Boron Nitride Sintered Components - **HeBoSint®** for High Temperature Furnace Applications

HeBoSint® - technical ceramics for high temperature furnace applications – highest temperature resistance with maximum electrical insulation.

HeBoSint® in use

HeBoSint® Boron Nitride Sintered Components

High temperature furnaces operating significantly above 1500 °C incorporate heating elements manufactured from Graphite, Tungsten or Molybdenum. As a rule, these elements are electrically insulated from the furnace sides using high temperature oxide ceramics. These components are highly stressed, especially given the growing tendency to employ shorter production cycles with faster heating and cooling rates. This leads to early component failures, and consequentially brings with it increased furnace downtimes and a significant maintenance requirement.

In contrast to the traditional use of Aluminium Oxide, the working life of components manufactured from **HeBoSint®**, a sintered Boron Nitride, is significantly longer. Such components are characterised by a significantly higher resistance to thermal cycling. Indeed, for thermal processes at the extremes of temperature in vacuum or inert conditions, such Boron Nitride ceramics often present the only viable solution. For high temperature furnace applications we are able to offer precision machined **HeBoSint®** components such as sleeves, tubes, washers, plates, flanges and other parts subjected to high thermal stresses – to suit customer specific requirements.

Typical Areas of Application

- High Temperature Furnaces, including applications such as sinter furnaces, crystal growth furnaces, smelting and induction furnaces as well as special furnaces used for heat treatment processes.

Henze offers

- A proven range of **HeBoSint®** Boron Nitride components for high temperature furnace applications
- Precisely manufactured to customer specifications
- Professional on-site advice on the potential application of **HeBoSint®** products

Advantages

- Excellent thermal cycling resistance
- Excellent electrical insulation
- Good thermal conductivity
- Excellent machinability of sintered components

Properties of HeBoSint®

- Temperature resistant to 900 °C in air, in inert conditions or under vacuum to around 2000 °C
- Low thermal expansion
- Excellent thermal shock resistance
- Excellent electrical insulator, including at high temperatures
- Good chemical resistance
- Available in a wide variety of precision machined geometries
- Neither toxic nor harmful to the environment

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