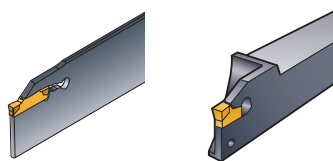


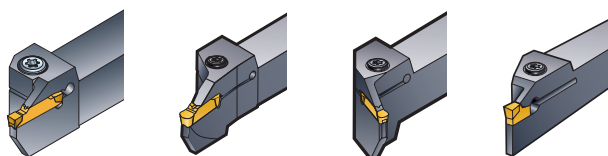
## CoroCut family toolholders

There is a wide range of tool holders in the CoroCut family, both Coromant Capto cutting units and conventional shank holders, and blades for parting. One advantage with the CoroCut family system is the good accessibility. In many cases one CoroCut holder can replace two or more conventional turning holders thus increasing the productivity.

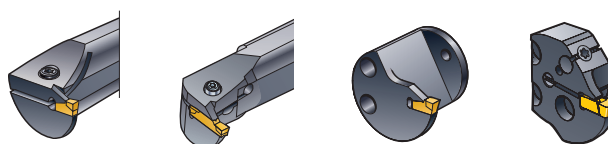
The insert seat size of the holder should correspond with the seat size on the insert; every holder can take all the different insert geometries available.



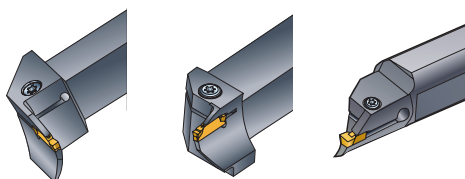
Spring clamp blades and shank for parting



