SOLID CERAMIC SPEED END MILL

- Solid ceramic grade
- High-feed geometry
- High material removal rate
- Short machining times

Machining of nickel-based alloy such as Inconel with high cutting speed
Product overview

The demand of the market to shorten machining and cycle times of nickel-based alloys such as Inconel, was our driving force to develop the new solid ceramic end mill tools, called INCERamic. This INCERamic product line is an extension of our existing Plendur products which have been established successfully in the market especially in the mould and die industry.

This developed geometry combined with the ceramic cutting grade IN75N is currently unique in the market and supports potential users with the common diameters Ø6 / Ø8 / Ø10 / Ø12 / Ø16 and Ø20.

Field of application

For rough milling application of nickel-based alloys, particularly of Inconel.

The INCERamic tools are capable to fulfill the requirements of shorter machining time compared to conventional solid carbide tools by realizing high cutting speeds combined with high feed rates in order to achieve an appropriate level of material removal rates.

This design of end mill allows to machine multiple passes at 90° shoulders without damaging the shoulder surface due to reduced shaft diameter behind the effective cutting edge. Length of effective cutting edge "L1" needs to be considered.

Technical features

The specific characteristics of our high feed geometry allows feeds per tooth of up to 0,22 mm at doc between 0,35-1,0mm.

The helix angle along the cutting edge is designed especially for application in exotic materials.

The theoretical corner radius must be considered for CAD/CAM programming according to all high feed geometries.

Cutting speed can be raised up to 1000 m/min.

Advantages

- High material removal rates
- High feed geometry
- High cutting speeds
- Short machining times
### SOLID CERAMIC SPEED END MILL

- High material removal rates for machining of nickel-based alloys like Inconel
- High-feed solid-ceramic end mill
- Shaft according to DIN 6535 HA

<table>
<thead>
<tr>
<th>Designation</th>
<th>D</th>
<th>d</th>
<th>d1</th>
<th>L</th>
<th>L1</th>
<th>a</th>
<th>R</th>
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R (Programming radius)

**Cutting parameters for roughing in HSC mode.**

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<th>Condition</th>
<th>Hardness (HB)</th>
<th>Material No.</th>
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<th>HC (m/min)</th>
<th>Ød</th>
<th>Ød1</th>
<th>Ø10</th>
<th>Ø12</th>
<th>Ø16</th>
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</table>

<sup>1</sup>Rm: Tensile strenght in MPa; <sup>2</sup>R: Programming radius