Full PCD head diamond tools

ABOUT

The Thermally Stable Polycrystalline is full diamond head material with following characteristics:

💎 **Hardness 10 Mohs**

This is 30-50 times harder than general Polycrystalline diamonds.

💎 **Temperature Stability**

up to 1,200°C / 2,192 °F.

💎 **Multi Applicable**

for ferrous and non-ferrous materials.

💎 **Versatile Usage**

in all current and future composite applications.

The diamond structure consists of a special diamond grain size, which is synthesized in a HTHP (High Temperature High Pressure process).

This diamond grain has been specially developed in order to be used for it's hardness and volume and thermal capacity.

**AVAILABLE SIZES & OPTIONS**

<table>
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<tr>
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<th>0.3 - 28 mm</th>
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<tbody>
<tr>
<td>Diameter</td>
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<tr>
<td>Height (cutting edge length)</td>
<td>0.3 - 28 mm</td>
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Carbide rod is available in customized design.

tools can be ordered with or without coolant channels.

Thru-boring drill with diamond chamfer

Full head drill for Zirconium oxide

Full head end mill Z3 with center cutting and chamfer for AlSi body housings
**APPLICATION**

Because of the extreme high hardness and high temperature stability this Unique PCD is suitable for milling, reaming and drilling in following applications:

- Aluminum
- Ceramics (green or sintered)
- Carbide (green or sintered)
- Sintered cemented carbide
- Metal matrix composites
- Copper
- Glass
- Zirconium oxide
- Graphite
- Gold, Silver, Platinum
- Magnesium and its alloys
- Bi metals
- Grey cast iron, high strength irons
- Composite plastics
- CFRP and GFRP
- Titan as well as Inconel®
- Non-ferrous hypoeutectic materials: (Si<12%) and eutectic (Si>12%) silicon alloys

Additionally the cylindrical shape and height of 0.3 – 28 [mm] leads to absolutely new options in 3D tool design shapes with very complex structures and multiple cutting edge variations.

The new binder composition, which was specially developed for this material prevents de-lamination in even glass or composite applications.

**UNIQUE PROPERTIES / ADVANTAGES**

- **Temperature stability** of up to 1,200°C / 2,192 °F like cubic boron nitride.
- **Hardest mineral** with hardness of 10 Mohs.
- Diamond cutting edge **length up to 28 mm.**
- **Life time** up to 2,000 times longer than carbide.
- Opportunity of **3D designs** with helix and wiper geometry, multiple cutting edge and other complex geometries.

**DID YOU KNOW?**

We also provide resharpening services for these tools.

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*Full head miller for roughing and finishing in one step*