0°, 7°, 45° and 70° shank style screw clamp holders for different applications



Bars and cutting head for internal applications

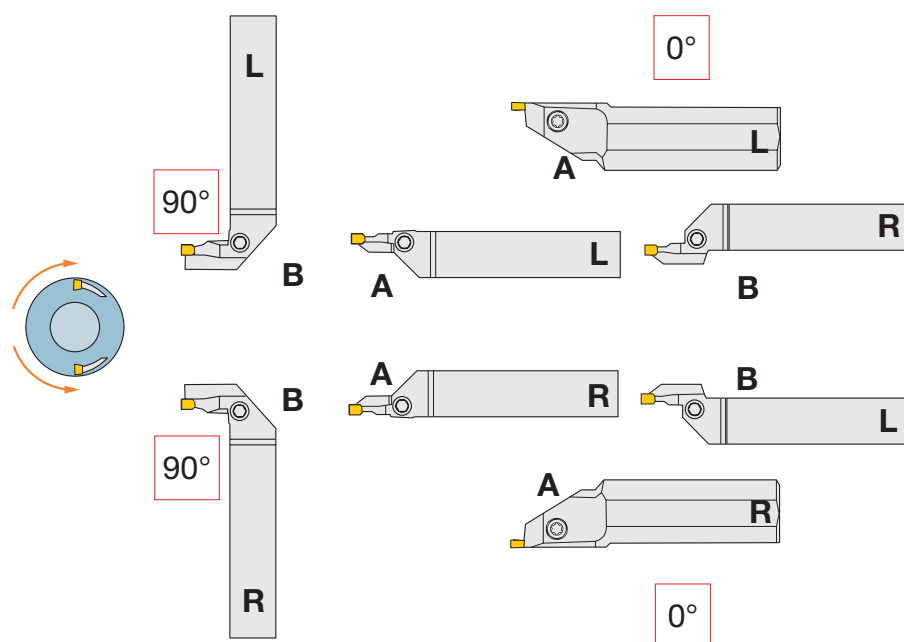


0° and 90° screw clamp holders and 0° bars for face grooving

### Choosing the right holder for face grooving

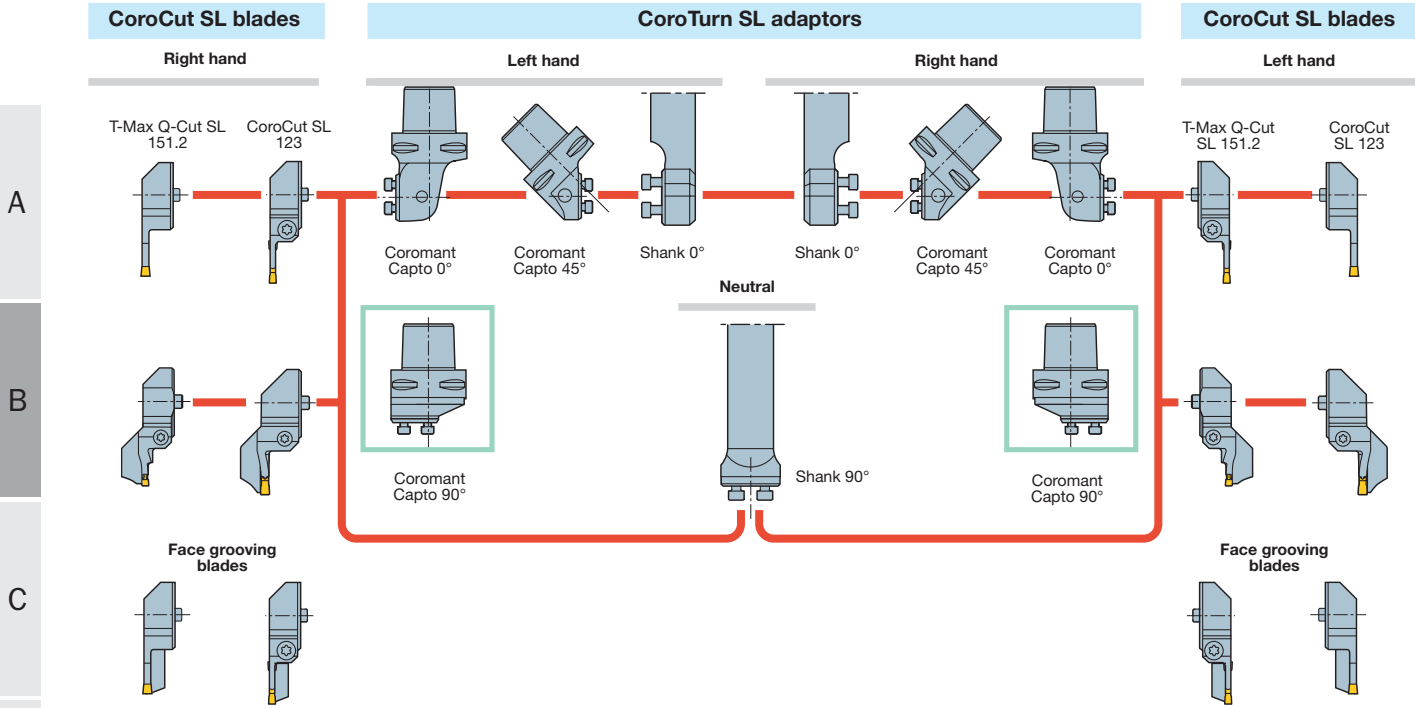
The adjoining diagram indicates the right type of tool for different face grooving applications.

CoroCut and Q-Cut external holders for face grooving are available in B-curved design as stocked item. A-curved design can be ordered as Tailor Made.

