



MOMENTIVE

performance materials

PolarTherm® Boron Nitride Powder Grades PT130, PT131, and PT132

Momentive Performance Materials PolarTherm boron nitride (BN) powder grades PT130, PT131, and PT132 are a new line of powders designed to offer an economical way to achieve the benefits of PolarTherm technology. These powders make an ideal substitute for aluminum nitride, alumina, and fused silica in applications where improved heat transfer properties are needed.

PT130, PT131, and PT132 are fine hexagonal crystalline powders (>95% -325 mesh) with a range of surface areas to fill a variety of thermal management applications.

PT130

PT130 has a mean particle size of approximately 8 μm and a surface area $\sim 8 \text{ m}^2/\text{g}$.

PT131

PT131 has been processed for higher purity than PT130 and has a slightly larger mean particle size (10 μm) and higher surface area.

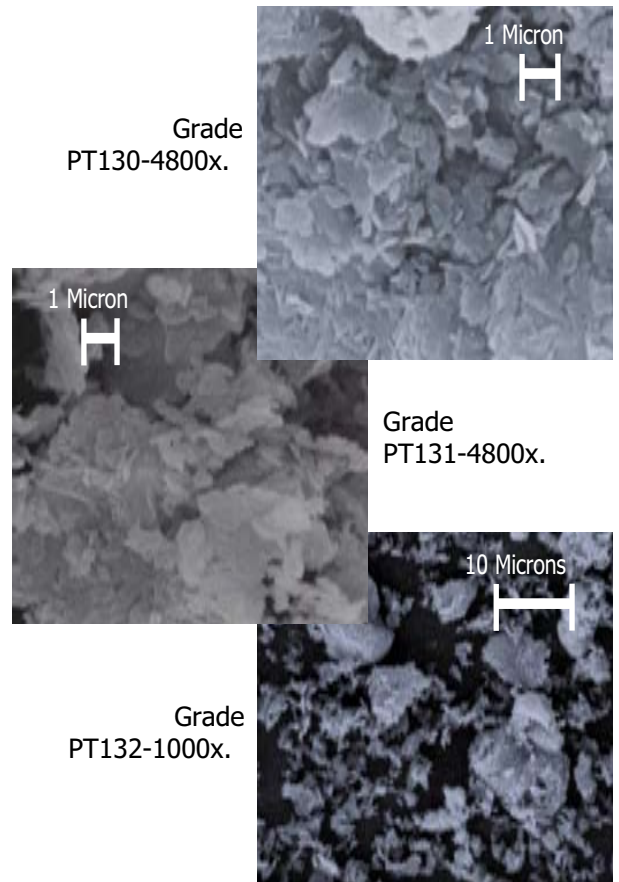
PT132

PT132 has a lower mean particle size than PT130 and PT131 ($\sim 5 \mu\text{m}$).

Applications:

Momentive PolarTherm BN powders' unique combination of thermal, electrical, and mechanical properties make them ideal for use in a range of thermal management materials, including:

- Gap fillers and underfills
- Potting and molding compounds
- Silicone and other compliant pads
- Liquid encapsulants
- Compounded thermoplastics



Momentive Performance Materials produces over 75 standard and custom grades of BN powders to meet a wide range of application requirements, and has over 40 years of expertise in the synthesis and refinement of boron nitride powders.

General Characteristics of Boron Nitride

- Electrical Insulator
- Low Dielectric Constant and Loss
- High Temperature Stability
- Thermal Conductor
- Lubricious
- Inert
- Non-Wetting

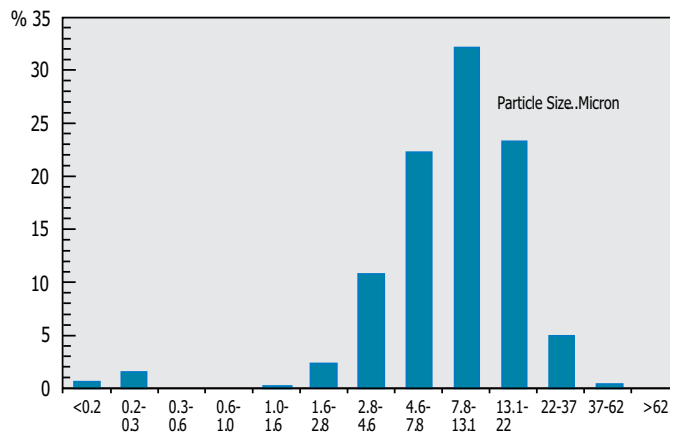
PolarTherm® Boron Nitride Powder
Grades PT130, PT131, and PT132

Typical Properties	Grade PT130	Grade PT131	Grade PT132
Crystal (type)	Hexagonal (Graphitic)	Hexagonal (Graphitic)	Hexagonal (Graphitic)
Color	White	White	White
Mean Particle Size, µm	8	10	5
Crystal Size, µm	0.4	0.4	0.4
Surface Area, m ² /g	8	14	15
Tap Density, g/cc	0.5	0.4	0.3
Oxygen, %	10-12	0.7-1.2	1.0-1.5
Sol. Borate, %	3-5	0.1	0.1
Carbon, %	0.1	0.1	0.1
Calcium, %	3-4	<0.01	<0.01

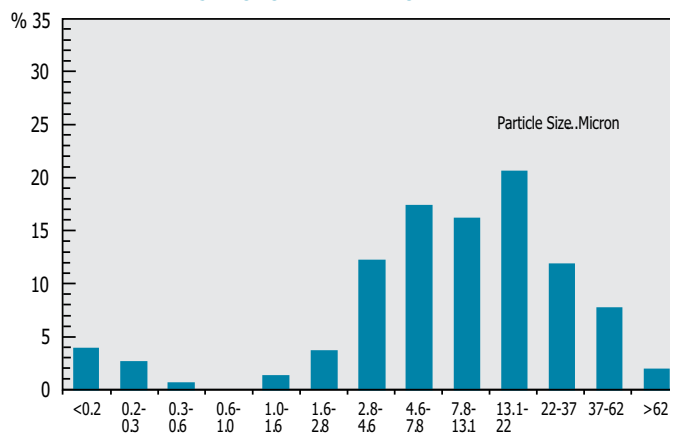
Elemental

Ca, Si.....<500 ppm (per element)
 Cu, Al, Mg, Fe, K.....<100 ppm (per element)
 Cl, S.....<50 ppm (per element)
 Na.....<20 ppm
 Other Metals.....<10 ppm each

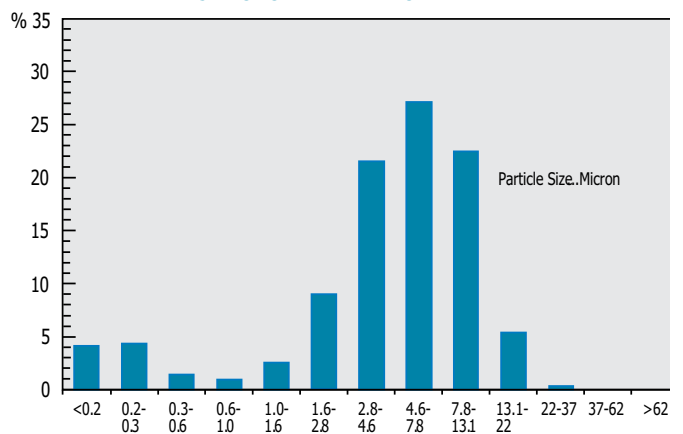
PT130 BORON NITRIDE POWDER



PT131 BORON NITRIDE POWDER



PT132 BORON NITRIDE POWDER



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