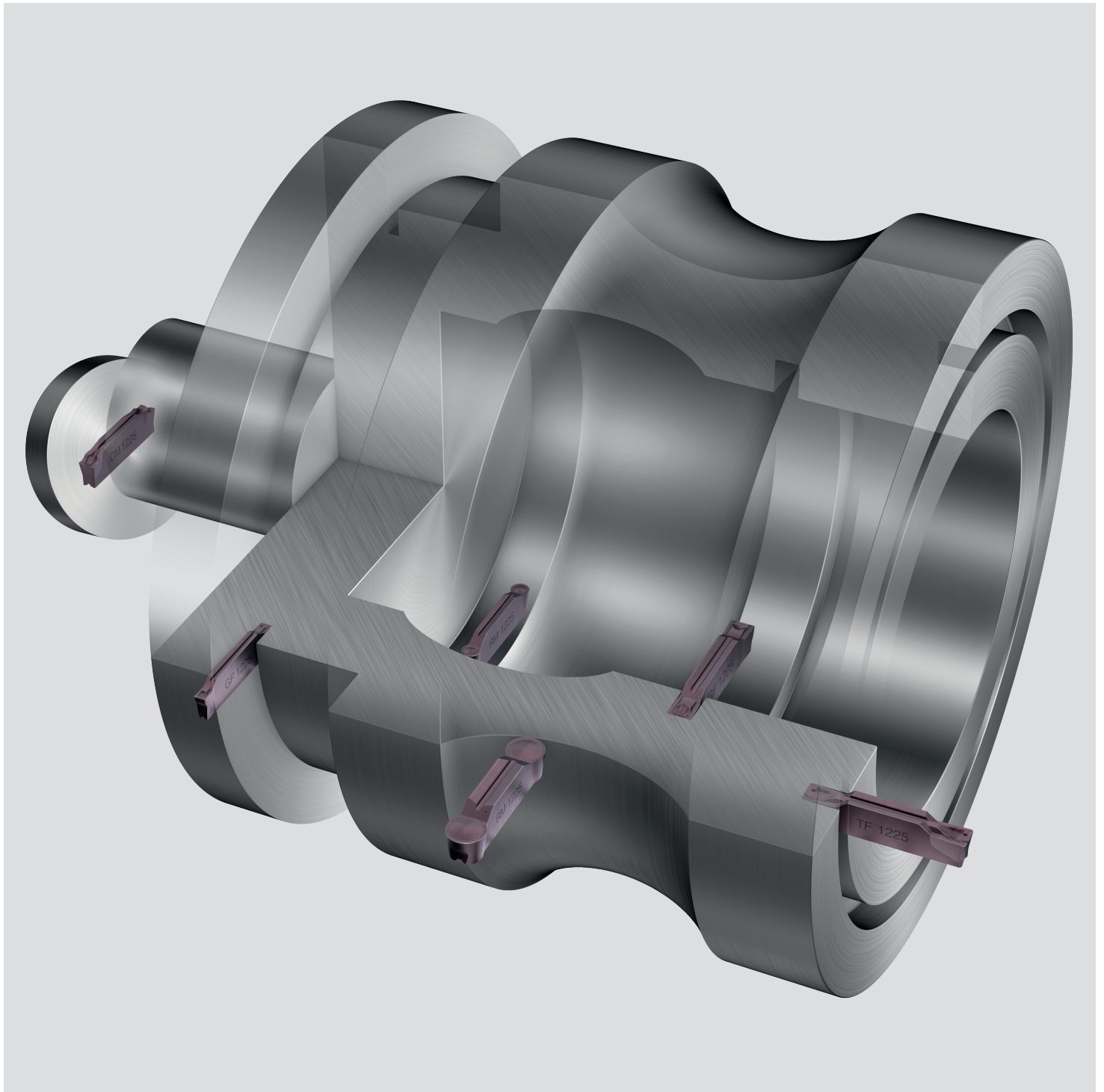


CoroCut® 2

The new versatile go-to



SANDVIK
coromant

Amazingly safe, amazingly versatile

Developed to meet the specific needs of parting and grooving applications, CoroCut® 2 brings a new level of process security and productivity to your machining.

With this versatile tool concept, you'll get the stability you need, while keeping cost per component down and metal cutting efficiency up.