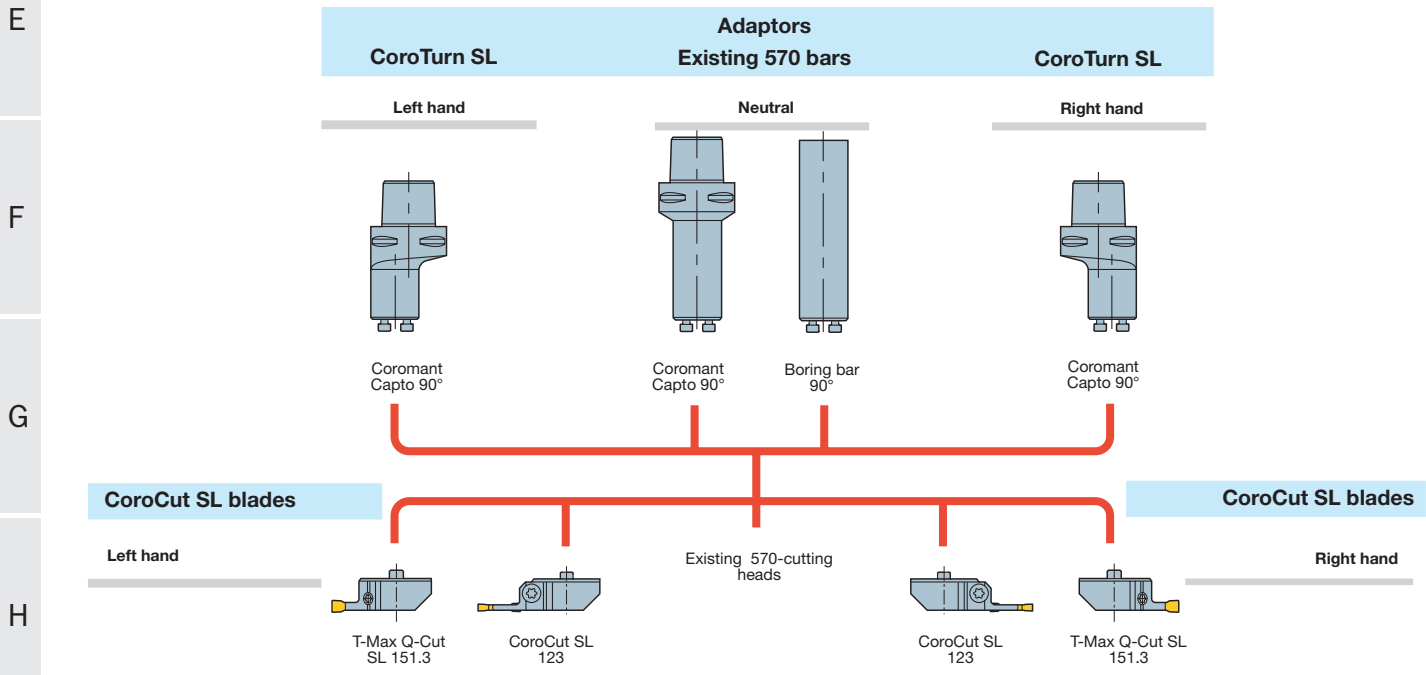


R = right hand holder  
L = left hand holder  
A = A-curved  
B = B-curved

# CoroCut SL - external machining



# CoroCut SL - internal machining



## Recommendations when choosing CoroCut SL cutting blades

CoroCut SL cutting blades with a screw clamp design, should be the first choice for all types of grooving and parting operations. By using CoroCut 1-2 edge solution there is access to insert geometries and grades for all types of operations and work piece materials.






T-Max Q-Cut –SL 151.2 system with a spring clamp design, is a good choice for deep grooving and parting operations.

T-Max Q-Cut –SL 151.3 system with its new screw clamp design is an option for internal operations especially in small bores.

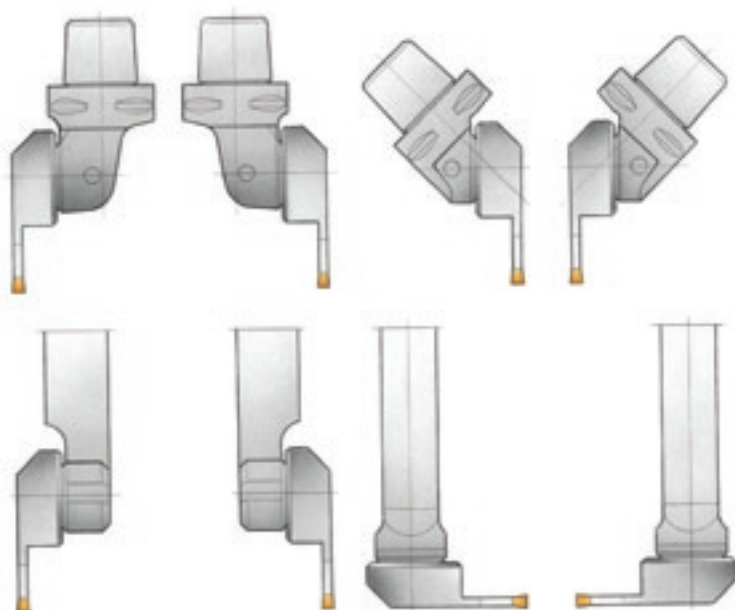
Combination of Cutting blade and Adaptor:

