SANDVIK Coromant

CoroTap® 100 and CoroTap® 400

Optimized for aluminium

Secure high-quality aluminium threading

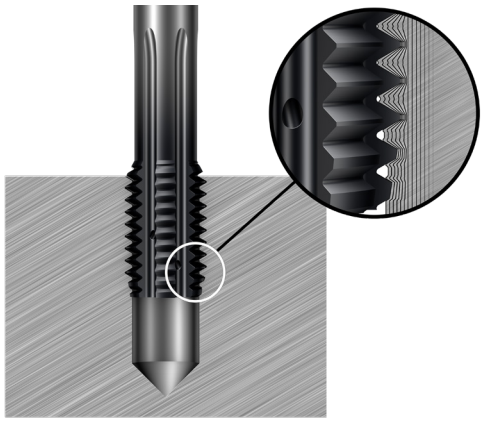
Threading is often the last operation in your component and the key factors for successful machining are process security and predictable tool life.

The next-generation CoroTap® 100 and CoroTap® 400, optimized and developed for aluminium machining, meet these demands and deliver high-quality threads at a low cost per part.

Lower your cost per part

With optimized substrate and coating, these taps are highly specialized for aluminium applications, providing:

- Significantly improved tool life, meaning lower tool consumption and reduced tool inventory
- The ability to use higher cutting speeds
- Increased productivity resulting in lower cost per part
- Improved process security and reliable and consistent tool life for easier cost-per-part analysis



CoroTap® 100

- Straight flute tap
- Cutting tap
- For blind and through holes
- Approved for most industries

CoroTap® 400

- Forming tap
- Chip-free solution
- For blind and through holes
- Stable design = lower risk for breakage

Application

- For blind and through holes in aluminium applications
- Industry segments and components:
  - Automotive: Cylinder block, cylinder head, transmission housing, bed plates
  - E-mobility: Electric motor housing, transmission housing, battery rack
  - General engineering

Features and benefits, CoroTap® 100

- Refined edge rounding helps to remove burrs and improves surface finish
- Optimized geometry resulting in less chip jamming and fewer tool breakages
- A favourable combination of core thickness, rake/relief angles and land width for optimum flute geometry with excellent chip evacuation
- A back chamfer improves the threading capacity in deep holes
- Axial coolant for excellent chip evacuation in blind hole applications

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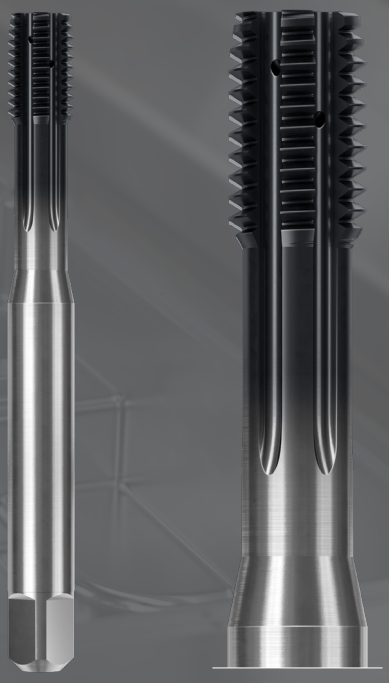
Optimized

Features and benefits, CoroTap® 400

- Optimized lobe shape developed for aluminium machining
- Low friction-coefficient surface treatment for a smooth and polished thread surface finish
- Reduced thread length means less contact with the material, which reduces power consumption and torque
- Staggered coolant holes for excellent coolant flow into the thread-forming zone and a safe forming process



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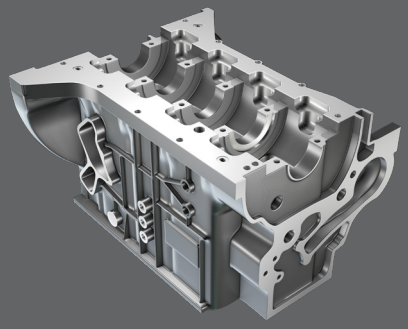
Key components

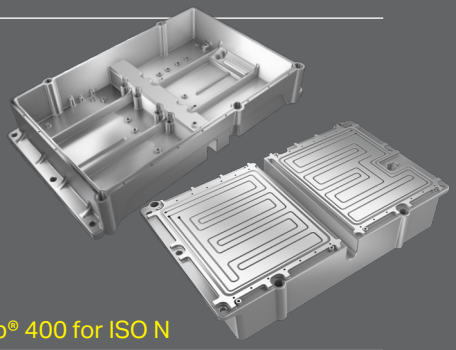


Component: Cylinder block
Workpiece material: Aluminium, N1.3.C.AG (AlSi9Cu(Fe) 9% silicon)
Operation: Tapping
Machine: GROB G500 or G700

	CoroTap® 100 for ISO N	CoroTap® 400 for ISO N
Tool	T100-NM104DA-M8 N1PR (HSS-E-PM)	T400-NM108DA-M8 N1PC (HSS-E-PM)
v_c m/min (ft/min)	45 (148)	50 (164)
Tool life	**20000 holes**	**30000 holes**
Cost per hole	**€ 0.003784**	**€ 0.004292**

A typical aluminium cylinder block can have up to 12 different threads in its structure, and around 12% of the total tools used in the production process are threading tools. Tapping is the most time-consuming process in aluminium cylinder block production. Any increase in productivity and reduction in cost per part will bring benefits.

Low cost per part



Component: Battery rack
Workpiece material: Aluminium, N1.3.C.UT (6000-series Al-Si-Mg-Cu family)
Operation: Tapping
Machine: GROB G500 or G700

	CoroTap® 100 for ISO N	CoroTap® 400 for ISO N
Tool	T100-NM104DA-M8 N1PR (HSS-E-PM)	T400-NM108DA-M8 N1BC (solid carbide)
v_c m/min (ft/min)	45 (148)	60 (197)
Tool life	**20000 holes**	**100000 holes**
Cost per hole	**€ 0.003784**	**€ 0.003863**

Major concerns and requirements when using cutting taps include thread quality, reliability and chip evacuation. CoroTap® 100 and 400 for ISO N ensure the best productivity and tool life, and the robust tap designs meet very strict process security production demands.

Low cost per part

PRIME TOOLING

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