Benefits



Versatility

- Geometries covering all parting and grooving applications
- Grades for a wide range of workpiece materials
- Tool holders available for all common machines

Cost efficiency

- First choice for cost-efficient machining in applications where it is possible to use two-edged inserts
- Two edges provide more tool life per insert compared to one-edged concepts designed for one specific application



Secure and efficient machining

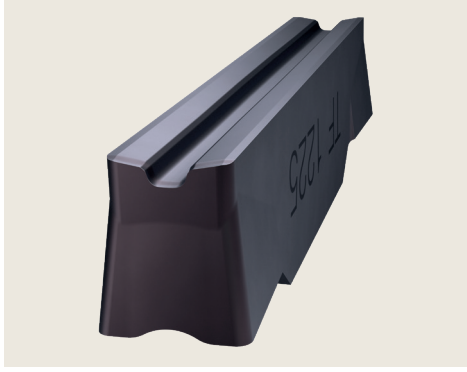
- Process security and productivity are crucial in parting and grooving — the correct set-up and choice of tools prevent problems from arising
- The wide offer of geometries and tools with precision coolant makes it possible to optimize for different machining conditions

Energy and resource efficiency

- Versatile tools with longer tool life enable reduced tool consumption
- The improved technical solution ensures uninterrupted machining, allowing customers to machine faster and improve overall efficiency, which translates to greater energy savings*

*Based on tests in customer environment. In one case, CoroCut® 2 reduced power consumption by 38% and lowered CO₂ emissions by 49% per year.

Key features



Cost efficient inserts

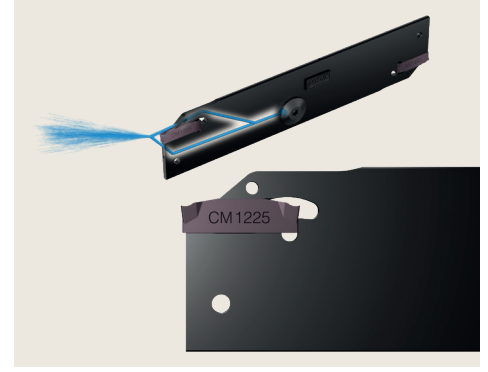
CoroCut® 2 inserts are produced with a unique, in-house developed patented technology, resulting in improved edge line quality for superior tool life. Even the smaller inserts feature a rail interface, which provides a more precise insert position and minimizes insert movement for improved stability. Wiper design on all parting geometries secures an excellent surface finish.

All new CoroCut® 2 inserts are compatible with existing CoroCut® 1-2 tool holders.



High-performance grades

First-choice grade GC1225 provides superior flank wear resistance and edge line toughness and is ideal for all parting, grooving and turning operations in good conditions. Grade GC4425 offers an excellent combination of high wear resistance and good edge security in grooving, turning and parting off operations in stable conditions. Our latest addition, grade GC1205, is developed for machining aged nickel-based HRSA materials and offers good adhesion and flank wear resistance.



Improved clamping design on precision coolant tools

CoroCut® 2 parting blades are upgraded with internal coolant and with an improved clamping finger design, which provides higher clamping force and better side stability.

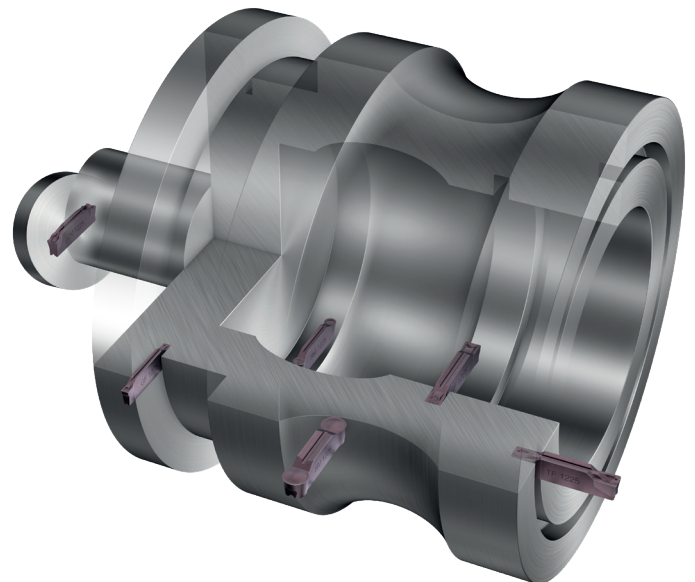
Tool holders with precision coolant are updated with a screw clamp solution. Combined with the new rigid rail insert seat design, insert movement is reduced to a minimum without any clamping force lost.