Combination	Adaptor	Blade
R	570-25R..	C?-570-25-LF
R	570-32R..	C?-570-32-LF
R	570-40R..	C?-570-40-LF
L	570-25L..	C?-570-25-RF
L	570-32L..	C?-570-32-RF
L	570-40L..	C?-570-40-RF
L	570-25L..	C?-570-25-LX-045
L	570-32L..	C?-570-32-LX-045
R	570-25R..	C?-570-25-RX-045
R	570-32R..	C?-570-32-RX-045

Recommended tool = ●●  
 Alternative tool = ●  
 Not recommended = -

Clamping system	Parting, grooving, profiling, turning			Face grooving	
	CoroCut -SL 123	Q-Cut -SL 151.2	Q-Cut -SL 151.3	CoroCut -SL 123	Q-Cut -SL 151.3
					
	Screw clamp	Spring clamp	Screw clamp	Screw clamp	Screw clamp
Coupling diameter, mm	25. 32. 40	25. 32. 40	25. 32. 40	32	32
Max. ar, mm	12 – 23	20 – 35	6 – 13	12 – 18	8.7 – 10.7
Insert width, mm	1.5 – 7.14	2.0 – 8.0	2.0 – 8.0	2.5 – 6.0	2.5 – 5.0
Min. internal diameter, mm	115 – 175	-	35.8 – 51.6	40 – 400 <sup>1)</sup>	24 – 70 <sup>1)</sup>
Parting					
Normal	●●	●	-	-	-
Deep	●	●●	-	-	-
Grooving	●●	●	-	-	-
Profiling	●●	-	-	-	-
Turning	●●	-	-	-	-
Face grooving	-	-	-	●●	●●
Internal Grooving Profiling	●	-	●●	-	-

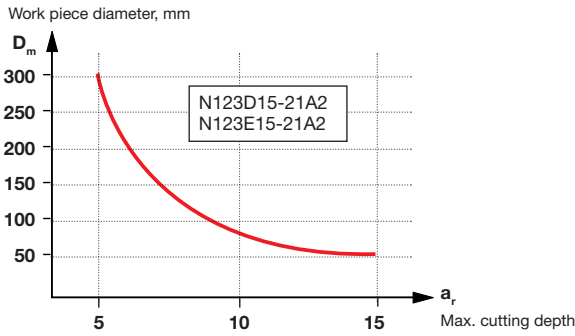
1) First cut diameter- min. – max.



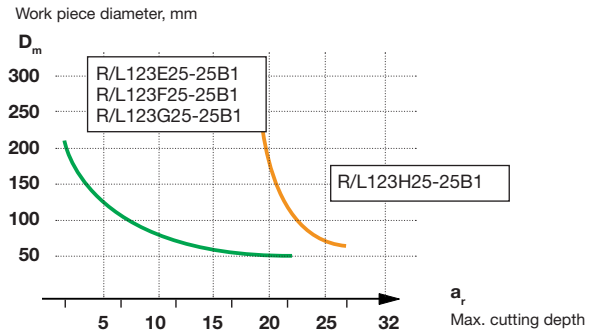
# Cutting depth limitation for re-inforced CoroCut blades

Due to re-inforcement of the blade the max. cutting depth is dependent on the work piece diameter. See adjoining diagram.

## Spring clamp blades



## Screw clamp blades



## Shallow grooving holder for face grooving

Holder seat size	Insert seat size	First cut diameter, mm	Max cutting depth, mm	First cut diameters 123 -GM, -TF, -CM -RM, -TM
		Min - Max		
G	E	100 - ∞	3.5	
	F	83 - ∞	3.5	
	G	57 - ∞	3.5	
K	H	46 - ∞	4.5	
	J	46 - ∞	4.5	
	K	46 - ∞	4.5	

## Select correct width, geometry and system for parting of

### Parting of bars


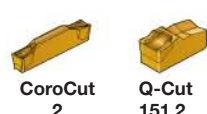
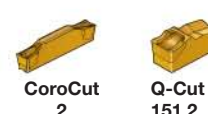
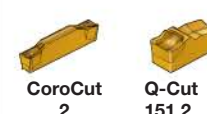
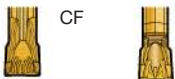




