



Machining

Premium Meets Practicality and Value: Accupro HS Series

Kip Hanson | Dec 18, 2023

Hitting the sweet spot for upgrading tools is tricky. Go all in, and you might not get the best return on your investment. Go too cheap, and you might stymie productivity. Here's a look at how to decide if or when to pop for a more high-end end mill.

Poor tool life. Can't make that production quota. Tough-to-hold tolerances. Any of these sound familiar?

For a milling machinist, those are just a few of the reasons to consider upgrading to a better end mill. The question then becomes, which one to buy? And will the benefits justify the higher cost of a premium tool?

The answer depends on the material you're machining and the performance potential of your machine tool. In some situations, purchasing the end mill equivalent of a BMW X5 might be a no-brainer. In others, the gains will be minimal, and a less expensive, general-purpose cutting tool could be all that's needed.

Either way, reaching the right decision is critical to successful and cost-effective machining operations.

"Accupro offers good tool life and metal removal across a range of materials at a competitive price point."

Terry Stahl

MSC Metalworking Specialist

Long known for providing well-priced, midtier end mills to serve a wide range of shop needs, **Accupro** now has a new HS Series of high-performance end mills. In all, this adds more than 900 end mills to MSC's Accupro offerings, says MSC metalworking specialist Terry Stahl.

These new end mills are designed for versatility across several materials, including steel, stainless steel, cast iron, titanium, high-temperature alloys and hardened materials common in the aerospace, automotive, energy, medical, and mold and die work.

Some of these new **HS end mills** solve for customers' greatest challenges and aim to reduce downtime, Stahl says.

The new HS five-flute, variable index, corner radius end mills are ideal for finishing. Built-in chip breakers behind the cutting edge allow for **greater metal removal rates in even the gummiest materials**, like 304 stainless steel, Stahl says. They prevent long, stringy chips from forming and packing in the flutes.

There's also an HS seven-flute, corner radius end mill that's ideal for high-speed roughing and finishing of aircraft components in titanium and other high-temperature alloys.

Finally, there are eight- and 10-flute, square and corner radius end mills for finishing titanium, heat-resistant super alloys and stainless. The multi-length configurations and advanced ALTiCrN PVD coating to ensure smooth cutting action with optimum thermal stability.

Clearly, machine shops have more cutting-tool options available to them than ever before, says Greg Creamer, an MSC metalworking specialist.

Read more: When to Upgrade Your End Mills

But what happens when the newest CNC in the shop arrived just before Y2K? Or when the majority of the machining work is done on manual knee mills? In these environments, does it really make sense to pay a premium for an end mill that probably won't provide premium results given the setups?

Creamer doesn't think so. "There are a lot of customers out there who would love to have the newest technology, but the fact is that many of them don't have the money to do so," he says. "The Accupro line is a cost-effective yet high-quality cutter for the shop filled with older machines, or for someone that's doing low-volume work in a variety of different materials."

A premium end mill will offer greater metal removal capabilities in many applications, he acknowledges. "But there's no reason to spend more for a cutter, if you can't get the full use out of it."

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**Note: Video content is for demo purposes only*

"For the shop that doesn't own a shiny new Makino or Okuma, is still using conventional milling strategies or is limited to lower spindle speeds, a premium end mill is typically not a good fit," Stahl explains. "Accupro, on the other hand, provides an excellent middle ground of both price and performance."