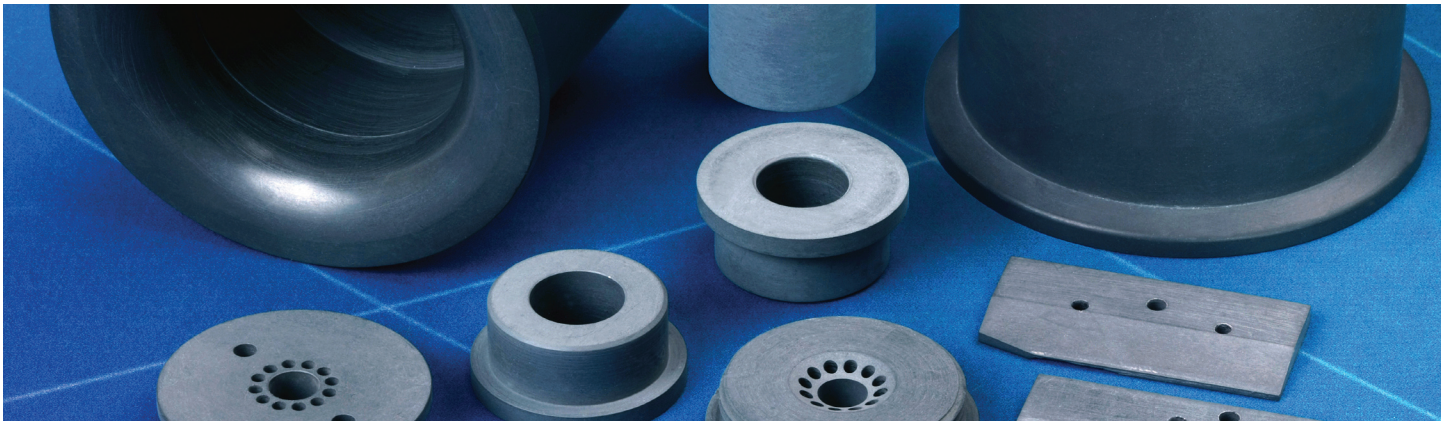

Boron Nitride (BN) Grade ZSBN

Boron Nitride is an advanced synthetic ceramic material available in powder, solid and aerosol spray forms. Its unique properties - from high heat capacity and outstanding thermal conductivity to easy machinability and superior dielectric strength - make boron nitride a truly outstanding material.

Developed for demanding applications requiring the combination of thermal conductivity, high wear resistance and boron nitrides corrosion resistance, Grade ZSBN boron nitride is a composite material combining the best thermal performance and machinability characteristics of hot-pressed boron nitride with the strength and non-reactivity of silicon carbide and zirconia.

Grade ZSBN is a uniquely high-performing solid that is especially suited for molten metal applications such as continuous casting break rings where wear resistance and thermal conductivity are essential.

Key Properties

- Unparalleled resistance to molten metal wetting due to boron nitride content.
- Excellent high temperature operation and thermal shock resistance.
- Excellent wear resistance and increased strength from zirconia and a small amount of silicon carbide. This feature, unique to ZSBN, results in remarkable corrosion resistance over a wide range of temperatures.
- Easily machined, even to complex shapes and forms, quickly and inexpensively. Machining tolerances of 0.002" or better are achievable.

Applications & Product Data

- Break rings for continuous casting of metals
- Crucibles
- Heat treatment fixtures
- High temperature bearings
- High temperature mechanical components
- High temperature valves
- Molds
- Molten metals and glass casting
- Nozzles for transfer or atomization
- Side dams

Product Data

Thermal Conductivity (W/M°C)	Perpendicular	Parallet
25°C	40.21	22.62
316°C	29.39	15.46
437°C	27.16	13.98
557°C	24.96	13.32
711°C	23.11	12.78
918°C	21.88	11.65

Like pure boron nitride, the ZSBN crystal structure orients itself during hot pressing. Therefore, many physical properties of Combat® ZSBN are anisotropic and are reported as a function of the orientation of the piece relative to hot pressing (perpendicular or parallel).

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