 11T304-FN - PF KRS215		•
	DCGT 11T308-FN - PF KRS215		•
	SCGT 09T304-FN - PF KRS215	... -FN - PF	•
	SCGT 09T308-FN - PF KRS215		•
	SCGT 120408-FN - PF KRS215		•
	TCGT 110204-FN - PF KRS215		•
	VCGT 110302-FN - PF KRS215		•
	VCGT 110304-FN - PF KRS215		•
	VCGT 130302-FN - PFF KRS215		•
	VCGT 130304-FN - PF KRS215		•
	VCGT 160404-FN - PF KRS215		•
	VCGT 160408-FN - PF KRS215		•
	VCGT 160412-FN - PF KRS215		•
			•

• available from stock, ○ available upon request

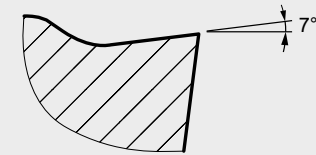
CF Chipbreaker

Optimised by FEM:

- Increased tool life
- Small feed rate when bar turning



Example: DCMT
11T304-CF



Cutting data

General cutting parameters depending on the application

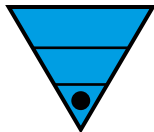
Work piece material	Type of treatment / alloy	Hardness HB	Cermet KRC010
			v_c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	230 – 270
	Low-alloyed steel	250 – 300	180 – 230
	High-alloyed steel	200	160 – 200
	Corrosion-resistant steel	200	230 – 270
M Stainless steel	Ferritic	200	170 – 240
	Austenitic	180	200 – 240
	Duplex	230 – 260	–
	Martensitic	330	130 – 160
K Cast iron	Grey cast iron	180	–
	Spheroidal cast iron	160	220 – 300
	Malleable/tempered iron	130	250 – 350

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

Ex: CCMT 09T304-CF
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-CF KRC010	... -CF	•
	CCMT 09T304-CF KRC010		•
	DCMT 070204-CF KRC010		•
	DCMT 11T304-CF KRC010		•
	TCGT 110202-CF KRC010		•
	TCMT 110204-CF KRC010		•
	WCGT 020102-CF KRC010		•

• available from stock, ○ available upon request

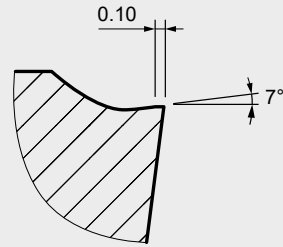
SF Chipbreaker

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	
			KRM225 V_c [m/min]	KRM235 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

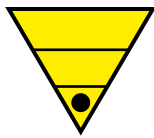
Application Depth of cut / feed rate

Chip groove	a_p [mm]	f [mm]
SF	0.50 to 2.25	0.14 to 0.07

Ex: CCMT 09T304-SF for 304
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	○	X

Available range



Turning steel pos finishing "M25"

Insert	Designation	Chipbreaker	Available
	CCMT 060202-SF KRM225		•
	CCMT 060204-SF KRM225		•
	CCMT 09T302-SF KRM225		•
	CCMT 09T304-SF KRM225		•
	CCMT 09T308-SF KRM225		•
	DCMT 070202-SF KRM225		•
	DCMT 070204-SF KRM225		•
	DCMT 11T302-SF KRM225	...-SF	•
	DCMT 11T304-SF KRM225		•
	DCMT 11T308-SF KRM225		•
	TCMT 110202-SF KRM225		•
	VCMT 110302-SF KRM225		•
	VCMT 110304-SF KRM225		•
	VCMT 160404-SF KRM225		•

Turning steel pos finishing "M20"

	CCMT 060202-SF KRM120 X-PER		•
	CCMT 060204-SF KRM120 X-PER		•
	CCMT 09T302-SF KRM120 X-PER		•
	CCMT 09T304-SF KRM120 X-PER		•
	DCMT 070202-SF KRM120 X-PER		•
	DCMT 070204-SF KRM120 X-PER		•
	DCMT 11T302-SF KRM120 X-PER	...-SF	•
	DCMT 11T304-SF KRM120 X-PER		•
	VCMT 110302-SF KRM120 X-PER		•
	VCMT 110304-SF KRM120 X-PER		•
	VCMT 160404-SF KRM120 X-PER		•
	VCMT 160408-SF KRM120 X-PER		•

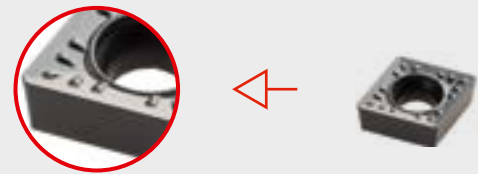
• available from stock, ○ available upon request

TURNING CATALOGUE

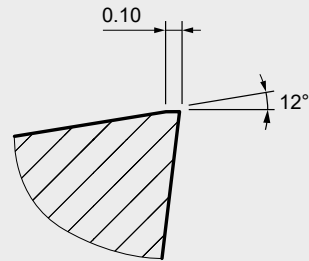
SSF Chipbreaker

Optimised by FEM:

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



Example: CCMT
09T308-SSF



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide	
				KRM225 V _c [m/min]	KRM235 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

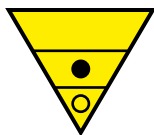
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
SSF	0.50 to 3.00	0.21 to 0.12

Ex: CCMT 09T304-SSF for 304
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Turning stainless steel pos "M25"

Insert	Designation	Chip.	Av.
	CCMT 060204-SSF KRM225	•	•
	CCMT 060208-SSF KRM225	•	•
	CCMT 09T304-SSF KRM225	•	•
	CCMT 09T308-SSF KRM225	•	•
	CCMT 120404-SSF KRM225	•	•
	CCMT 120408-SSF KRM225	•	•
	CCMT 120412-SSF KRM225	•	•
	DCMT 070204-SSF KRM225	•	•
	DCMT 070208-SSF KRM225	•	•
	DCMT 11T304-SSF KRM225	•	•
	DCMT 11T308-SSF KRM225	•	•
	SCMT 09T304-SSF KRM225	•	•
	SCMT 09T308-SSF KRM225	•	•
	SCMT 120404-SSF KRM225	•	•
	SCMT 120408-SSF KRM225	•	•
	SCMT 120412-SSF KRM225	•	•
	TCMT 090204-SSF KRM225 ...-SSF	•	•
	TCMT 110204-SSF KRM225	•	•
	TCMT 110208-SSF KRM225	•	•
	TCMT 16T304-SSF KRM225	•	•
	TCMT 16T308-SSF KRM225	•	•
	TCMT 16T312-SSF KRM225	•	•
	VCMT 110304-SSF KRM225	•	•
	VCMT 110308-SSF KRM225	•	•
	VCMT 160404-SSF KRM225	•	•
	VCMT 160408-SSF KRM225	•	•
	WCMT 040204-SSF KRM225	•	•
	WCMT 040208-SSF KRM225	•	•
	WCMT 06T304-SSF KRM225	•	•
	WCMT 06T308-SSF KRM225	•	•
	WCMT 080404-SSF KRM225	•	•
	WCMT 080408-SSF KRM225	•	•
	WCMT 080412-SSF KRM225	•	•

Turning stainless steel pos "M20"

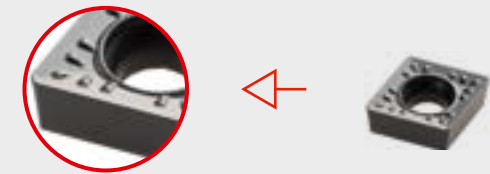
Insert	Designation	Chip.	Av.
	CCMT 060204-SSF KRM120 X-PER	•	•
	CCMT 060208-SSF KRM120 X-PER	•	•
	CCMT 09T304-SSF KRM120 X-PER	•	•
	CCMT 09T308-SSF KRM120 X-PER	•	•
	CCMT 120404-SSF KRM120 X-PER	•	•
	CCMT 120408-SSF KRM120 X-PER	•	•
	DCMT 070204-SSF KRM120 X-PER	•	•
	DCMT 070208-SSF KRM120 X-PER	•	•
	DCMT 11T304-SSF KRM120 X-PER	•	•
	DCMT 11T308-SSF KRM120 X-PER	•	•
	SCMT 09T304-SSF KRM120 X-PER	•	•
	SCMT 09T308-SSF KRM120 X-PER	•	•
	SCMT 120404-SSF KRM120 X-PER	•	•
	SCMT 120408-SSF KRM120 X-PER	•	•
	TCMT 090204-SSF KRM120 X-PER	•	•
	TCMT 16T304-SSF KRM120 X-PER	•	•
	TCMT 16T308-SSF KRM120 X-PER	•	•
	VCMT 110304-SSF KRM120 X-PER	•	•
	VCMT 110308-SSF KRM120 X-PER	•	•
	VCMT 160404-SSF KRM120 X-PER	•	•
	VCMT 160408-SSF KRM120 X-PER	•	•

