SANDVIK
Coromant

Aerospace frame

Drilling solutions in focus

Composite – Aluminum – Titanium – Stainless steel

Achieving new altitudes

The aerospace industry is constantly progressing. Tolerances are becoming tighter, machining processes are becoming more complex, and new materials are being introduced. These improvements change the way the industry manufactures airplanes and also how they impact the environment. As a result, we continuously improving our cutting tools to meet these needs. These changes are driving down component cycle time and reducing costs per hole.

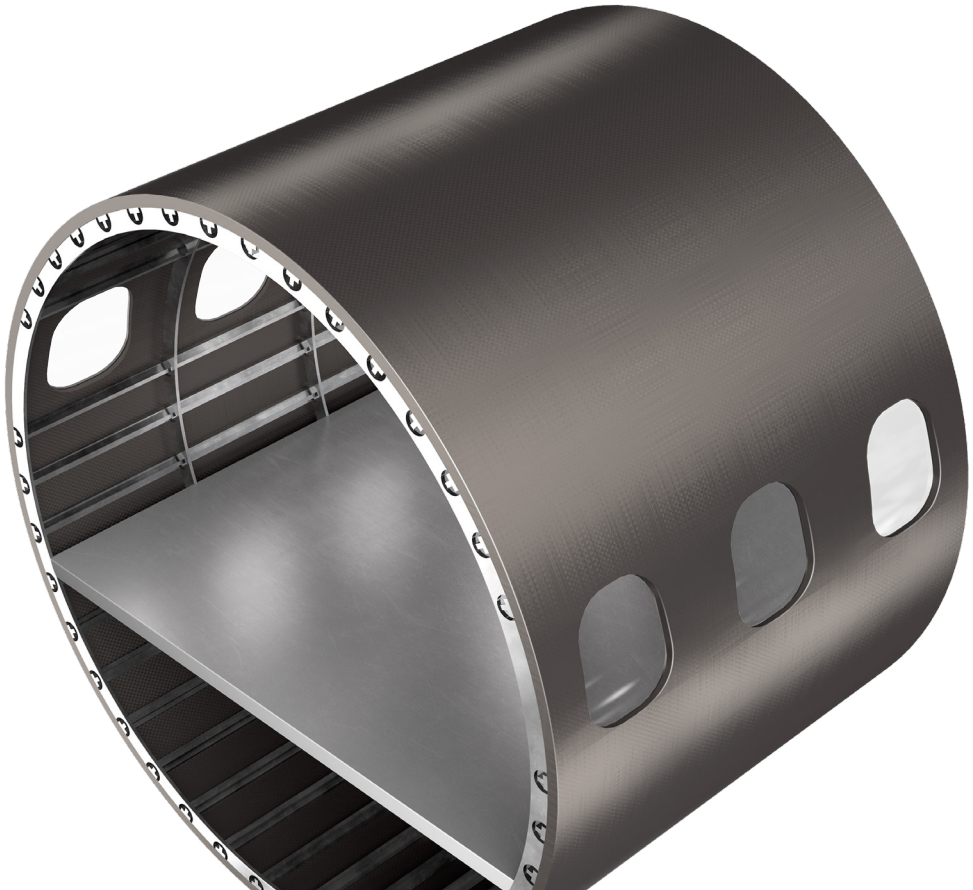
Components that require machining

- Engine case
- Engine nacelle
- Flaps
- Floor beams
- Frames
- Fuselage
- Nose cone
- Stabilizers
- Wing structure

Component in focus: fuselage

Several challenges make the fuselage a complex component to machine. From a manufacturing perspective, the fuselage presents machining problems including limited access, angular and curved entrances, instability, and different material stacks.

With the new CoroDrill® composite range, we make things easy for you.



Get on board

Machining aircraft components can be done efficiently with the CoroDrill 863 and CoroDrill 452 families. These tools are specifically designed for composite and metal-stacked materials. Our high-performance drills were developed to address common holemaking issues such as exit burr, delamination, and bad surface finish. One tool is all that is needed to drill through a variety of stacked materials. Whether it is aluminum, composite, titanium, or stainless steel, these drills do an excellent job.

PRECORP
ENGINEERED CUTTING TOOL SOLUTIONS

CoroDrill® 863

The CoroDrill 863 family is a new group of drills developed to handle drilling operations in composite materials, aluminum, titanium, and stainless steel. These drills are the perfect solution for ADU and CNC machining applications.

