

Milling

Latest Milling Grades Improve Tool Life and Process Security

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New Sandvik Coromant insert grades boost steel milling operations

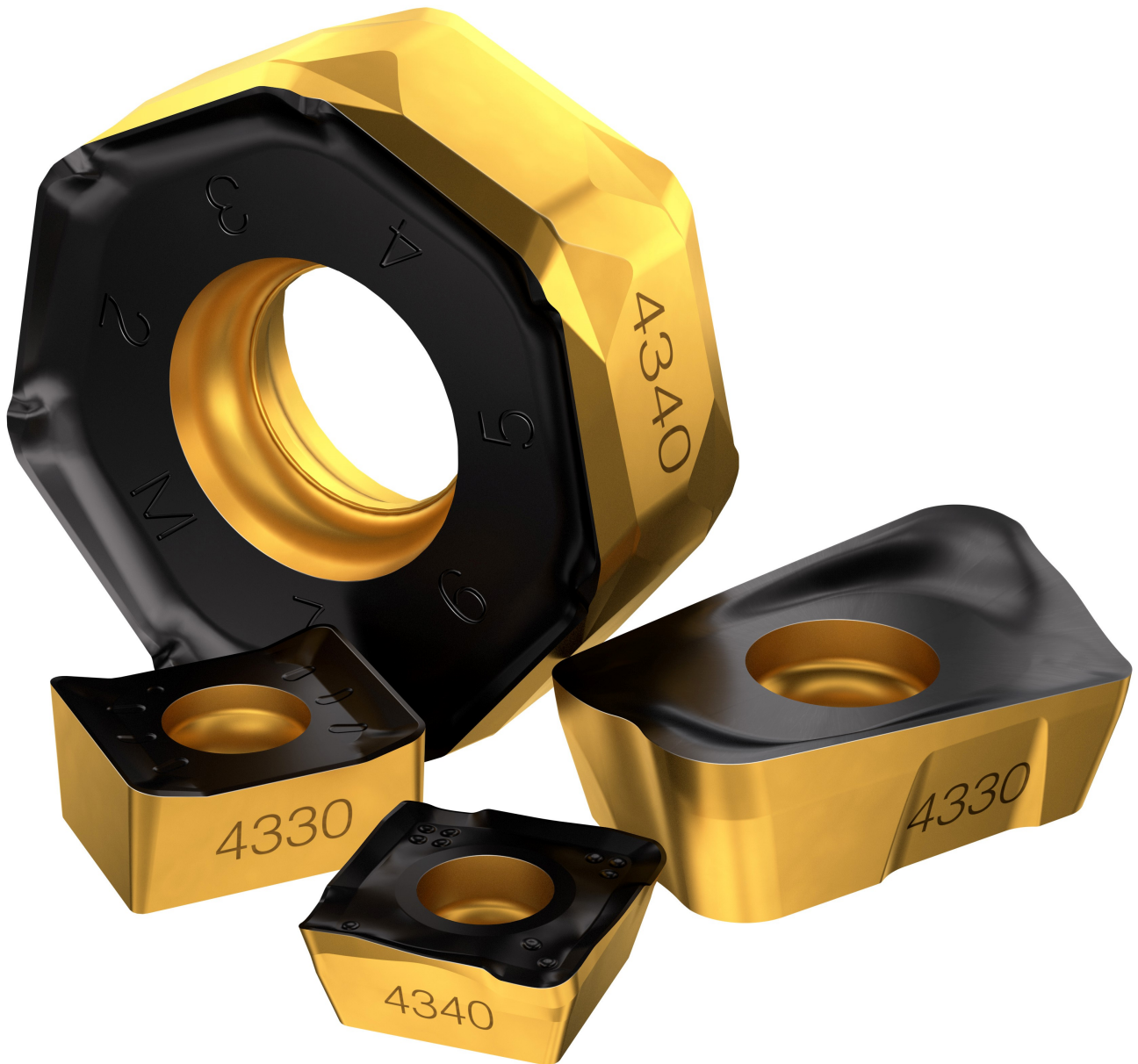
Cutting tool and tooling systems specialist Sandvik Coromant is launching **GC4330** and **GC4340**, two new insert grades for steel milling. With the development of advanced production technologies, such as a new substrate, Inveio™ coating and an improved post-treatment technology, the new grades provide great opportunities to substantially increase tool life and process security compared to the previous generation of grades, GC4230 and GC4240, which will now be superseded.

Manufacturers face many challenges when milling ISO P workpieces. For instance, some hard and abrasive steels can generate wear along the flank face of the insert, especially at higher speeds and with a longer time in cut. Additionally, machining in unstable conditions due to compromised clamping or long overhang elevates the risk of insert chipping, while thermal fluctuation during machining, especially under wet conditions, can cause crack formation and subsequent sudden breakages.

“Our new grades overcome these issues in many ways,” states Magnus Engdahl, Product Application Manager at Sandvik Coromant. “For instance, the optimized Inveio™ coating increases wear resistance and tool life dramatically, without jeopardizing security. With its uni-directional crystal orientation, the coating has a high resistance to thermal cracks, which in turn promotes long and reliable tool life, a factor further supported by a new post-treatment process that strengthens the insert by modifying its mechanical properties.”

A newly developed substrate provides well-controlled grain size distribution, which results in more reliable and predictable tool behavior. Additionally, consistent tool life is supported with higher narrow edge-rounding (ER) tolerance. Increased tool life will deliver reduced cost per component, while improved process security brings predictable performance and less downtime, not to mention higher component quality.

GC4330 is a medium hard grade and is the first choice for roughing to semi-finish face milling, with the tough **GC4340** grade preferred for rough shoulder milling and groove milling. Wet and dry machining is supported, although dry machining is recommended.



GC4330 and GC4340

Both **GC4330** and **GC4340** are available in the following product families: **CoroMill® 390** and **CoroMill® 490** for shoulder milling; **CoroMill® 345** and **CoroMill® 745** for face milling; **CoroMill® 210** for high-feed milling; **CoroMill® 200** for profile milling; and **CoroMill® 331** for grooving and parting off. Although the grades are optimized for steel, they are also suitable for mixed production involving ISO K (cast iron) and ISO M (stainless steel) workpieces.

Previously Featured on Sandvik Coromant's website.

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