



**MOMENTIVE**  
performance materials

## PolarTherm® Boron Nitride Powder Grade PT110

Momentive Performance Materials PolarTherm boron nitride (BN) powder grade PT110 is a large single-crystal powder in the typical hexagonal platelet (graphite-like) shape. PT110 possesses an average particle size of  $\sim 45 \mu\text{m}$  and a low surface area of  $\sim 0.6 \text{ m}^2/\text{g}$ .

The high-temperature processing and single-crystal nature of grade PT110 gives it a high thermal conductivity within the particle.

A special grade, PT111, which is screened to remove +200 mesh particles ( $> 74 \mu\text{m}$ ) is also available.

### 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

PT110 is best suited for use in applications where heat dissipation from a localized source to a large surface is desired.

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

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**polarTherm® Boron nitride powder Grades pT110**

Typical Properties                      Grade PT110

Crystal (type)                              Hexagonal  
(Graphitic)

Color    White

Mean Particle Size, μm                      45

Crystal Size, μm                              ~45

Surface Area, m<sup>2</sup>/g                              0.6

Tap Density, g/cc                              0.65

Oxygen, %                                      0.3

Sol. Borate, %                                  0.05

Carbon, %                                      0.03

**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

**PT110 BORON NITRIDE POWDER**