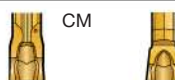
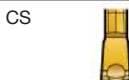
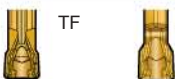









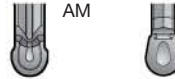



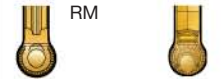




Component dia, mm	Insert width, $l_a$ , mm	Insert geometry	Tool system	Feed start value, mm/r
< 8	1	CM/CS	CoroCut3	0.05
8-12	1.5	CM	CoroCut 2&3	0.07
12-16	2	CM	CoroCut 2	0.08
16-24	2.5	CR	CoroCut 2	0.08
24-32	3	CR	CoroCut 2	0.12
32-40	4	CR	CoroCut 2	0.15
40-48	5	4E	T-Max Q-Cut	0.18
48-56	6	4E	T-Max Q-Cut	0.20

### Parting of tubes

Component wall thickness, mm	Insert width, $l_a$ , mm	Insert geometry	Tool system	Feed start value, mm/r
< 4	1	CM/CS	CoroCut3	0.05
4- 6	1.5	CM	CoroCut 2&3	0.07
6- 8	2	CM	CoroCut 2	0.08
8-12	2.5	CR	CoroCut 2	0.08
12-16	3	CR	CoroCut 2	0.12
16-20	4	CR	CoroCut 2	0.15
20-24	5	4E	T-Max Q-Cut	0.18
24-28	6	4E	T-Max Q-Cut	0.20

# Parting and grooving insert geometries and grades

## Geometries

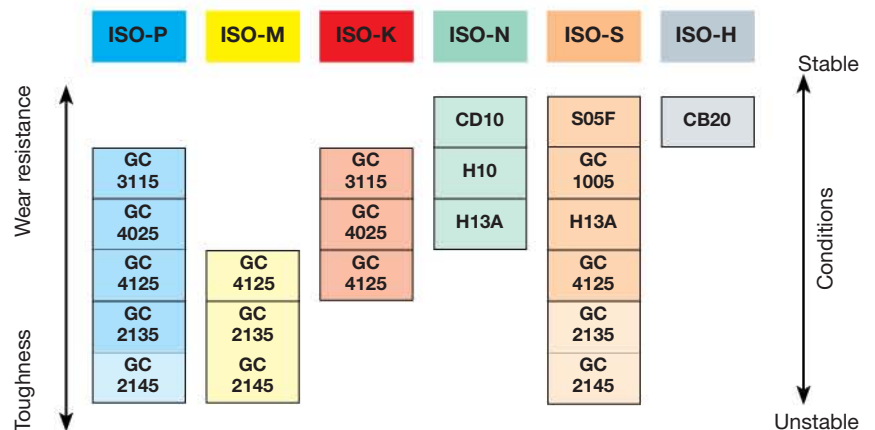
Application	Low feed	Medium feed	High feed	Optimizing
	 CoroCut 2    Q-Cut 151.2    CoroCut 3	 CoroCut 2    Q-Cut 151.2	 CoroCut 2    Q-Cut 151.2	 CoroCut 2    Q-Cut 151.2
Parting bars	 CF    7E	 CM    5E	 CR    4E	 9E    5F
tubes	 CF    7E    CM    CS	 CM    5E		 CS    9E
Turning	 TF    7G	 TM    5T	 4T	
Profiling	 RE    E-P	 RM    5P		 RO    4P
Grooving	 GF    4G    GE    E-G	 GM    5G	 6G	
Al profiling	 RS    F-P	 AM    151.4 AL		
Undercutting		 4U		
Face grooving	 TF    151.3 7G	 CM		 RM    151.3 7P
Internal	 1)    151.3 4G	 1)    151.3 7G	 1)	 1)    151.3 7P

1) Internal machining with CoroCut inserts

## Grades

The CoroCut family has different carbide grades to cover all types of workpiece materials from the very wear resistant grade GC3115 to the toughest grade on the market GC2145. Cubic Boron Nitride and Diamond tipped inserts are also available.

