TETRABOR® PASTES AS ABRASIVES AND LAPPING AGENTS

TETRABOR® boron carbide pastes are general-purpose abrasives and lapping agents. The high material-removal rates and the surface qualities that can be achieves permit cost-effective lapping and fine grinding of precision parts of all kinds from a diverse range of materials. This is the result of the extreme hardness of boron carbide at 9.5+ Mohs.

TETRABOR® oil and water-based pastes

Application

TETRABOR® is used in mechanical engineering and all areas where cost-effective lapping and fine grinding are required. From plastics (e.g. Teflon), non-ferrous metals, steels, through titanium to hard metals, TETRABOR® pastes are ideal for machining all materials.
Even with very rough surfaces, a metal sealing surface (less than 1.4 µm) can be achieved in two operations, e.g. by coarse pre-grinding with a grain of F220 and final grinding with a grain of F400.
Applications for TETRABOR® include the machining of drawing dies, molds and dies of all kinds, wire guides, valves, valve seats, cylinder bushes, cylinder faces, injection pumps, hardened bearing surfaces, gauges, cutting and blanking tools, reamers, mill cutters, optical lenses, natural and synthetic gemstones and all ceramics.

Advantages

- Short machining times thanks to high material-removal rates
- High surface quality thanks to the narrow grain-size distribution
- Heat resistance up to 350 °C
- Uniform grinding even at high temperatures
- Low environmental impact

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Directions for Use and Processing

TETRABOR® water-based pastes can be used at application temperatures up to 200 °C. The polyalcohols used in the water-soluble pastes are almost completely biodegradable (>90 %), and is therefore rated 0 according to German water hazard classification.

Suitable diluents include water (preferably demineralized) and polyethylene glycol 400 (PEG 400). Only add water drop by drop, since larger amounts of water can dissolve and extract the polyalcohols in the paste base.

At service temperatures from >100 °C up to max. 200 °C, PEG 400 should be used as diluent – which is also a component of the paste base.

The machined surfaces can be cleaned with water. Important: protect against rusting!

TETRABOR® water-based pastes are suitable for use at application temperatures from 200 to 350 °C. For rust protection reasons, this grade of paste can also be used at low temperatures. It can be diluted with oil or kerosene if necessary. We recommend using benzene or kerosene to clean the machined parts.

Delivery Program

- TETRABOR® oil-based paste
- TETRABOR® water-based paste

Standard pastes with the following grain classifications are available.
This covers the application range from coarse material removal to extremely fine precision machining

Grain designation	Grain size in µm*
F60	300 -212
F100	150 -106
F220	75 - 45
F320	49 - 17
F400	32 - 8
F600	19 - 3
F800	14 - 2
F1000	10 - 1
F1200	7 - 1

*Grain-size according to FEPA standard (Eppendorf photosedimentometer)
*Other grain sizes on request

Container Sizes

75 ml tube or 750 ml jar

Storage

Store tubes and jars in a cool, dry place.

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