



Milling

Guhring PCD Diver End Mill: Maximize Productivity Milling Aluminum

Brought To You by Guhring | Jul 01, 2024

Guhring's latest innovation, the PCD Diver end mill, redefines efficiency and longevity in aluminum machining. Its advanced geometry ensures superior quality, minimal power consumption, and exceptional stability, resulting in reduced burrs, providing significant cost savings on secondary deburring operations.

In the realm of machining aluminum alloys, which are notorious for producing long, stringy chips during drilling, core drilling, and counter-boring operations, managing the accumulation of chips can be difficult. Guhring addresses this challenge with the introduction of the PCD Diver, designed specifically for high-volume roughing capable of aggressive plunging, helical milling, and ramping. Its unique cutting geometry generates short, easily manageable chips, eliminating the need for manual chip removal and associated downtimes. Additionally, the tapered neck provides space for the chips to eject without scarring the sidewalls of the work piece, even in deep pockets.

The three cutting edges boast a highly positive geometry, ensuring remarkably smooth and low-vibration cutting performance. This feature also significantly reduces the cutting forces, safeguarding the machine spindle while applying lesser forces on the work piece. The PCD Diver features a specialized front-end geometry that facilitates ramping at angles of up to 60°, which allows the milling cutter to reach maximum cutting depths in confined spaces quickly during pocketing and helical milling operations.

The ultra-hard PCD cutting edges ensure extended tool life in comparison with carbide tools, which are less resistant to material buildup, and provide lower tool life. Furthermore, the PCD Diver incorporates coolant ducts, which exit both axially and radially. This configuration is tailored specifically for milling and plunging/ramping operations, and allows for cooling with standard emulsion, MQL, or air.

See the PCD Diver end mill in action in this short video:

Previously Featured on Guhring's YouTube channel.