Application

- Parting off, external grooving, face grooving, internal grooving and profiling
- Roughing to finishing

CoroCut® 2 is a cost-efficient solution for cutting depths where two-edged inserts can be used. CoroCut® QD and CoroCut® QF are the best choices for larger depths of cut and CoroCut® QI is recommended for face and internal grooving in small diameters.

- P** Steel
- M** Stainless steel
- K** Cast iron
- N** Non-ferrous materials
- S** Heat resistant super alloys
- H** Hardened steel



Grades

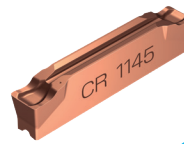
Main grades



GC1225
First choice grade for CoroCut®. For all parting, grooving and turning operations under good conditions. Works well on low carbon and other smearing materials. Medium cutting speeds.



GC1135
For operations demanding toughness, such as parting off to centre and interrupted cuts. Same grade as 2135, renamed to follow CoroCut® QD/QF/QI. Low to medium cutting speeds.



GC1145
For operations demanding extreme toughness such as interrupted cuts and parting off to centre on stainless steel. Low cutting speeds.



GC4425
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.



GC3115
A highly wear-resistant grade for grooving and turning applications under stable conditions. Also effective in hard steels. High cutting speeds.



CT5015
A titanium-based grade with excellent resistance to oxidation and smearing. For high quality surface finishes when grooving low-alloyed steels under fairly good conditions. Moderate cutting speeds and feeds.

ISO S and ISO N grades



GC1205
Grade for machining aged nickel-based HRSA materials. Offers good adhesion and flank wear resistance. The hard substrate and PVD coating allow for a significant increase in cutting speed and tool life.



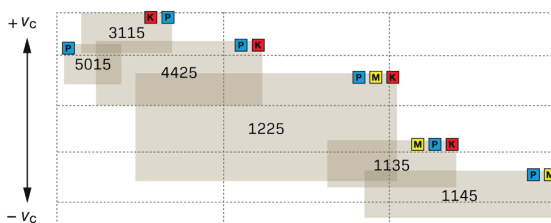
S205
A wear resistant CVD-coated grade for high-speed finishing in the cutting speed range between legacy carbide grades and CBN grades.



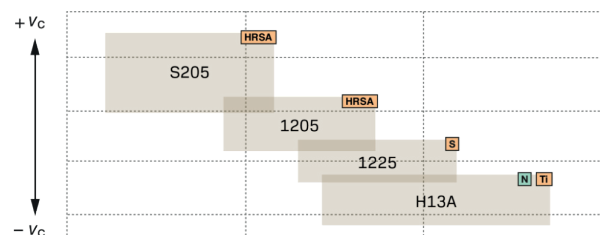
H13A
Good wear resistance and toughness combined with edge sharpness. To be used on non-ferrous and titanium materials.

Machining conditions

Main grades



ISO S and ISO N grades



Insert geometries

Parting and grooving



-CF geometry

Positive parting off geometry that can be used in a wide variety of workpiece materials with low to medium feeds. It features a wiper for high surface quality.



-CM geometry

First choice for parting off to centre in good conditions in most materials and light intermittent applications, such as parting hexagonal bars.



-CR geometry

Productive parting off geometry for a big variety of workpiece materials. Use when a strong edge line is needed, for example for interrupted cuts.



-CS geometry

First choice parting-off geometry for eliminating pip and burrs. Suitable for both bars and tubes, and a wide variety of workpiece materials, mainly ISO P and ISO M.



-CO geometry

Ground parting-off geometry with a sharp edge, optimized for low feeds. Delivers low cutting forces and ensures tight tolerances in work-hardening materials.



-GF geometry

Ground geometry used with low feed for precision grooving. Low cutting forces and good surface finish. Available in many cutting widths and grades.



-GM geometry

Universal grooving geometry for all materials with outstanding chip control. Reduces chip width giving good surfaces.



-GL geometry

Parting and grooving geometry for long chipping materials using low to medium feed. Features the most aggressive chip breaker in the CoroCut® concept.