• available from stock, ○ available upon request

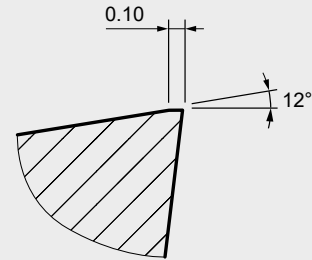
SSF Chipbreaker

Optimised by FEM:

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



Example: CCMT
09T308-SSF



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			KRM225 V_c [m/min]	KRM235 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

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

Ex: CCMT 09T304-SSF for 304
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	•

Available range



Turning stainless steel pos "M35"

Insert	Designation	Chipbreaker	Available
	CCMT 09T304-SSF KRM235	...-SSF	•
	CCMT 09T308-SSF KRM235		•
	DCMT 11T304-SSF KRM235		•
	DCMT 11T308-SSF KRM235		•
	TCMT 110204-SSF KRM235		•
	TCMT 110208-SSF KRM235		•
	VCMT 110304-SSF KRM235		•
	VCMT 110308-SSF KRM235		•

• available from stock, ○ available upon request

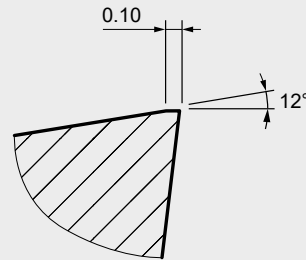
SFF Chipbreaker

Optimised by FEM:

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



Example: CCMT
09T308-SSF



Cutting data

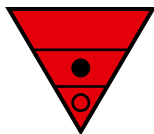
General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			KRK120	
P	Steel		V _c [m/min]	
	Non-alloyed steel 0 – 0.45% C	150 – 250	200 – 340	
	Low-alloyed steel	250 – 300	150 – 290	
	High-alloyed steel	200	150 – 290	
K	Cast iron			
	Corrosion-resistant steel	200	160 – 290	
	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]	a _p [mm]
SSF	1.00 to 3.00	0.41 to 0.22
Ex: CCMT 09T308-SSF for GG25		
Different in each application		
Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	X

Available range

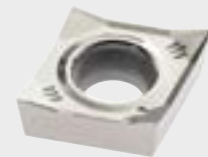


Turning cast iron pos "K20"

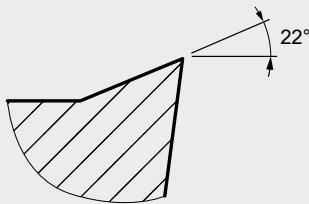
Insert	Designation	Chipbreaker	Available
	CCMT 060204-SSF KRK120		•
	CCMT 09T304-SSF KRK120		•
	CCMT 09T308-SSF KRK120		•
	CCMT 120408-SSF KRK120		•
	DCMT 070204-SSF KRK120		•
	DCMT 11T304-SSF KRK120		•
	DCMT 11T308-SSF KRK120		•
	SCMT 09T304-SSF KRK120	...-SSF	•
	SCMT 09T308-SSF KRK120		•
	SCMT 120408-SSF KRK120		•
	TCMT 090204-SSF KRK120		•
	TCMT 110204-SSF KRK120		•
	TCMT 110208-SSF KRK120		•
	TCMT 16T304-SSF KRK120		•
	TCMT 16T308-SSF KRK120		•

• available from stock, ○ available upon request

FN-PF Chipbreaker



Example: CCGT 120408-FN-PF



Cutting data

General cutting parameters depending on the application

Uncoated carbide			
Work piece material	Type of treatment / alloy	Hardness HB	KRN015 V _c [m/min]
K	Cast iron	180	120 – 160
	Spheroidal cast iron	160	130 – 170
	Malleable/tempered iron	130	140 – 200
N	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	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

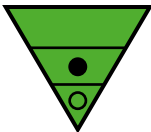
Application	Depth of cut / feed rate	
	a _p [mm]	f [mm]
Chip groove		
KRN015+	1,5 to 6,5	0,50 to 0,20

Ex: CCGT 120408-FN-PF for AIMg 1

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Turning non-ferrous pos "K15"

Insert	Designation	Chipbreaker	Available
	CCGT 060201-FN-PF	KRN015	•
	CCGT 060202-FN-PF	KRN015	•
	CCGT 060204-FN-PF	KRN015	•
	CCGT 09T302-FN-PF	KRN015	•
	CCGT 09T304-FN-PF	KRN015	•
	CCGT 09T308-FN-PF	KRN015	•
	CCGT 120404-FN-PF	KRN015	•
	CCGT 120408-FN-PF	KRN015	•
	DCGT 070201-FN-PF	KRN015	•
	DCGT 070202-FN-PF	KRN015	•
	DCGT 070204-FN-PF	KRN015	•
	DCGT 070208-FN-PF	KRN015	•
	DCGT 11T302-FN-PF	KRN015	•
	DCGT 11T304-FN-PF	KRN015	•
	DCGT 11T308-FN-PF	KRN015	•
	SCGT 09T304-FN-PF	KRN015	•
	SCGT 09T308-FN-PF	KRN015	•
	TCGT 110204-FN-PF	KRN015	•
	TCGT 16T304-FN-PF	KRN015	•
	TCGT 16T308-FN-PF	KRN015	•
	VCGT 110302-FN-PF	KRN015	•
	VCGT 110304-FN-PF	KRN015	•
	VCGT 130302-FN-PF	KRN015	•
	VCGT 130304-FN-PF	KRN015	•
	VCGT 160404-FN-PF	KRN015	•
	VCGT 160408-FN-PF	KRN015	•
	VCGT 160412-FN-PF	KRN015	•
	VCGT 220530-FN-PF	KRN015	•

• available from stock, ○ available upon request

BEYOND THE MACHINING

www.karcan.com

**Negative Size
Turning**

NST



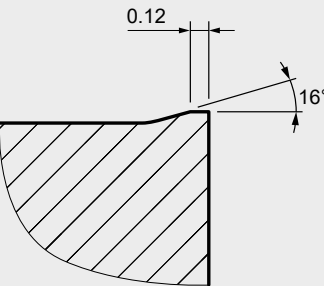
MF Chipbreaker

Optimised by FEM:

- Masterfinish geometry
- High surface quality



Example: CNMX 120408-MF



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide		
				KRP115	KRP125	KRP135
				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	170 – 240	170 – 190
		Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
		High-alloyed steel	200	180 – 320	130 – 210	120 – 200
		Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
		Austenitic	180	-	100 – 210	110 – 190
		Duplex	230 – 260	-	-	80 – 150
		Martensitic	330	-	70 – 100	55 – 75
K	Cast iron	Grey cast iron	180	140 – 370	130 – 210	-
		Spheroidal cast iron	160	190 – 430	120 – 240	-
		Malleable/tempered iron	130	180 – 520	150 – 250	-

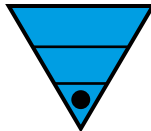
Application Depth of cut / feed rate

Chip groove	a_p [mm]	f [mm]
SWX	0.50 to 3.00	0.35 to 0.15

Ex: CNMX 120408-MF
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



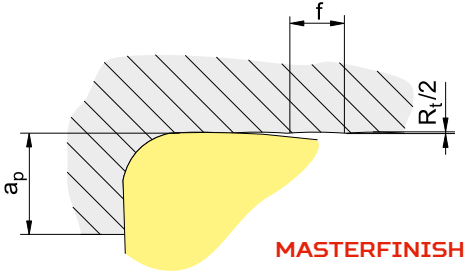
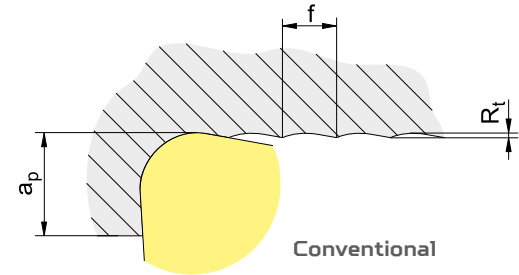
Heavy turning steel neg "P15" – Masterfinish

Insert	Designation	Chipbreaker	Available
	CNMX 120404-MF KRP115	...MF	•
	CNMX 120408-MF KRP115		•
	DNMX 150604-MF KRP115		•
	DNMX 150608-MF KRP115		•
	WNMX 080404-MF KRP115		•
	WNMX 080408-MF KRP115		•

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.