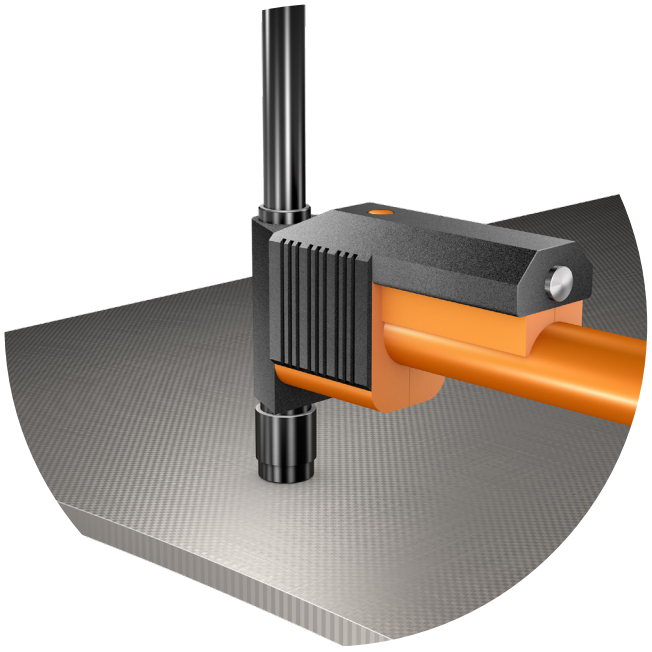
CoroDrill® 452

This hand-drill assortment delivers excellent results when machining rivet and bolt holes. These drills are optimized for composite and metal-stacked materials. They meet strict hole tolerances and provide an exceptional finish.

Introducing the new CoroDrill® 863

Benefits

- Low-thrust geometries reduce hole delamination and exit burr
- Stocked items are perfect for testing capability in specific applications
- Point geometry of CFRP cutters can successfully exit woven and unidirectional CFRP



Application

- CNC and ADU operations
- CVD, PCD, and carbide options available
- Material types: composite, aluminum, titanium, and heat-resistant super alloys

