PRESS RELEASE

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New solid carbide milling cutters for tool and mould making

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Under the product name OptiMill-3D, MAPAL is announcing a new high-performance programme of solid carbide milling cutters specially developed for tool and mould making. Along with extremely heat-resistant coatings and special carbide substrates, these tools are characterised in particular by the dimensions and geometries specifically adapted to mould making.

High-feed machining with high material removal rate

Suitable for milling hardened parts with a hardness of 45-66 HRC, with the OptiMill--3D-HF-Hardened with four or six cutting edges MAPAL is announcing two new high-feed milling cutters for hard machining. So that the tools also work reliably even in difficult application conditions such as an interrupted cut, MAPAL has developed a special face geometry.

The milling cutter with four cutting edges is used above all for roughing as well as for pre-finishing. Due to the fewer number of cutting edges and the related more generous dimensioning of the chip flutes, reliable removal of the chips is ensured. This milling cutter is also the tool of choice for machining with long projection lengths and in deep cavities.

The milling cutter with six cutting edges can be used optimally for roughing and pre-finishing, as well as for finishing flat surfaces with a high feed rate. It produces the best surface finishes and flatness. The equivalent, the OptiMill-3D-HF, with three and four cutting edges is available for soft machining. The dimensions here are matched to the OptiMill-3D-HF-Hardened.

Highly accurate corner radii for maximum precision

The corner radius milling cutter OptiMill-3D-CR-Hardened is used for finishing 3D moulds up to a hardness of 66 HRC. It produces very good, smooth, high-gloss

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surface finishes with maximum feed rate. Crucial here are the highly accurately manufactured corner radii. The OptiMill-3D-CR-Hardened is available in the diameter range 4-12 mm with different lengths and corner radii.

Efficiency in pre-finishing and finishing on 5-axis machines

The new circular radius milling cutters OptiMill-3D-CS are predominantly used in mould making in deep cavities, for complex free-form shapes as well as for the manufacture of turbine blades and impellers. The special feature of the tools is the optimal geometric combination of radius and form cutter that makes a larger path spacing during pre-finishing and finishing possible. The machining time can be significantly reduced and the quality of the surface finish on the parts significantly improved. For machining deep, difficult-to-access cavities, the OptiMill-3D-CS in droplet shape is the first choice. Large surfaces and surfaces with tool restrictions are machined highly efficiently using the milling cutter in the tapered shape.

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Captions:

New, powerful solid carbide milling cutters for die & mould sector: From left to right: two versions each of the OptiMill-3D-CS, the OptiMill-3D-HF-Hardened, the OptiMill-3D-HF and the OptiMill-3D-CR-Hardened from MAPAL.

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The corner radius milling cutter OptiMill-3D-CR-Hardened for finishing of 3D shapes up to a hardness of 66 HRC.

High-feed milling cutter for the hard machining of parts with 45-66 HRC hardness: OptiMill-3D-HF-Hardened from MAPAL.

If published, please send a voucher copy
by mail to Patricia Müller
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