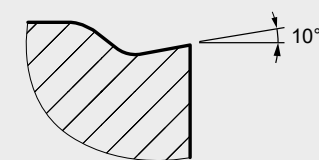


• available from stock, ○ available upon request

EN-CF Chipbreaker



Example: CNMG
120408-EN-CF



Cutting data

General cutting parameters depending on the application

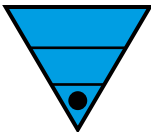
Work piece material	Type of treatment / alloy	Hardness HB	Cermet KRC010 v_c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	230 – 270
	Low-alloyed steel	250 – 300	180 – 230
	High-alloyed steel	200	160 – 200
	Corrosion-resistant steel	200	230 – 270
M Stainless steel	Ferritic	200	170 – 240
	Austenitic	180	200 – 240
	Duplex	230 – 260	–
	Martensitic	330	130 – 160
K Cast iron	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]
CF	0.10 to 2.00	0.20 to 0.05

Ex: CNMG 120404-EN-CF
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	X	X

Available range



Turning steel neg finishing CERMET

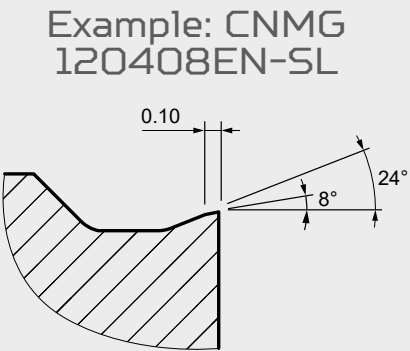
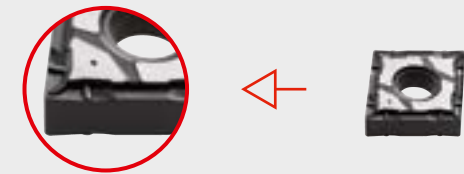
Insert	Designation	Chipbreaker	Available
	CNMG 120404-EN-CF KRC010	...-EN-CF	•
	CNMG 120408-EN-CF KRC010		•
	DNMG 110404-EN-CF KRC010		•
	DNMG 150604-EN-CF KRC010		•

• available from stock, ○ available upon request

EN-SL Chipbreaker

Optimised by FEM:

- Increase life time
- Reduce temperature and stress



Cutting data

General cutting parameters depending on the application

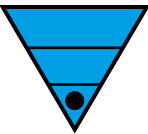
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			KRP115 v _c [m/min]	KRP125 v _c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240
	Low-alloyed steel	250 – 300	200 – 320	100 – 190
	High-alloyed steel	200	180 – 320	130 – 210
	Corrosion-resistant steel	200	200 – 320	130 – 210
M Stainless steel	Ferritic	200	220 – 320	140 – 210
	Austenitic	180	–	100 – 210
	Duplex	230 – 260	–	–
	Martensitic	330	–	70 – 100
K Cast iron	Grey cast iron	180	–	–
	Spheroidal cast iron	160	–	–
	Malleable/tempered iron	130	–	–

Application	Depth of cut / feed rate	
	a _p [mm]	f [mm]
Chip groove		
-EN-SL	0.50 to 2.00	0.20 to 0.10

Ex: CNMX 120408-EN-SL 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 090304-EN-SL KRP115		•
	CNMG 120404-EN-SL KRP115		•
	CNMG 120408-EN-SL KRP115		•
	DNMG 110404-EN-SL KRP115		•
	DNMG 150604-EN-SL KRP115		•
	DNMG 150608-EN-SL KRP115	...-EN-SL	•
	VNMG 160404-EN-SL KRP115		•
	WNMG 060404-EN-SL KRP115		•
	WNMG 080404-EN-SL KRP115		•

Heavy turning steel neg "P25"

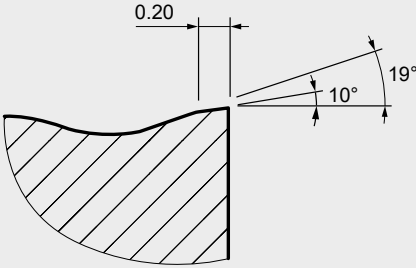
Insert	Designation	Chipbreaker	Available
	CNMG 120404-EN-SL KRP125		•
	CNMG 120408-EN-SL KRP125	... -EN-SL	•
	DNMG 110404-EN-SL KRP125		•

• available from stock, ○ available upon request

SSF Chipbreaker



Example: CNMG
120408-SSF

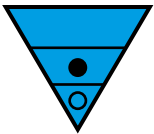


Cutting data

General cutting parameters depending on the application

		Coated carbide				Application		
Work piece material	Type of treatment / alloy	Hardness HB	KRP115		KRP125		Chip groove	Depth of cut / feed rate
			V_c [m/min]	V_c [m/min]	V_c [m/min]	V_c [m/min]		
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190		SSF	0.50 to 2.25 0.14 to 0.07
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150			
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200			
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180			
M	Ferritic	200	220 – 320	140 – 210	140 – 200		Ex: CNMG 120408-SSF for CK60 Different in each application	
	Austenitic	180	–	100 – 210	110 – 190			
	Duplex	230 – 260	–	–	80 – 150			
	Martensitic	330	–	70 – 100	55 – 75			
K	Grey cast iron	180	140 – 370	130 – 210	–		Consistent cutting depth Inconsistent cutting depth Interrupted cut	• ○ X
	Spheroidal cast iron	160	190 – 430	120 – 240	–			
	Malleable/tempered iron	130	180 – 520	150 – 250	–			

Available range



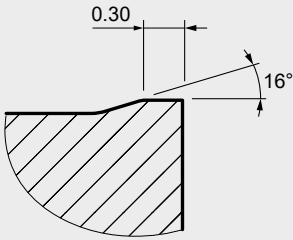
Turning steel neg semi finishing "P15"

Insert	Designation	Chipbreaker	Available
	CNMG 120404-SSF KRP115	...SSF	•
	CNMG 120408-SSF KRP115		•
	CNMG 120412-SSF KRP115		•
	DNMG 110404-SSF KRP115		•
	DNMG 110408-SSF KRP115		•
	DNMG 150604-SSF KRP115		•
	DNMG 150608-SSF KRP115		•
	DNMG 150612-SSF KRP115		•
	SNMG 120408-SSF KRP115		•
	SNMG 120412-SSF KRP115		•
	TNMG 160404-SSF KRP115		•
	TNMG 160408-SSF KRP115		•
	TNMG 160412-SSF KRP115		•
	VNMG 160404-SSF KRP115		•
	VNMG 160408-SSF KRP115		•
	WNMG 060404-SSF KRP115		•
	WNMG 060408-SSF KRP115		•
	WNMG 080404-SSF KRP115		•
	WNMG 080408-SSF KRP115		•
	WNMG 080412-SSF KRP115		•

• available from stock, ○ available upon request

EN-SR Chipbreaker

Example: CNMG 120408-EN-SR



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide		
				KRP115	KRP125	KRP135
				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	170 – 240	170 – 190
		Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
		High-alloyed steel	200	180 – 320	130 – 210	120 – 200
		Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
		Austenitic	180	–	100 – 210	110 – 190
		Duplex	230 – 260	–	–	80 – 150
		Martensitic	330	–	70 – 100	55 – 75
K	Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
		Spheroidal cast iron	160	190 – 430	120 – 240	–
		Malleable/tempered iron	130	180 – 520	150 – 250	–

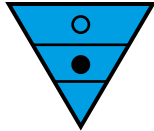
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
-EN-SR	1.50 to 5.00	0.50 to 0.30

Ex: CNMG 120408-EN-SR for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range

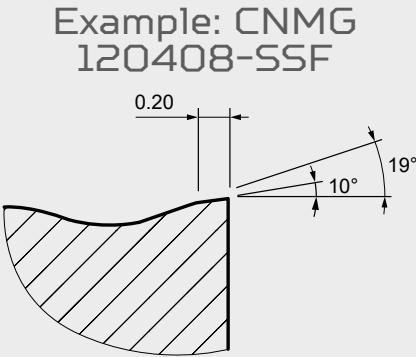


Turning steel neg roughing "P15"

Insert	Designation	Chipbreaker	Available
	CNMG 120408-EN-SR KRP115	...-EN-SR	•
	DNMG 150608-EN-SR KRP115		•
	DNMG 150612-EN-SR KRP115		•

• available from stock, ○ available upon request

SSF Chipbreaker



Cutting data

General cutting parameters depending on the application

		Coated carbide			
			KRP115	KRP125	KRP135
Work piece material	Type of treatment / alloy	Hardness HB	v _c [m/min]	v _c [m/min]	v _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

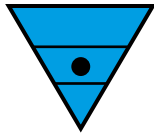
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
SSF	1.00 to 4.00	0.44 to 0.22

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



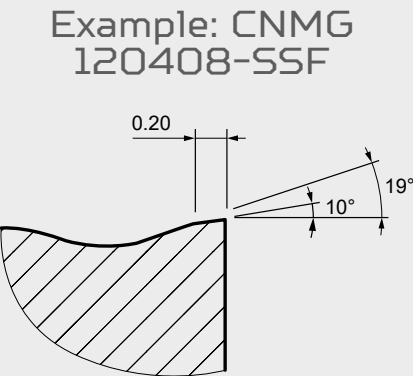
Turning steel neg medium "P25"