Profiling and turning



-RF geometry

Finishing geometry for profiling operations with low feeds and small depth of cuts. The perfect choice for finishing of HRSA components.



-RM geometry

Universal profiling geometry with a wide cutting data window. Excellent performance when used in non-linear profiling. Flashlight technology edge line quality allows for -RM in grade S205.



-RO geometry

Ground, high-precision profiling geometry optimized for ISO M and ISO S, where a positive and sharp geometry is needed for high surface quality and tool life.



-TF geometry

The most universal geometry in CoroCut®, possible to use in all application areas. Designed for low feed and good chip control. Good surface finish due to the wiper design.



-TM geometry

Geometry with strong edge and corners for general turning operations in all materials. A positive geometry eliminates the risk of built-up edge.

Assortment

Inserts

| Primary application | Geometry | Insert seat size | | CW | Grade |
|---------------------|----------|------------------|---------------|--------------------------------|--|
| | | V profile | Rail profile | | |
| Grooving | -GF | D | E/F/G/H/J/K/L | 1.5–8 mm (0.059–0.315 inch) | GC1205, GC1225, GC1135, CT5015, H13A |
| | -GM | | E/G/H/J/K/L | 2–8 mm (0.079–0.315 inch) | GC1225, GC1135, GC1145, GC4425, GC3115, H13A |
| | -GL | | E/F/G/H/J/K | 2–6 mm (0.079–0.236) | GC1225, GC1135, GC3115, GC4425 |
| Parting off | -CM | D | E/F/G/H/J | 1.5–5 mm (0.059–0.197 inch) | GC1205, GC1225, GC1135, GC1145, GC4425, GC3115, CT5015 |
| | -CR | | F/G/H/J/K | 2.5–6 mm (0.098–0.236) | GC1225, GC1135, GC1145, GC4425, GC1205, GC3115 |
| | -CF | | F/G/H | 2.5–4 mm (0.098–0.157 inch) | GC1205, GC1225, GC1135, GC1145, GC4425, CT5015 |
| | -CS | D | E/F/G | 1.5–3 mm (0.059–0.118 inch) | GC1225 |
| | -CO | | E/F/G/H | 2–4 (0.079–0.197 inch) | H13A, GC1205, GC1225, GC1135, GC1145 |
| Profiling | -RF | | F/G/H/J/L | 4–8 mm (0.157–0.315 inch) | GC1205, GC1225, GC1135, S205, GC4425, CT5015, H13A |
| | -RM | | F/G/H/J/L | 3–8 mm (0.118–0.315 inch) | GC1205, GC1225, GC1135, S205, GC4425, GC3115, CT5015, H13A |
| | -RO | | E/F/H/J/K/L | 2.0–8 mm (0.079–0.315 inch) | GC1205, GC1225, GC1135, S205, H13A |
| Turning/grooving | -TF | | G/H/J/K/L | 3–8 mm (0.118–0.315 inch) | GC1205, GC1225, GC1135, GC1145, GC4425, GC3115, CT5015, H13A |
| | -TM | | G/H/J/K/L | 3–8 mm (0.118–0.315 inch) | GC1205, GC1225, GC1135, GC1145, GC4425, GC3115, CT5015, H13A |

