

*hyper*MILL®



High-Precision Machining
with *hyper*MILL®

 **OPEN MIND**
THE CAM FORCE

Maximum Precision – Integrated as Standard

High-precision machining offers a high level of milling precision, ultra-smooth surfaces, and perfect milling results. This means there is often no need for any post-machining processes such as polishing or grinding. This reduces throughput times and increases productivity. Various functions for high-precision milling are already integrated in *hyperMILL*® as standard.

Areas of application

- › Mold making
- › Tool making
- › Optical components
- › Aerospace
- › Medical components

■ High precision surface mode delivers perfect surfaces

Facts

- Ball mill D6
- Lateral infeed 0.11 mm
- R_a 0.38 μm

Features

- Completely free of facets
- Point accuracy $<0.1 \mu\text{m}$
- Short calculation times
- 100% reliable



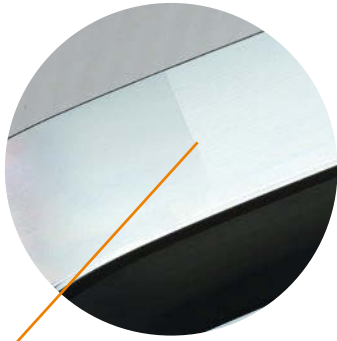
■ Highly efficient machining with barrel cutters

- For bottom surfaces, wall surfaces, free-form surfaces and fillets
- For hard-to-reach areas
- Fully automated collision avoidance

Advantages

- Very high infeeds with the same theoretical scallop height
- Longer tool life
- Barrel cutters with ball mill tips can also be used for line-by-line milling



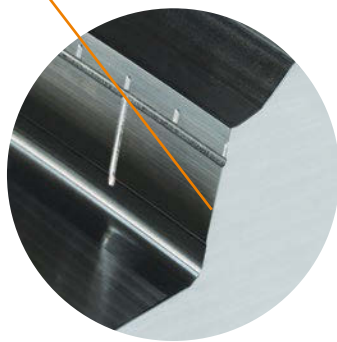


■ **Smooth overlap for precise smooth blending of areas**

- After machining with various strategies
- After machining with different tools
- After machining with different tool inclination
- During the machining of rest material

Advantages

- No auxiliary geometry required
- Transitions only minimally visible
- No measurable transition
- No post-machining processes required



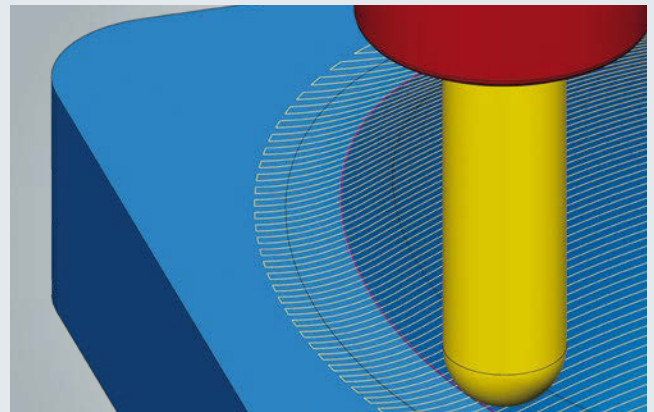
■ **Automatic face extension ensures complete control**

- No auxiliary geometry required
- Precise component edges
- Automatic protection of adjacent surfaces
- Fast and convenient programming



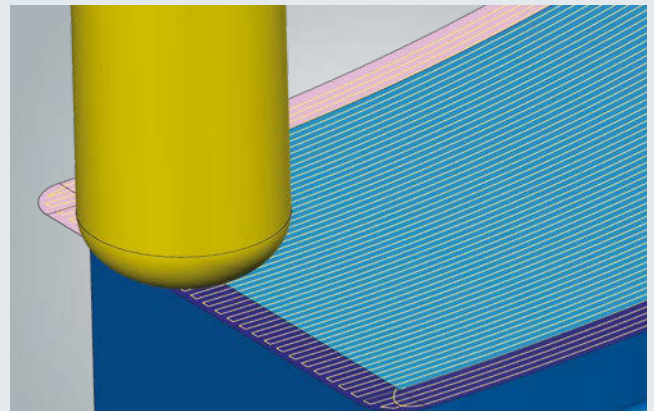
■ **High precision surface mode**

The 'High precision surface mode' option ensures ultra-smooth surfaces with tolerances in the micrometer range, along with short calculation times. Toolpaths are calculated using actual CAD model data. This significantly increases the accuracy.



■ **Smooth overlap**

The 'Smooth overlap' function improves the surface quality in transition areas. The areas are smoothed automatically and precisely, and the transition areas are barely visible and measurable.



■ **Automatic face extension**

During programming, the 'Automatic face extension' function can be used to extend the perimeter of selected milling surfaces. This CAD for CAM function eliminates the need to modify the milling surfaces in the CAD system beforehand. This means that perfect milling results can be achieved on the edges of components.

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