Insert	Designation	Chipbreaker	Available
	CNMG 120404-SSF KRP125		•
	CNMG 120408-SSF KRP125		•
	DNMG 110404-SSF KRP125		•
	DNMG 110408-SSF KRP125		•
	DNMG 150404-SSF KRP125		•
	DNMG 150408-SSF KRP125		•
	DNMG 150604-SSF KRP125		•
	DNMG 150608-SSF KRP125		•
	DNMG 150612-SSF KRP125		•
	SNMG 120408-SSF KRP125		•
	SNMG 120412-SSF KRP125		•
	TNMG 160404-SSF KRP125	...-SSF	•
	TNMG 160408-SSF KRP125		•
	TNMG 160412-SSF KRP125		•
	TNMG 220404-SSF KRP125		•
	TNMG 220408-SSF KRP125		•
	VNMG 160404-SSF KRP125		•
	VNMG 160408-SSF KRP125		•
	WNMG 060404-SSF KRP125		•
	WNMG 060408-SSF KRP125		•
	WNMG 080404-SSF KRP125		•
	WNMG 080408-SSF KRP125		•
	WNMG 080412-SSF KRP125		•
	CNMG 120404-SSF KRP125 X-PER		•
	DNMG 110408-SSF KRP125 X-PER		•
	DNMG 150404-SSF KRP125 X-PER		•
	DNMG 150604-SSF KRP125 X-PER	...SSF	•
	DNMG 150608-SSF KRP125 X-PER		•
	DNMG 150612-SSF KRP125 X-PER		•
	WNMG 080404-SSF KRP125 X-PER		•

• available from stock, ○ available upon request

TURNING CATALOGUE

SSF Chipbreaker



Cutting data

General cutting parameters depending on the application

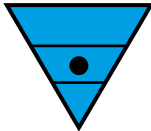
		KRP125HP	
Work piece material	Type of treatment / alloy	Hardness HB	v_c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	170 – 240
	Low-alloyed steel	250 – 300	100 – 190
	High-alloyed steel	200	130 – 210
	Corrosion-resistant steel	200	130 – 210
M	Ferritic	200	140 – 210
	Austenitic	180	100 – 210
	Duplex	230 – 260	–
	Martensitic	330	70 – 100
K	Grey cast iron	180	130 – 210
	Spheroidal cast iron	160	120 – 240
	Malleable/tempered iron	130	150 – 250

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

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

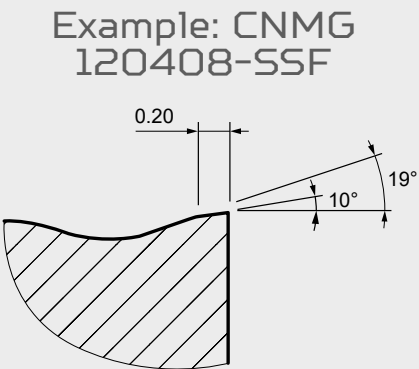
Available range



Insert	Designation	Chipbreaker	Available
	CNMG 120408-SSF KRP125 X-PER		•
	CNMG 120412-SSF KRP125 X-PER		•
	DNMG 150608-SSF KRP125 X-PER	...-SSF	•
	TNMG 160408-SSF KRP125 X-PER		•
	SNMG 120408-SSF KRP125 X-PER		•
	WNMG 080408-SSF KRP125 X-PER		•
	WNMG 080412-SSF KRP125 X-PER		•

• available from stock, ○ available upon request

SSF Chipbreaker



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			KRP115	KRP125	KRP135
			v_c [m/min]	v_c [m/min]	v_c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

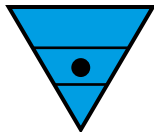
Application Depth of cut / feed rate

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

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	•

Available range



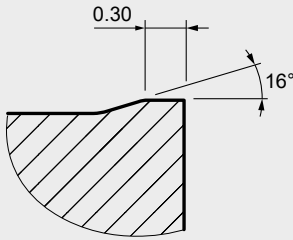
Turning steel neg medium roughing "P35"

Insert	Designation	Chipbreaker	Available
	CNMG 120408-SSF KRP135	...-SSF	•
	CNMG 120412-SSF KRP135		•
	DNMG 110408-SSF KRP135		•
	DNMG 150608-SSF KRP135		•
	DNMG 150612-SSF KRP135		•
	SNMG 120408-SSF KRP135		•
	SNMG 120412-SSF KRP135		•
	TNMG 160408-SSF KRP135		•
	WNMG 080408-SSF KRP135		•
	WNMG 080412-SSF KRP135		•

• available from stock, ○ available upon request

EN-SR Chipbreaker

Example: CNMG 120408-EN-SR



Cutting data

General cutting parameters depending on the application

		Coated carbide			
			KRP115	KRP125	KRP135
Work piece material	Type of treatment / alloy	Hardness HB	v _c [m/min]	v _c [m/min]	v _c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

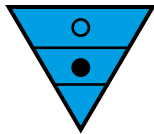
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
-EN-SR	1.50 to 5.00	0.50 to 0.30

Ex: CNMG 120408-EN-SR for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Turning steel neg roughing "P25"

Insert	Designation	Chipbreaker	Available
	CNMG 120408-EN-SR KRP125	...-EN-SR	•
	CNMG 120412-EN-SR KRP125		•
	DNMG 150608-EN-SR KRP125		•
	DNMG 150612-EN-SR KRP125		•
	SNMG 120408-EN-SR KRP125		•
	SNMG 120412-EN-SR KRP125		•
	TNMG 160408-EN-SR KRP125		•
	TNMG 160412-EN-SR KRP125		•
	WNMG 080408-EN-SR KRP125		•
	WNMG 080412-EN-SR KRP125		•

Turning steel neg roughing "P35"

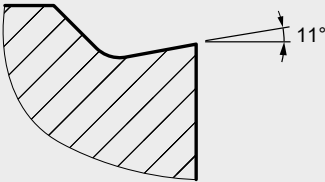
Insert	Designation	Chipbreaker	Available
	DNMG 150608-EN-SR KRP135	...-EN-SR	•
	DNMG 150612-EN-SR KRP135		•

• available from stock, ○ available upon request

XF Chipbreaker



Example: CNGP
120408-XF



Cutting data

General cutting parameters depending on the application

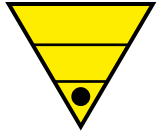
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide
			KRW220 v _c [m/min]
M	Stainless steel		
	Ferritic	200	150 – 200
	Austenitic	180	120 – 200
	Duplex	230 – 260	90 – 160
K	Martensitic	330	60 – 80
	Cast iron		
	Grey cast iron	180	120 – 160
	Spheroidal cast iron	160	120 – 160
	Malleable/tempered iron	130	140 – 220
	Non-ferrous metals		
		100	100 – 400
		130	100 – 400
		90	100 – 600
		100	100 – 400
	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	
	a _p [mm]	f [mm]
Chip groove		
XF	0.5 to 2.5	0.25 to 0.10

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	o	X

Available range



Turning stainless steel neg finishing "M25"

Insert	Designation	Chipbreaker	Available
	CNGP 120402-XF KRW220	...-XF	•
	CNGP 120404-XF KRW220		•
	CNGP 120408-XF KRW220		•
	CNGP 120412-XF KRW220		•
	DNGP 150404-XF KRW220		•
	DNGP 150602-XF KRW220		•
	DNGP 150604-XF KRW220		•
	DNGP 150608-XF KRW220		•
	VNGP 160402-XF KRW220		•
	VNGP 160404-XF KRW220		•
	WNGP 080404-XF KRW220		•
	WNGP 080408-XF KRW220		•

• available from stock, o available upon request

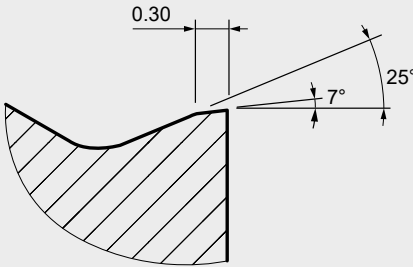
XM Chipbreaker

Optimised by FEM:

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



Example: CNMG 120408 XM



Cutting data

General cutting parameters depending on the application

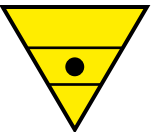
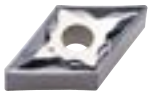
Work piece material		Coated carbide		
		Type of treatment / alloy	Hardness HB	v_c [m/min]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	130 – 250
		Low-alloyed steel	250 – 300	60 – 180
		High-alloyed steel	200	80 – 200
		Corrosion-resistant steel	200	100 – 200
M	Stainless steel	Ferritic	200	120 – 250
		Austenitic	180	100 – 220
		Duplex	230 – 260	60 – 160
		Martensitic	330	40 – 100

