

# CBN and diamond tools

Always the right tool



# LUKAS CBN and diamond tools for precision machining

CBN and diamond tools for precision machining are becoming increasingly important in high-volume manufacturing. Thanks to their extreme hardness, these ultra-hard grinding tools produce significant performance improvements in optimised production processes. The result is a considerable cost reduction in comparison to conventional aluminium oxide grinding tools.

**Cubic boron nitride (CBN)** is used exclusively for machining hardened steels. Natural and synthetic **diamond grit** can be used to economically machine every other material, in particular hard materials such as ceramic, glass, carbides, oxides, nitrides, CFRP, GFRP, PCBN and PCD, but also various plastics and even rubber.

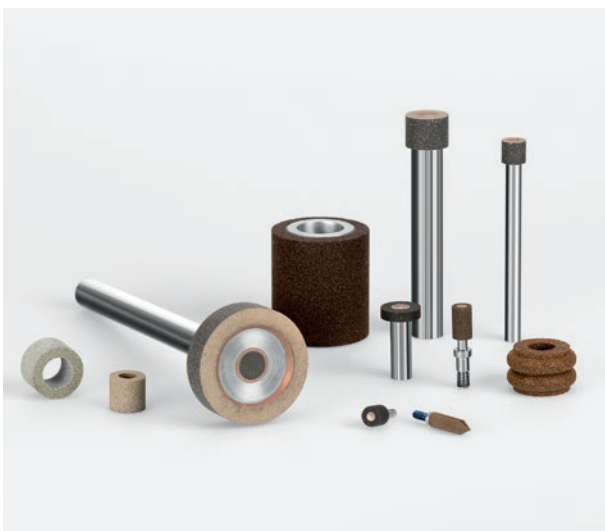


### **Electroplated tools for general manual or robotic applications**

The abrasive grain is applied to a metal body in a single layer. Electroplated tools grind very aggressively and cool because the grinding particles project highly from the bond.

#### **Benefits:**

- wide variety of carrier shapes possible
- tools can be used in dry grinding
- tools are inexpensive



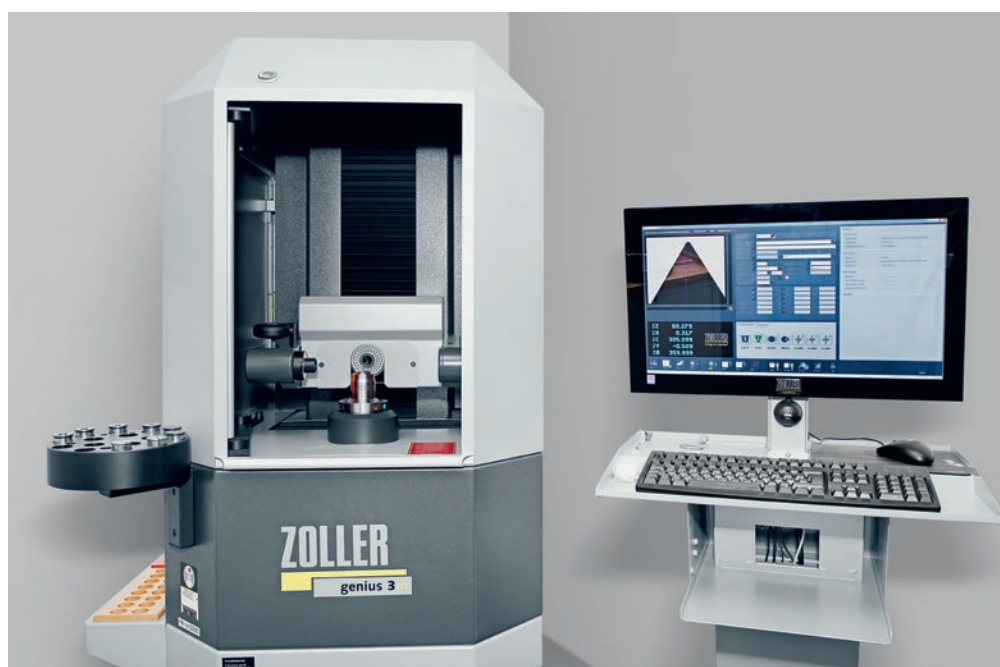
### **CBN and diamond tools with vitrified bond for stationary precision machining**

#### **Benefits:**

- extremely long tool life thanks to the multilayered abrasive coating
- tools can be easily dressed and work with a low grinding pressure
- excellent surface quality

**Particular features:**

- the grinding tools' shape, dimensions and structure can be tailored to the customer's requirements
- used solely in wet grinding
- produce better surfaces in comparison to conventional grinding tools. Grain sizes between 15 and 181  $\mu\text{m}$  are generally used.
- Vitrified bonded diamond tools are given a LUKAS quality code which indicates the complete formulation. Moreover to this, the customer receives additional information about the grain size and concentration used.



Final inspection of tools produced from technical drawings

**CBN mounted points with a vitrified bond are delivered exclusively with hard-metal shanks.**

**This gives the following advantages:**

- reduces sparking out times, i.e. shorter cycle times for the grinding process
- significantly improves tool service life
- reduces tooling and set-up costs
- improves surface quality of the part being machined
- avoids geometric deviations
- face grinding is also possible

# Always the right tool



## Help und support

Our specialists have to identify and analyse all the application data before they can provide the correct tool recommendation. LUKAS has many years' experience in optimising user-specific machining processes. Priority is given to process reliability, followed by other parameters such as cycle time, component geometry and surface roughness.

**Make an appointment with our experts today!**

LUKAS-ERZETT Vereinigte Schleif- und  
Fräswerkzeugfabriken GmbH & Co. KG  
Gebrüder-Lukas-Straße 1  
51766 Engelskirchen (Germany)  
Fon +49 2263 84-0  
Fax +49 2263 84-327 (Domestic Market)  
Fax +49 2263 84-300 (Export Department)  
le@lukas-erzett.de  
www.lukas-erzett.com

