

Versatile End Mill's Structure and Geometry Accelerate Mould Contouring in Roughing Stage

Sometimes, even if the geometry of the mould is simple, several machining operations—from roughing through semifinishing and finishing—may be necessary to get from the raw material to the contoured mould. Hitachi Tool Engineering offers the new Epoch Mirus series of solid-carbide roughing tools with All-Way features

to help deal with this. Designed to yield positive results in the early stages of machining, these cutters have an advanced, high-strength microcarbide substrate and TH60+ coating, which together ensure process safety with workpieces as hard as 55 HRC, along with a unique new tool geometry.



Using Epoch Mirus end mills with All-Way capabilities, operators can rough-machine the material with the full length of the cutting edge as well as with the front of the tool—even alternating between modes—and at constant high feed rates. Not having to switch between tools for different

machining operations results in much quicker arrival at the final contour shape.

Hitachi Tool offers two types of Epoch Mirus end mills: the R-type for die and mould applications and the N-type for production use, each supplied in four diameters between 6 and 12 mm. The N-type is more durable, but the R-type is better able to reduce cutting forces.

In both types, the cutting geometry is distributed unevenly to reduce vibrations and thereby keep cutting forces constant for both the tool and the machine. The double-gash geometry in the centre provides stability and fast chip removal in axial operations—for example, ramping and plunging. Ultimately, each mill exhibits optimal performance in fulfilling its purpose.

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Solid-Carbide Milling Cutter Offers Productivity in Both Roughing and Finishing Operations



The MultiMill solid-carbide end mill for roughing and finishing is newly available from TaeguTec UK Ltd. This innovative concept from the Korean cutting-tool manufacturer allows customers to use the one cutter for both operations and thus save the time lost to tool changeover, improving productivity. Of course, not only does the MultiMill reduce tool change and setup times; it also reduces the number of tools required in the machine setup.

TaeguTec's new four-flute high-helix

solid-carbide cutter has two serrated and two continuous flutes, a configuration that delivers high metal-removal rates while providing surface finishes surpassed by few other finishing tools. With a 45° degree corner chamfer and a TiAlN coating, the versatile MultiMill is suited for rough- and finish-machining all types of steel and stainless steel, titanium, Inconel and other high-temperature alloys. Thus, it can be expected to appeal to companies in the aerospace, motor sport, and mould and die industries.

The MultiMill end mill is available in diameters of 6, 8, 10, 12, 14, 16 and 20 mm with corresponding cutting lengths of 14, 18, 22, 26, 30, 34 and 42 mm. It features outstanding chip evacuation performance. The tool's flute design minimizes vibration even at high loads.

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