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

Ex: CNMG 120408-XM 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	Chip.	Av.
	CNMG 090304-XM KRM225	•	•
	CNMG 090308-XM KRM225	•	•
	CNMG 120404-XM KRM225	•	•
	CNMG 120408-XM KRM225	•	•
	DNMG 110404-XM KRM225	•	•
	DNMG 110408-XM KRM225	•	•
	DNMG 150404-XM KRM225	•	•
	DNMG 150408-XM KRM225	•	•
	DNMG 150604-XM KRM225	•	•
	DNMG 150608-XM KRM225	•	•
	SNMG 120408-XM KRM225	•	•
	TNMG 160404-XM KRM225	•	•
	TNMG 160408-XM KRM225	•	•
	VNMG 160408-XM KRM225	•	•
	WNMG 060404-XM KRM225	•	•
	WNMG 060408-XM KRM225	•	•
	WNMG 080404-XM KRM225	•	•
	WNMG 080408-XM KRM225	•	•
	WNMG 080412-XM KRM225	•	•
	WNMG 080412-XM KRM225	•	•
	WNMG 080412-XM KRM225	•	•
	WNMG 080412-XM KRM225	•	•

Turning stainless steel neg "M20"

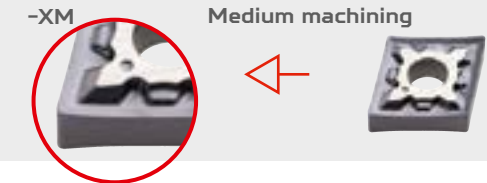
Insert	Designation	Chip.	Av.
	CNMG 090304-XM KRM120 X-PER	•	•
	CNMG 090308-XM KRM120 X-PER	•	•
	CNMG 120404-XM KRM120 X-PER	•	•
	CNMG 120408-XM KRM120 X-PER	•	•
	DNMG 110404-XM KRM120 X-PER	•	•
	DNMG 110408-XM KRM120 X-PER	•	•
	DNMG 150404-XM KRM120 X-PER	•	•
	DNMG 150408-XM KRM120 X-PER	•	•
	SNMG 120408-XM KRM120 X-PER	•	•
	TNMG 160404-XM KRM120 X-PER	•	•
	TNMG 160408-XM KRM120 X-PER	•	•
	VNMG 160408-XM KRM120 X-PER	•	•
	WNMG 060404-XM KRM120 X-PER	•	•
	WNMG 060408-XM KRM120 X-PER	•	•
	WNMG 080404-XM KRM120 X-PER	•	•
	WNMG 080408-XM KRM120 X-PER	•	•

• available from stock, ○ available upon request

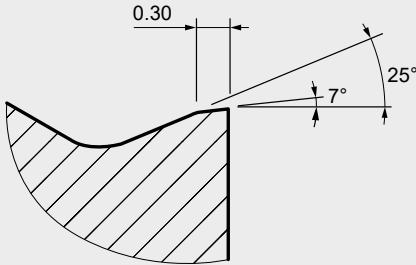
XM Chipbreaker

Sharp positive cutting edges:

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



Example: CNMG 120408 XM



Cutting data

General cutting parameters depending on the application

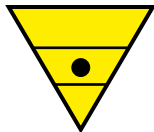
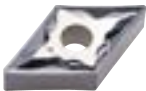
Work piece material	Type of treatment / alloy	Coated carbide KRM120 X-PER	
		Hardness HB	v _c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	130 – 250
	Low-alloyed steel	250 – 300	60 – 180
	High-alloyed steel	200	80 – 200
	Corrosion-resistant steel	200	100 – 200
M Stainless steel	Ferritic	200	120 – 250
	Austenitic	180	120 – 220
	Duplex	230 – 260	–
	Martensitic	330	–

Application	Depth of cut / feed rate	
	a _p [mm]	f [mm]
Chip groove		
XM	1.00 to 4.20	0.40 to 0.22

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	○	X

Available range



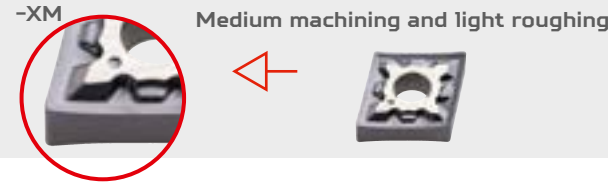
Insert	Designation	Chipbreaker	Available
	CNMG 120404-XM KRM120 X-PER	...-XM	•
	CNMG 120408-XM KRM120 X-PER		•
	DNMG 150604-XM KRM120 X-PER		•
	DNMG 150608-XM KRM120 X-PER		•
	WNMG 080404-XM KRM120 X-PER		•
	WNMG 080408-XM KRM120 X-PER		•

• available from stock, ○ available upon request

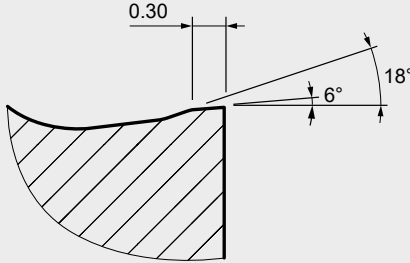
XR Chipbreaker

Sharp positive cutting edges:

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



Example: CNMG 120408 XR



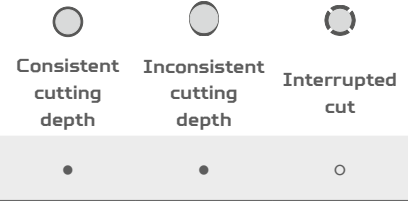
Cutting data

General cutting parameters depending on the application

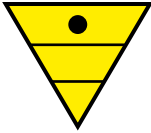
Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			KRM225	KRM235
P	Non-alloyed steel 0 – 0.45% C	150 – 250	130 – 250	170 – 190
	Low-alloyed steel	250 – 300	60 – 180	90 – 150
	High-alloyed steel	200	80 – 200	120 – 200
	Corrosion-resistant steel	200	100 – 200	140 – 180
M	Ferritic	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	
	a _p [mm]	f [mm]
Chip groove XR	1.50 to 6.00	0.50 to 0.25

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



Available range

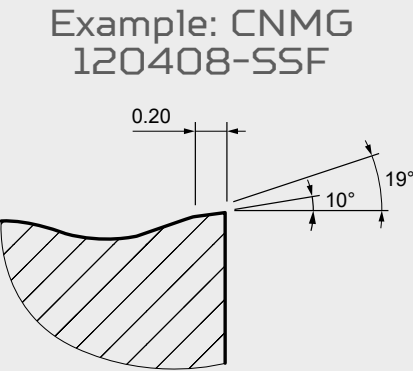


Turning stainless steel neg roughing "M25"

Insert	Designation	Chipbreaker	Available
	CNMG 120408-XR KRM225	...-XR	•
	CNMG 120412-XR KRM225		•
	DNMG 150608-XR KRM225		•
	DNMG 150612-XR KRM225		•
	TNMG 160408-XR KRM225		•
	TNMG 160412-XR KRM225		•
	WNMG 080408-XR KRM225		•
	WNMG 080412-XR KRM225		•

• available from stock, ○ available upon request

SSF Chipbreaker



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			KRK120	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

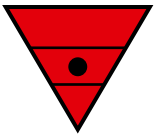
Application Depth of cut / feed rate

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

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	○	X

Available range



Turning cast iron neg "K20"

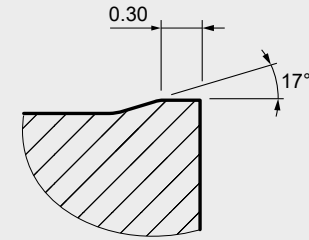
Insert	Designation	Chipbreaker	Available
	CNMG 120408-SSF KRK120	...-SSF	•
	CNMG 120412-SSF KRK120		•
	DNMG 150608-SSF KRK120		•
	DNMG 150612-SSF KRK120		•
	SNMG 120408-SSF KRK120		•
	TNMG 160408-SSF KRK120		•
	TNMG 160412-SSF KRK120		•
	TNMG 220408-SSF KRK120		•
	WNMG 080408-SSF KRK120		•
	WNMG 080412-SSF KRK120		•

• available from stock, ○ available upon request

RG Chipbreaker



Example: CNMG
120408 - RG



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			KRK120	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

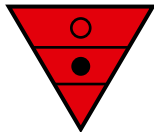
Chip groove	a_p [mm]	f [mm]
RG+	2.00 to 4.80	0.48 to 0.30

Ex: CNM. 120408-RG 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"

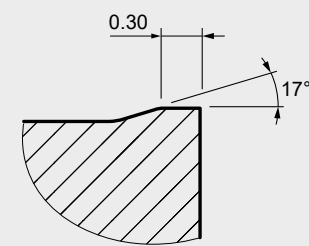
Insert	Designation	Chipbreaker	Available
	CNMG 120408-RG KRK120		•
	CNMG 120412-RG KRK120		•
	CNMG 160612-RG KRK120		•
	DNMG 150608-RG KRK120		•
	SNMG 120408-RG KRK120	...RG	•
	TNMG 160408-RG KRK120		•
	WNMG 080408-RG KRK120		•
	WNMG 080412-RG KRK120		•
	CNMA 120408-EN KRK120		•
	CNMA 120412-EN KRK120		•
	SNMA 120408-EN KRK120		•
	TNMA 160408-EN KRK120	...-EN	•
	WNMA 080408-EN KRK120		•