Tools

| Primary application | Adaptive interface machine direction (ADINTMS) | Interface sizes | Insert seat size (SSC) |
|----------------------|--|--|------------------------|
| Parting and grooving | Coromant Capto® | C3–C8 | D, E, F, G, H, J, K, L |
| | QS™ shank | 20×20, 25×25 mm 3/4×3/4, 1×1 inch | E, F, G, H, J, K, L |
| | QS™ Swiss shank | 12×12, 16×16 mm 5/8×5/8, 1/2×1/2 inch | D, E, F, G |
| | QS™ Micro | 12, 16 | E, F, G |
| | Shank tools | 12×12, 16×16, 20×20, 25×25, 32×32 mm 5/8×5/8, 1/2×1/2, 3/4×3/4, 1×1, 1 1/2×1 1/2 inch | D, E, F, G, H, J, K, L |
| | Swiss shank tools | 10×10, 12×12, 16×16 mm 3/8×3/8, 1/2×1/2, 5/8×5/8 inch | D, E, F, G |
| | Blades for parting | 21, 25 | E, F, G, H, J, K |
| | CoroTurn® SL heads | 25, 32, 40 | D, E, F, G, H, J, K |
| | CoroTurn® SL70 heads | 70 | G, H, K, L |
| Face grooving | Coromant Capto® | C4–C6 | G, H, J, K, L |
| | QS™ shank | 20×20, 25×25 mm 3/4×3/4, 1×1 inch | G, H, J, K, L |
| | Shank tools | 20×20, 25×25, 32×32 mm 3/4×3/4, 1×1, 1 1/2×1 1/2 inch | G, H, J, K, L |
| | CoroTurn® SL heads | 32, 40 | G, H, J, K |
| | CoroTurn® SL70 heads | 70 | (H, K, L) |
| Internal grooving | Boring bars | Ø 16, 20, 25, 32, 40, 50 mm Ø 1/2, 3/4, 1, 1 1/2, 2 inch | (D, E, G, H, J, K) |
| | CoroTurn® SL heads | 32, 40 | F, G, H, J, K |
| | CoroTurn® SL70 heads | 70 | (H, K, L) |
| Profiling | Coromant Capto® | C3–C6 | G, J |
| | Shank tools | 20×20, 25×25, 32×32 mm 3/4×3/4, 1×1, 1 1/4×1 1/4 inch | G, J, L |
| | Boring bars | Ø 40 mm Ø 1 1/2 inch | J, L |
| | QS™ shank | 20×20, 25×25mm | G, J |

Customer case: Increased tool life

Industry segment: Medical
Component: Screw
Material: Stainless steel 40 HRC
Operations: Parting off
Coolant: Mist coolant
Machine: Sliding head (Citizen)

| | Competitor | Sandvik Coromant |
|-------------------------|------------------------------|---------------------------|
| Tool | - | C2R-QS12-RE11AD |
| Insert | - | C2I-E2N-0200-0004-GF 1225 |
| n , rpm | 995 | 1393 |
| v_c , m/min (ft/min) | 25 (82) | 35 (115) |
| f_n , mm/rev (in/rev) | 0.03 (0.001) | 0.08 (0.003) |
| a_p , mm (inch) | 4 (0.157) | 4 (0.157) |
| Cutting time, sec | 2 | 1.08 |
| Reason for tool change | Predetermined wear criterion | |
| Tool life, pcs | 700 | 1500 |

Challenge: Due to the cost of the component, reliability and repeatability were the most important factors to the customer.

Result:

Productivity

+87%

Cost per part

-22%

Sustainability:

Power savings due to higher productivity by

38%

Decrease of CO₂ emissions per year by

49%

Customer case: Improved chip control

Industry segment: Oil and gas
Component: Down hole plunger
Material: P1.1.Z.HT
Operations: Machine 14 grooves on OD
Machine: Mazak Quick Turn Nexus 250

| | Competitor | Sandvik Coromant |
|-------------------------|------------------|------------------------------|
| Tool | - | C2R-QSA16-RH25-CB |
| Insert | - | C2I-H2N-0400-0004-TF 4425 |
| v_c , m/min (ft/min) | 152 (500) | 244 (800) |
| f_n , mm/rev (in/rev) | 0.10 (0.004) | 0.15 (0.006) |
| a_p , mm (inch) | 3.8 (0.150) | 3.8 (0.150) |
| Coolant | External coolant | Through tool, over and under |
| Tool life, pcs | 20 pcs | 38 pcs |

Challenge: Poor chip control causes machine delays and slows down productivity.

Result:

Productivity

+79%

Cost per part

-44%

Sustainability:

Power savings due to higher productivity by

39%

Decrease of CO₂ emissions per year by

44%

Service offer



Tailor Made®

CoroCut® 2 offers customized tools to meet your specific needs. Tailor Made® options are available for external and face grooving tools.



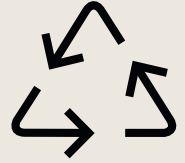
Yellow coat support

Our machining experts support you with tooling, programming and strategic advice throughout the entire process.



CoroPlus® Tool Guide

Discover the digital yellow coat experience with our CoroPlus® Tool Guide platform, meeting all your application needs.



Carbide recycling

We buy back your worn-out carbide tools to make brand new ones, reducing waste and conserving resources through recycling.

Discover more:
sandvik.coromant.com/corocut2



Authorized distributor

