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**PCD Multi-tooth cutter DTM 1710**

**Finishing at high speed**

Paul Horn GmbH has developed the new DTM 1710 milling system for finishing non-ferrous metals and plastics with abrasive fillers. Due to the high feed rates that can be achieved, the tool system enables high productivity and economic efficiency. The precision laser-cut PCD inserts produce very high surface quality during the finishing process due to the precision of the PCD cutting edge, the high quality PCD substrate and the µ-precision axial run-out.

The PCD cutting edges brazed on cassettes can be fine-tuned axially via adjusting screws on the tool carrier. For use at high speeds, the cassettes are protected against the resulting centrifugal force. The axial run-out is set by Horn engineers before the tool is delivered.

Compared to other tools of this type on the market, the Horn milling system offers a higher number of cutting edges for any given diameter. The aluminium alloy milling body ensures low weight, minimising spindle wear. For long-term protection against abrasion from chips, the cutter body has a special surface treatment. To achieve high surface quality and for use at high speeds, the tool must be finely balanced with the tool holder. For high balancing accuracy, holes are provided around the cutter body. To achieve the best possible results, the entire machine environment must be taken into account and brought to the highest possible level of stability. The design of the machine, guideways, spindles and the workholding system as well as the milling tool have a decisive influence on the result. Horn offers the milling system at market launch in the diameters 50 mm (1.969") (z = 10), 63 mm (2.480“) (z = 14), 80 mm (3.150") (z = 18), 100 mm (3.937") (z = 24) and 125 mm (4.921") (z = 30). All variants have an internal coolant supply directly onto the cutting edge.

The Horn high-performance PCD cutting material is composed of a sophisticated mixture of different sizes of diamond grains. As the proportion of diamond by volume increases, so do the effective hardness, toughness and cutting edge quality. Strict quality standards and their control are a matter of course and ensure strong performance. For the DTM 1710 milling system, Horn offers the cassettes in two different PCD substrates according to the material to be machined.

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**photo caption:** The precision laser-cut PCD inserts produce very high surface quality during the finishing process due to the precision of the PCD cutting edge,

Source: Horn/Sauermann



**photo caption:** Due to the high feed rates that can be achieved, the tool system enables high productivity and economic efficiency.

Source: Horn/Sauermann

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