• available from stock, ○ available upon request

RG Chipbreaker



Example: CNMG
120408-RG



Cutting data

General cutting parameters depending on the application

		Coated carbide	
		KRK110 - RG	
Work piece material	Type of treatment / alloy	Hardness HB	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

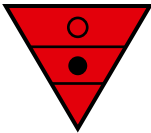
Chip groove	a _p [mm]	f [mm]
909+	2.0 to 4.8	0.48 to 0.30

Ex: CNM. 120408- RG for GC25

Different in each application

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

Available range



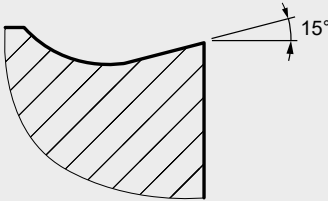
Insert	Designation	Chipbreaker	Available
	CNMG 120408-RG KRK110	... RG	•
	CNMG 120412-RG KRK110		•
	CNMG 160612-RG KRK110		•
	SNMG 120412-RG KRK110		•
	WNMG 080408-RG KRK110		•
	WNMG 080412-RG KRK110		•
	CNMA 120408-EN KRK110	-	•
	WNMA 080412-EN KRK110		•
	SNMG 120412-RG KRK110 X-PER	...RG	•

• available from stock, ○ available upon request

XE Chipbreaker



Example: CNMG 120408-XE



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide KRS210 X-PER	
			v_c [m/min]	
M	Stainless steel	Ferritic	200	150 – 230
		Austenitic	180	140 – 190
		Duplex	230 – 260	60 – 100
		Martensitic	330	–
	Exotic materials	Fe base	200	80 – 120
		Nickel or cobalt base	280	60 – 100
		Nickel or cobalt base	250	35 – 90
		Nickel or cobalt base		30 – 50
		Titanium	Rm 440*	70 – 120

Application Depth of cut / feed rate

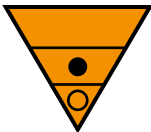
Chip groove	a_p [mm]	f [mm]
XE	0.80 to 3.00	0.30 to 0.10

Ex: CNMG 120408-XE for Super Alliage

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	○	X

Available range



Turning titanium "S10"

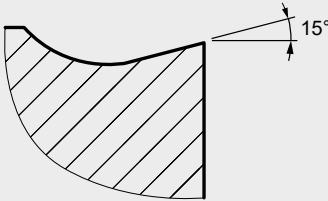
Insert	Designation	Chipbreaker	Available
	CNMG 120404-XE KRS210 X-PER	...-XE	•
	CNMG 120408-XE KRS210 X-PER		•
	DNMG 150608-XE KRS210 X-PER		•
	SNMG 120408-XE KRS210 X-PER		•
	TNMG 160408-XE KRS210 X-PER		•
	VNMG 160408-XE KRS210 X-PER		•
	WNMG 080408-XE KRS210 X-PER		•

• available from stock, ○ available upon request

XE Chipbreaker



Example: CNMG 120408-XE



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide KRS215 X-PER	
			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

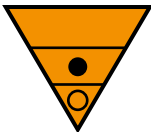
Chip groove	a_p [mm]	f [mm]
XE	0.80 to 3.00	0.30 to 0.10

Ex: CNMG 120408-XE 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-XE KRS215 X-PER	...-XE	•
	CNMG 120408-XE KRS215 X-PER		•
	DNMG 150608-XE KRS215 X-PER		•
	SNMG 120408-XE KRS215 X-PER		•
	TNMG 160408-XE KRS215 X-PER		•
	VNMG 160408-XE KRS215 X-PER		•
	WNMG 080408-XE KRS215 X-PER		•

• available from stock, ○ available upon request

BEYOND THE MACHINING

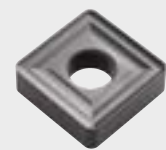
www.karcan.com

**Heavy Duty
Turning**

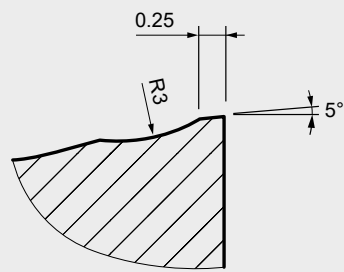
HDT



EN-STC Chipbreaker



Example: SNMM 190616-EN-STC



Cutting data

General cutting parameters depending on the application

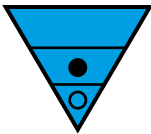
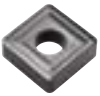
Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide		
				KRP115	KRP125	KRP135
				v _c [m/min]	v _c [m/min]	v _c [m/min]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
		Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
		High-alloyed steel	200	180 – 320	130 – 210	120 – 200
		Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
		Austenitic	180	–	100 – 210	110 – 190
		Duplex	230 – 260	–	–	80 – 150
		Martensitic	330	–	70 – 100	55 – 75
K	Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
		Spheroidal cast iron	160	190 – 430	120 – 240	–
		Malleable/tempered iron	130	180 – 520	150 – 250	–

Application	Depth of cut / feed rate	
Chip groove	a _p [mm]	f [mm]
-EN-STC	2.50 to 10.00	0.60 to 0.30

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Heavy turning steel neg "P25"

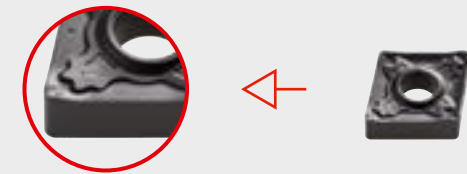
Insert	Designation	Chipbreaker	Available
	SNMM 190616-EN-STC KRP125	...-EN-STC	•
	SNMM 250924-EN-STC KRP125		•

• available from stock, ○ available upon request

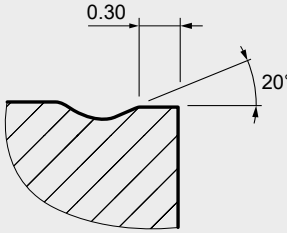
RM chipbreaker

Sharp positive cutting edges:

- Single-sided roughing geometry
- Good chip control
- For steels with high strength (800 N/MM²)



Example: CNMM 120408-RM



Cutting data

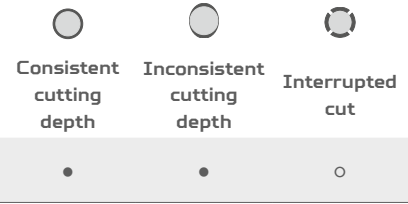
General cutting parameters depending on the application

		Coated carbide			
		Hardness HB	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	170 – 240
		Low-alloyed steel	250 – 300	200 – 320	100 – 190
		High-alloyed steel	200	180 – 320	130 – 210
		Corrosion-resistant steel	200	200 – 320	130 – 210
M	Stainless steel	Ferritic	200	220 – 320	140 – 210
		Austenitic	180	–	100 – 210
		Duplex	230 – 260	–	–
		Martensitic	330	–	70 – 100
K	Cast iron	Grey cast iron	180	140 – 370	130 – 210
		Spheroidal cast iron	160	190 – 430	120 – 240
		Malleable/tempered iron	130	180 – 520	150 – 250

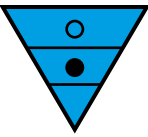
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
RM	1.50 to 12.00	0.50 to 0.90

Ex: CNMM 120408-RM for CK60
Different in each application



Available range



Heavy turning steel neg "P15"

Insert	Designation	Chipbreaker	Available
	CNMM 120408-RM KRP115	...-RM	•
	DNMM 150608-RM KRP115		•

Heavy turning steel neg "P25"

Insert	Designation	Chipbreaker	Available
	CNMM 120408-RM KRP125	...-RM	•
	CNMM 120412-RM KRP125		•
	DNMM 150608-RM KRP125		•

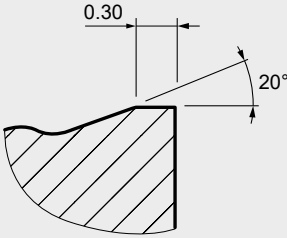
Heavy turning steel neg "P35"

Insert	Designation	Chipbreaker	Available
	CNMM 120408-RM KRP135	...-RM	•
	DNMM 150608-RM KRP135		•

• available from stock, ○ available upon request

EN-RX Chipbreaker

Example: CNMM 190616-EN-RX



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide		
			KRP115	KRP125	KRP135
			v_c [m/min]	v_c [m/min]	v_c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Ferritic	200	220 – 320	140 – 210	140 – 200
	Austenitic	180	–	100 – 210	110 – 190
	Duplex	230 – 260	–	–	80 – 150
	Martensitic	330	–	70 – 100	55 – 75
K	Grey cast iron	180	140 – 370	130 – 210	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–