- ISO P = Steel
- ISO M = Stainless steel
- ISO K = Cast iron
- ISO N = Aluminum and non-ferrous materials
- ISO S = Heat resistant super alloys
- ISO H = Hardened materials

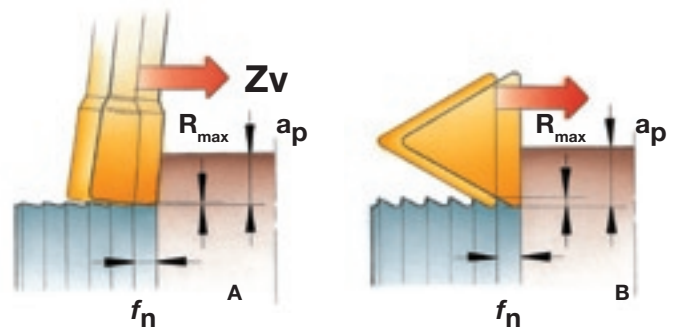


# The Wiper effect with CoroCut

## Surface finish in axial turning

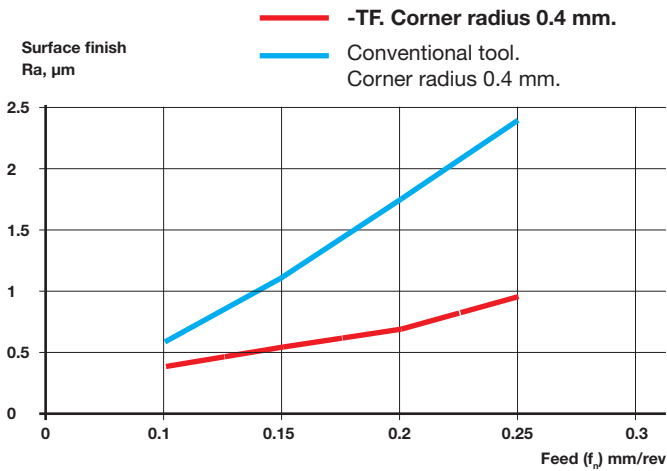
When using geometries -TF or -TM in axial turning operations, the wiper effect will generate much better surface finish (A) compared to conventional tools (B). This wiper effect, generated by tilting the insert, makes it possible to increase the feed, which results in a productivity increase.

Results from surface finish measurements from axial turning in steel with geometries -TF and -TM are shown in the graphs below.