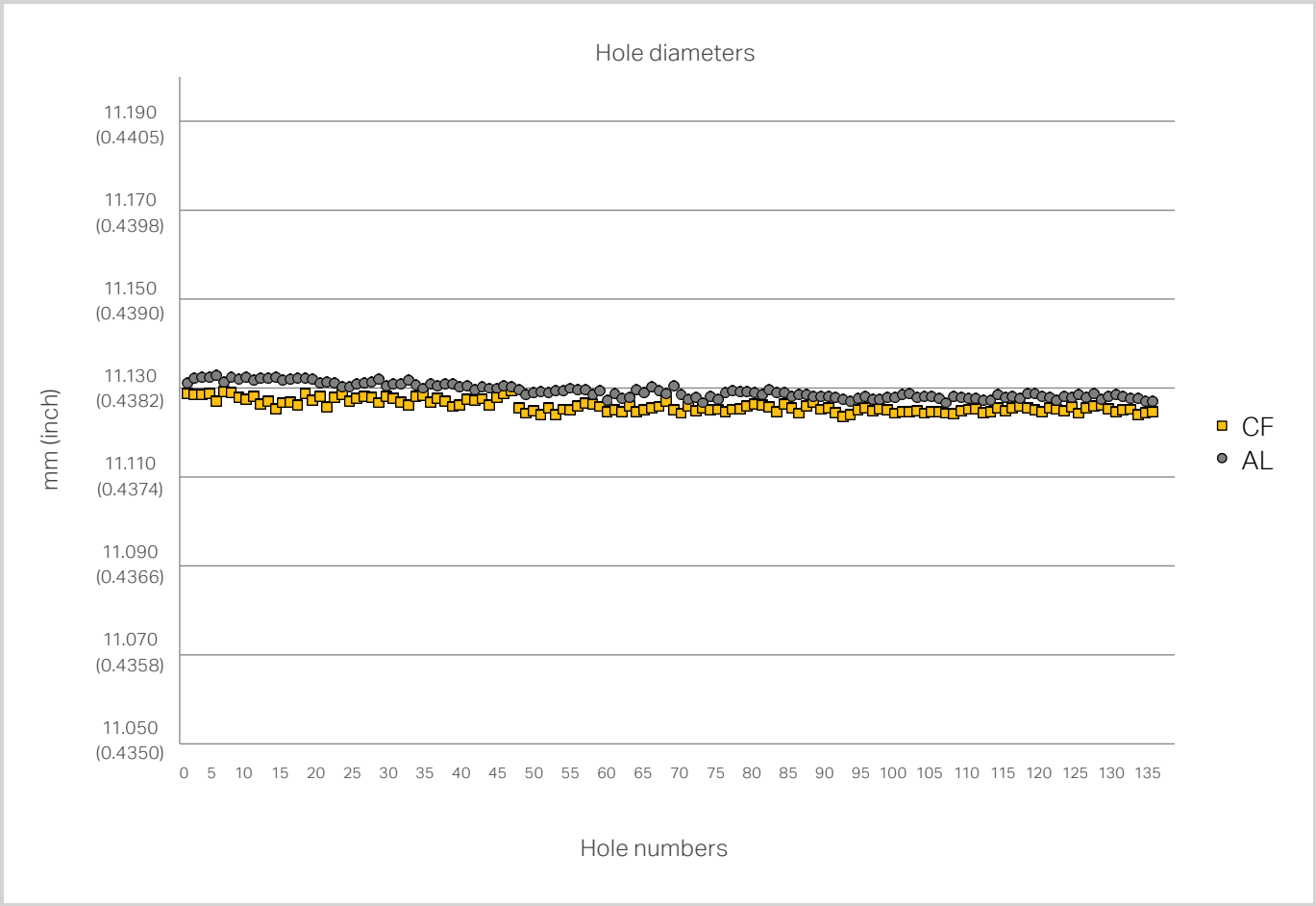
Assortment

Product	Diameter mm (inch)	Length mm (inch)	ISO application area
863.1-A-O	4.8–11.1 (0.190–0.437)	4×DC	O
863.1-A-OS	4.8–11.1 (0.190–0.437)	4×DC	O, S
863.1-A-N	4.8–11.1 (0.190–0.437)	4×DC	N
863.1-B-OS	4.8–11.1 (0.190–0.437)	152.4 (¼–28, 5/16–24)	O, S
863.1-B-MS	4.8–11.1 (0.190–0.437)	152.4 (¼–28, 5/16–24)	M, N, S

For full assortment, see www.sandvik.coromant.com

Performance: Composite machining with CoroDrill 863

The CoroDrill 863.1-ON was tested in a composite-metal stack and achieved excellent results. The hole diameters were able to maintain a very tight tolerance with exit burrs less than 0.2 mm (0.005 inch). Cycle time was less than three seconds per hole and good chip evacuation was demonstrated. MQL lubrication was used while testing.



Additions to CoroDrill® 452

The tools in the CoroDrill 452 family are used for hand-drilling operations for rivet and bolt holes. Drilling, step drilling, reaming, and countersink options are available. With the new additions within the engineered range, you can now order a tool developed specifically for your unique demands.

Benefits

- Improved geometries ensure successful exits
- Sized for common aerospace tolerances
- Reamers provide excellent surface finish

Assortment

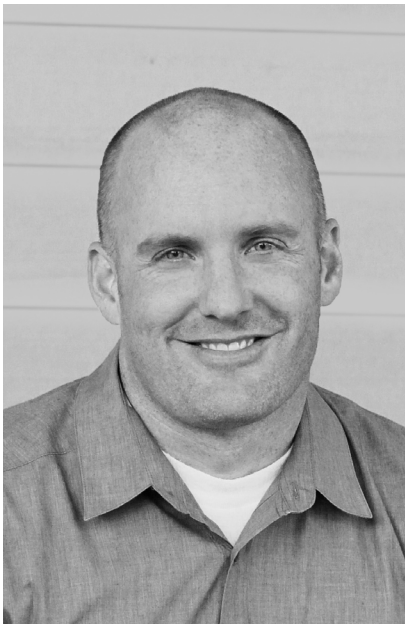
Product	Diameter mm (inch)	Length mm (inch)	ISO application area
452.1-C	2.5–12.7 (0.098–0.5)	101.6 (4)	O
452.1-CM	2.5–12.7 (0.098–0.5)	101.6 (4)	O, M, N, S
452.4-CM	4.1–12.7 (0.161–0.5)	101.6 (4)	O, M, N, S
452.R-C	4.1–12.7 (0.161–0.5)	101.6 (4)	O
452.R-CM	4.1–12.7 (0.161–0.5)	101.6 (4)	O, M, N, S
452.C1 (CSK)	4–13 (0.157–0.511)	36–51 (1.417–2.007)	O

For the full assortment, see www.sandvik.coromant.com

Engineered tools

For specialized machining needs

We designed the standard product range to cover the most common applications globally. If you need a specific tool outside of the standard range, engineered tools are the answer. Our experts carefully examine the application and develop the best solution for your process. This product is manufactured and delivered as quickly as possible. We can be there on-site for testing or test the solution in one of our many application centers.



Aaron Howcroft

Aerospace Product Manager – Composites

To order your engineered tools, contact your local Sandvik Coromant representative.

How can we support you?

Air traffic is growing as commercial flying is one of the most common ways people travel. The aerospace manufacturing industry needs to keep up the pace and the demand for skilled engineering knowledge is essential.

At our global engineering competence centers, our experts can help you optimize your production process. Our high-tech facilities offer training programs, live product performance demonstrations, and thorough production planning. Utilize assistance and support from our tooling experts to lead the industry forward with focus on future technologies together with Sandvik Coromant.

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