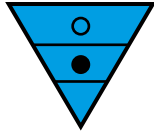
Application Depth of cut / feed rate

Chip groove	a_p [mm]	f [mm]
-EN-RX	2.00 to 12.00	0.80 to 0.30

Ex: CNMM 190616-EN-RX for CK60
Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Heavy turning steel neg "P15"

Insert	Designation	Chipbreaker	Available
	CNMM 120412-RX KRP115	...-RX	•
	CNMM 160612-RX KRP115		
	CNMM 190612-RX KRP115		
	DNMM 150612-RX KRP115		•

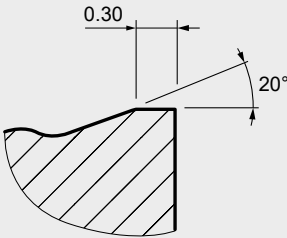
Heavy turning steel neg "P25"

Insert	Designation	Chipbreaker	Available
	CNMM 120412-EN-RX KRP125	...-EN-RX	•
	CNMM 120416-EN-RX KRP125		•
	CNMM 160612-EN-RX KRP125		•
	CNMM 190612-EN-RX KRP125		•
	CNMM 190616-EN-RX KRP125		•
	CNMM 250724-EN-RX KRP125		•
	CNMM 250924-EN-RX KRP125		•
	DNMM 150612-EN-RX KRP125		•
	SNMM 190612-EN-RX KRP125		•
	SNMM 190616-EN-RX KRP125		•
	SNMM 250724-EN-RX KRP125		•
	SNMM 250924-EN-RX KRP125		•

• available from stock, ○ available upon request

EN-RX Chipbreaker

Example: CNMM 190616EN-RX



Cutting data

General cutting parameters depending on the application

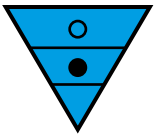
Work piece material Type of treatment / alloy			Coated carbide			
			Hardness HB	KRP115	KRP125	KRP135
				v _c [m/min]	v _c [m/min]	v _c [m/min]
P	Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 190
		Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
		High-alloyed steel	200	180 – 320	130 – 210	120 – 200
		Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
		Austenitic	180	–	100 – 210	110 – 190
		Duplex	230 – 260	–	–	80 – 150
		Martensitic	330	–	70 – 100	55 – 75
K	Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
		Spheroidal cast iron	160	190 – 430	120 – 240	–
		Malleable/tempered iron	130	180 – 520	150 – 250	–

Application	Depth of cut / feed rate	
Chip groove	a_p [mm]	f [mm]
RX	2.00 to 12.00	0.80 to 0.30

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	○

Available range



Heavy turning steel neg "P35"

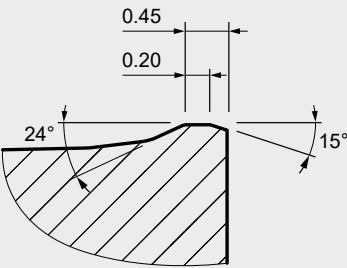
Insert	Designation		Chipbreaker	Available
	CNMM 120412-RX	KRP135	...-RX	•
	CNMM 120416-RX	KRP135		•
	CNMM 160612-RX	KRP135		•
	DNMM 150612-RX	KRP135		•

• available from stock, ○ available upon request

SN-RV Chipbreaker



Example: CNMM 190616-SN-RV



Cutting data

General cutting parameters depending on the application

Work piece material		Type of treatment / alloy	Hardness HB	Coated carbide		
				KRP115	KRP125	KRP135
				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	170 – 240	170 – 190
		Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 150
		High-alloyed steel	200	180 – 320	130 – 210	120 – 200
		Corrosion-resistant steel	200	200 – 320	130 – 210	140 – 180
M	Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 200
		Austenitic	180	–	100 – 210	110 – 190
		Duplex	230 – 260	–	–	80 – 150
		Martensitic	330	–	70 – 100	55 – 75
K	Cast iron	Grey cast iron	180	140 – 370	130 – 210	–
		Spheroidal cast iron	160	190 – 430	120 – 240	–
		Malleable/tempered iron	130	180 – 520	150 – 250	–

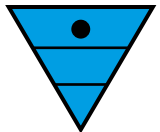
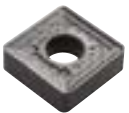
Application Depth of cut / feed rate

Chip groove	a _p [mm]	f [mm]
-SN-RV	2.50 to 12.00	1.20 to 0.35

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

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	•	•

Available range



Heavy turning steel neg "P25"

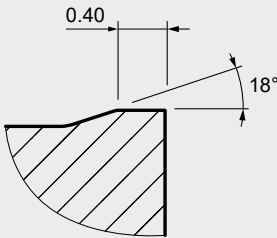
Insert	Designation	Chipbreaker	Available
	CNMM 190616-SN-RV KRP125	...-SN-RV	•
	CNMM 190624-SN-RV KRP125		•
	CNMM 250924-SN-RV KRP125		•
	CNMM 250932-SN-RV KRP125		•
	SNMM 190616-SN-RV KRP125		•
	SNMM 190624-SN-RV KRP125		•
	SNMM 250924-SN-RV KRP125		•
	SNMM 250932-SN-RV KRP125		•

• available from stock, ○ available upon request

RG Chipbreaker



Example: CNMG
160612 - RG



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	KRP125	KRP135
			v_c [m/min]	v_c [m/min]
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	100 – 190	90 – 150
	High-alloyed steel	200	130 – 210	120 – 200
	Corrosion-resistant steel	200	130 – 210	140 – 180
M Stainless steel	Ferritic	200	140 – 210	140 – 200
	Austenitic	180	100 – 210	110 – 190
	Duplex	230 – 260	–	80 – 150
	Martensitic	330	70 – 100	55 – 75
K Cast iron	Grey cast iron	180	130 – 210	–
	Spheroidal cast iron	160	120 – 240	–
	Malleable/tempered iron	130	150 – 250	–

Application Depth of cut / feed rate

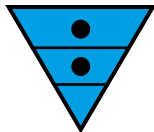
Chip groove	a_p [mm]	f [mm]
RG	3.20 to 7.60	1.00 to 0.60

Ex: CNMG 190616- RG for CK60

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	○	X

Available range



Medium and roughing turning steel

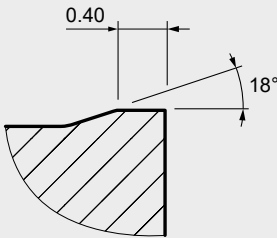
Insert	Designation	Chipbreaker	Available
	CNMG 160612- RG KRP125		•
	CNMG 190612- RG KRP125		•
	CNMG 190616- RG KRP125		•
	SNMG 150612- RG KRP125	...-909+	•
	SNMG 190612- RG KRP125		•
	TNMG 220412- RG KRP125		•
	RCMT 1606MOSN-SMR KRP125	...-SMR	•
	RCMT 2006MOSN-SMR KRP125		•

• available from stock, ○ available upon request

RG Chipbreaker



Example: CNMG
160612- RG



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	KRP125	KRP135
			v_c [m/min]	v_c [m/min]
P	Non-alloyed steel 0 – 0.45% C	150 – 250	170 – 240	170 – 190
	Low-alloyed steel	250 – 300	100 – 190	90 – 150
	High-alloyed steel	200	130 – 210	120 – 200
	Corrosion-resistant steel	200	130 – 210	140 – 180
M	Ferritic	200	140 – 210	140 – 200
	Austenitic	180	100 – 210	110 – 190
	Duplex	230 – 260	–	80 – 150
	Martensitic	330	70 – 100	55 – 75
K	Grey cast iron	180	130 – 210	–
	Spheroidal cast iron	160	120 – 240	–
	Malleable/tempered iron	130	150 – 250	–

Application Depth of cut / feed rate

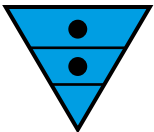
Chip groove	a_p [mm]	f [mm]
RG	3.20 to 7.60	1.00 to 0.60

Ex: CNMM 190616 - RG + for CK60

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	○	X

Available range



Medium and roughing turning steel

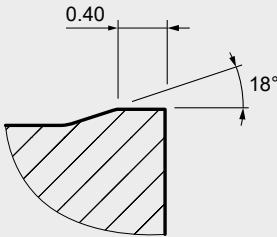
Insert	Designation	Chipbreaker	Available
	CNMG 160608 - RG KRP135	...-909+	•
	CNMG 160612 - RG KRP135		•
	CNMG 190612 - RG KRP135		•
	CNMG 190616 - RG KRP135		•
	SNMG 150612 - RG KRP135		•
	SNMG 190612 - RG KRP135		•
	RCMT 1606MOSN-SMR KRP135	...-SMR	•
	RCMT 2006MOSN-SMR KRP135		•

• available from stock, ○ available upon request

RG Chipbreaker



Example: CNMG
160612 - RG



Cutting data

General cutting parameters depending on the application

Work piece material	Type of treatment / alloy	Hardness HB	Coated carbide	
			KRK120	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