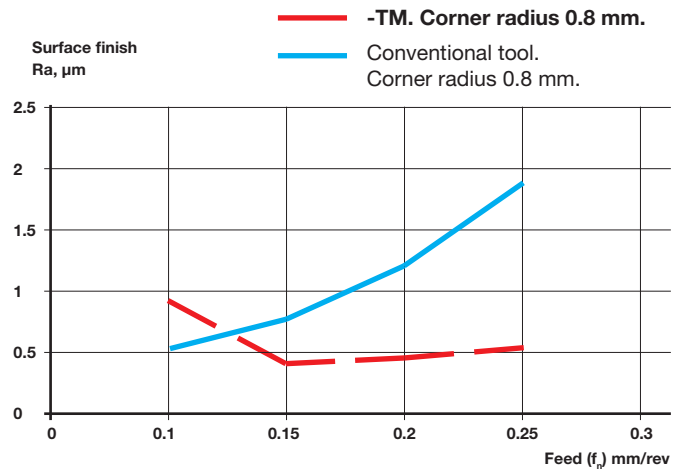
### CoroCut -TF

Cutting depth,  $a_p$ : 1.5 mm  
Material: Steel, CMC 01.2



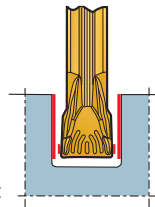
### CoroCut -TM

Cutting depth,  $a_p$ : 1.5 mm  
Material: Steel, CMC 01.2

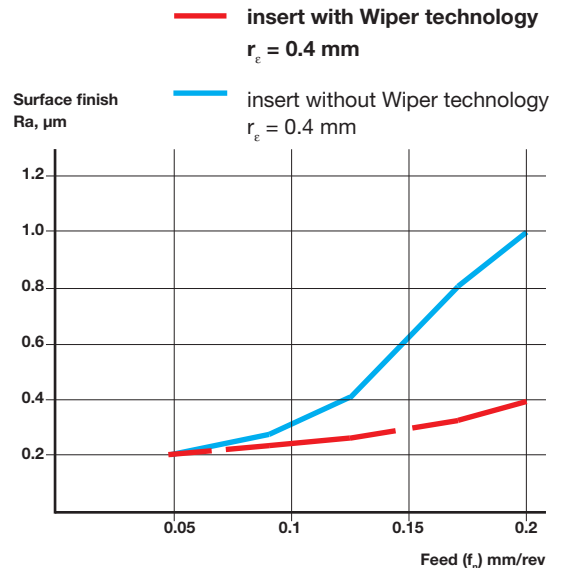


## Surface finish in parting and grooving

The Wiper is designed to work with radial feed (axial feed when facegrooving). The main benefit is much better surface finish on the component (see graph below). The CoroCut 1-2 edge system is a system for high productivity parting and grooving operations. The CoroCut insert geometries -CF and -TF, as well as the T-MAX Q-Cut geometries -7E and -7G, are using the Wiper technology giving much better surface finish in parting and single groove operations.



— = Wiper effect



## Parting and grooving grades

	Security	Productivity
Parting off Bars	2135	4125
	2145	2135
	4125	4025
Tubes	4125	4025
	2135	4125
	4025	3115
Turning	4125	4025
	2135	4125
	4025	3115
	H13A	H10
	H13A	1005
Profiling	4125	4025
	4125	1005
	4125	4025
	H13A	CD10
	1005	S05F
	CB20	
Grooving	4125	4025
	4125	1005
	4125	3115
	H13A	
	4125	1005
	CB20	
Aluminium profiling	H10	CD10
Undercutting	235	H13A
Face grooving	4125	4025
	2135	4125
	4025	3115
	H13A	
	H13A	1005
	CB20	

### Grade GC3115

Based on a hard substrate, MT-CVD coated with TiCN-Al<sub>2</sub>O<sub>3</sub> layer. A high wear resistant grade for grooving and turning applications under stable conditions. Also effective in hard steels. High cutting speeds.

### Grade GC4025 – first choice for cast iron

Based on a hard gradient sintered substrate, MT-CVD coated with TiCN-Al<sub>2</sub>O<sub>3</sub>-TiN layer. An all-round grade for ISO-P and ISO-K with excellent combination of high wear resistance and good edge security. To be used in grooving, turning and parting-off operations under stable conditions. Medium to high cutting speeds.

### Grade GC4125 – first choice for steel

A fine grained substrate, PVD-coated with TiAlN layer. An excellent all-round grade in all ISO-areas. First choice for parting-off tubes, grooving and turning operations and works well in low-carbon and other smearing materials. Low to medium cutting speeds.

### Grade GC2135 – first choice for stainless steel

A MT-CVD-coated grade with TiCN-Al<sub>2</sub>O<sub>3</sub>-TiN layer. A grade for toughness demanding operations such as parting-off to centre and interrupted cuts. Low to medium cutting speeds.

### Grade GC2145

The markets toughest substrate, PVD coated with TiAlN layer. For extremely toughness demanding operations, such as interrupted cuts and parting-off to centre. Low cutting speeds.

### Grade H13A – first choice for non-ferrous materials

Uncoated carbide grade. Good wear resistance and toughness combined with edge sharpness. To be used in non-ferrous and titanium materials.

### Grade H10

Uncoated carbide grade. Good edge sharpness for use in aluminium alloys and Heat Resistant Super Alloys (HRSA).

### Grade GC1005 – first choice for HRSA

A fine grained carbide substrate, PVD coated with TiN-TiAlN layer. A wear resistant grade combined with sharp edges. To be used for finishing with close tolerances in HRSA and stainless steel.

### Grade S05F

MT-CVD-coated TiCN-Al<sub>2</sub>O<sub>3</sub>-TiN layer with a fine grained carbide substrate. For roughing to finishing in HRSA-materials.

### Grade CD10 – first choice for finishing aluminium

A polycrystalline diamond (PCD) grade. An extremely wear resistant grade giving very good surface finish. To be used only for non-ferrous materials.

### Grade CB20 – first choice for hardened materials

A cubic boron nitride (CBN) grade. A wear resistant grade. To be used for machining of hardened materials, with limited feed and depth of cut. Eliminates grinding operations.

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