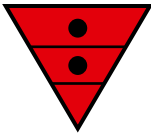
Application	Depth of cut / feed rate	
	a_p [mm]	f [mm]
Chip groove		
RG	3.20 to 5.60	0.60 to 0.38

Ex: CNMG 160612 - RG for GC25

Different in each application

Consistent cutting depth	Inconsistent cutting depth	Interrupted cut
•	o	X

Available range



Turning cast iron neg "K20"

Insert	Designation	Chipbreaker	Available
	CNMG 160608 - RG KRK120		•
	CNMG 160612 - RG KRK120	...-909+	•
	CNMG 190612 - RG KRK120		•

• available from stock, o available upon request

BEYOND THE MACHINING

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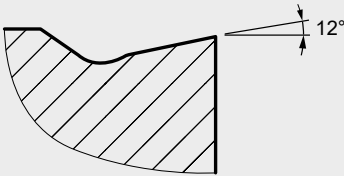
Various



ER-CBK Chipbreaker



Example: KNUX
160405ER-CBK
160405EL-CBK



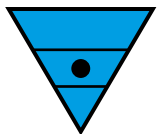
Cutting data

General cutting parameters depending on the application

		Hardness HB	Coated carbide			
			KRP115 V _c [m/min]	KRP125 V _c [m/min]	KNA002 V _c [m/min]	KNA004 V _c [m/min]
Work piece material	Type of treatment / alloy					
P Steel	Non-alloyed steel 0 – 0.45% C	150 – 250	220 – 400	170 – 240	170 – 200	170 – 190
	Low-alloyed steel	250 – 300	200 – 320	100 – 190	90 – 160	90 – 150
	High-alloyed steel	200	180 – 320	130 – 210	130 – 170	120 – 200
	Corrosion-resistant steel	200	200 – 320	130 – 210	130 – 180	140 – 180
M Stainless steel	Ferritic	200	220 – 320	140 – 210	140 – 180	140 – 200
	Austenitic	180	–	100 – 210	100 – 170	110 – 190
	Duplex	230 – 260	–	–	–	80 – 150
	Martensitic	330	–	70 – 100	–	55 – 75
K Cast iron	Grey cast iron	180	140 – 370	130 – 210	–	–
	Spheroidal cast iron	160	190 – 430	120 – 240	–	–
	Malleable/tempered iron	130	180 – 520	150 – 250	–	–

Consistent cutting depth	Incon- sistent cutting depth	Interrupted cut
●	○	X

Available range



Turning steel neg medium "P25"

Insert	Designation	Chipbreaker	Available
	KNUX 160405-EL-CBK KRP125	...-CBK	●
	KNUX 160405-ER-CBK KRP125		●
	KNUX 160410-EL-CBK KRP125		●
	KNUX 160410-EL-CBK KRP125		●
	KNUX 160405-ER-CBK KNA002		●
	KNUX 160405-EL-CBK KNA002		●
	KNUX 160405-ER-CBK KNA004		●
	KNUX 160405-EL-CBK KNA004		●

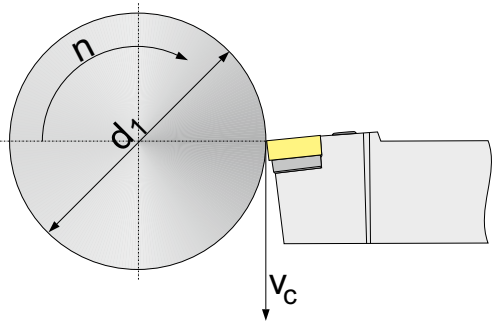
● available from stock, ○ available upon request

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**Technical
Information**



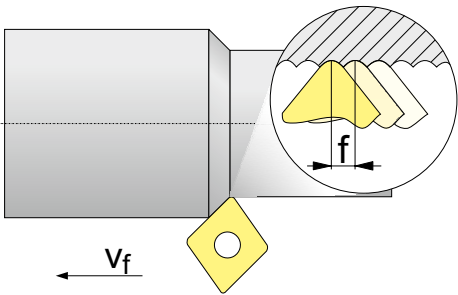


Cutting speed [v_c]

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

Revolutions per minute [n]

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



Feed rate [v_f]

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

Type of problem

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

↗ 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.

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.

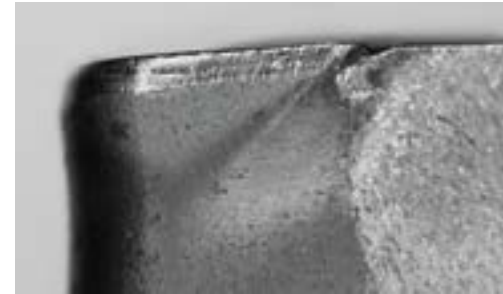
Cratering

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.

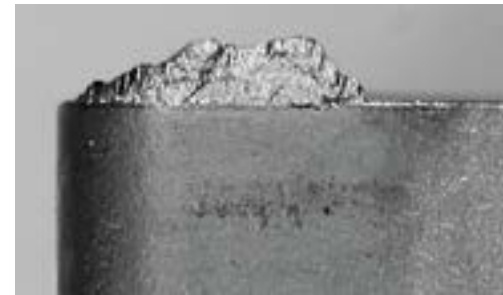
Plastic deformation

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.

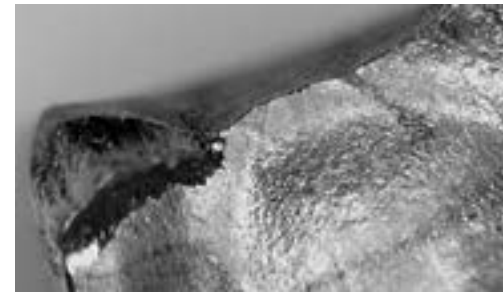
Built-up edge

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

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						
KRM120 X-PER	HC-M20	–	C												•											
	HC-P25	–	C												○											
KRM225	HC-M25	–	P												•											
	HC-P35	C7	P												•											
	HC-S25	–	P																○							
KRW220	HC-M20	C3	P												•											
	HC-K20	C2	P														○									
KRM235	HC-M35	C5	P												•											
	HC-P35	–	P												○											
KRS215	HC-M15	–	P												•											
	HC-S15	–	P																○							
KRK110 X-PER	HC-K10	–	C														•									
	HC-P05	–	C												○											
KRK120	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						
KRN015	HW-N15	C3	W														•									
	HW-K15	C3	W														•									
KRS210 X-PER	HC-S15	–	P																•							
	HC-M15	–	P														○									
KRS215 X-PER	HC-S15	–	P																•							
	HC-M15	–	P														○									

- Main application
- Extended application

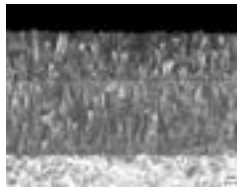
KRC010



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

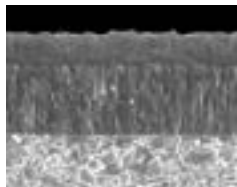
KRP115



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

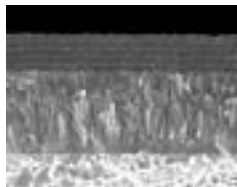
KRP125



Specification:
Composition: Co 7.0%; mixed carbides 8.0%; WC balance | Grain size: 1 - 2 µm | Hardness: HV₃₀ 1450 | Coating specification: CVD TiCN-Al₂O₃

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

KRP135



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

KRW220



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

KRM225



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

KRM235



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

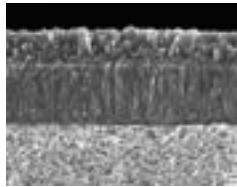
KRS215



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

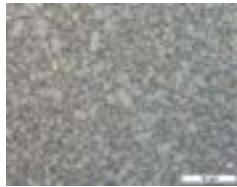
KRK120



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

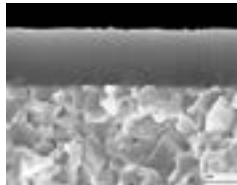
KRN015



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

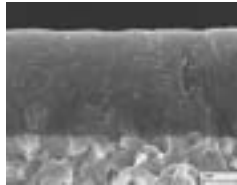
KRS210 X-PER



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

Recommended application:
The alternative when machining heat-resistant materials

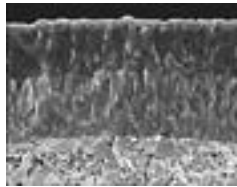
KRS215 X-PER



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

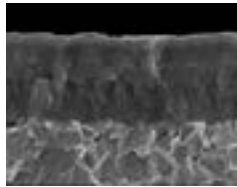
KRP125 X-PER



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

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

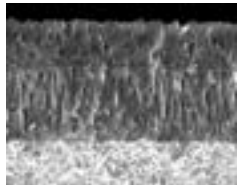
KRM120 X-PER



Specification:
Composition: Co 7.6%; mixed carbides 7.0%; others 0.4%; WC balance | Grain size: 1-2µm | 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.

KRK110 X-PER



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

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