SAINT-GOBAIN BORON NITRIDE

POWDER SOLUTIONS

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Functional Fillers & Additives to Enable High Performance Solutions in Demanding Applications

Saint-Gobain Boron Nitride Powder Solutions merge the key properties of hexagonal boron nitride (hBN) and over 60 years of manufacturing expertise to offer a complete portfolio of hBN powders.

With a variety of engineered particle shapes and sizes available, Saint-Gobain Boron Nitride Powder Solutions enable our customers to maximize the benefits of boron nitride in a wide array of markets and applications.

Thermal Conductivity
30 / 300
thru-plane *in-plane*
W/mK

Dielectric Strength
80
kV/mm

Dielectric Constant
4

Coefficient of Friction
< 0.3

Mohs Hardness
1.5

OUR PARTICLE OFFERING

PLATELET PARTICLES
Average diameter from **1 to 30 µm**

Due to its lamellar crystal structure, the simplest form of hBN particles are platelets. Three classes of platelet powders are included in the Saint-Gobain Boron Nitride Powder Solutions portfolio to provide a balance of form and function.

Platelets provide the best value for:

- High shear mixing operations
- Lubrication enhancement
- Applications that require fine particles

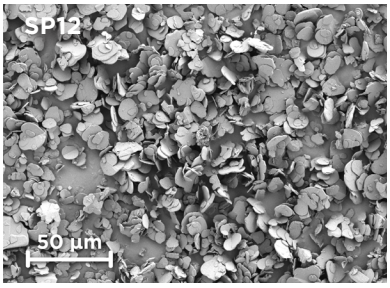
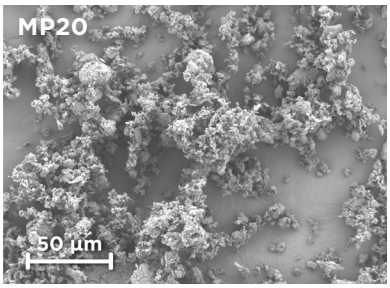
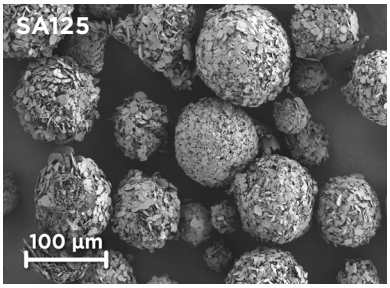
ENGINEERED AGGLOMERATES
Average particle sizes from **35 to 350 µm**

In many cases, the high aspect ratio and surface area of BN platelets can pose processing challenges. Our Spherical Agglomerates can help overcome these challenges in certain applications. Agglomerates with tailored sizes, shapes or other properties can be discussed upon request.

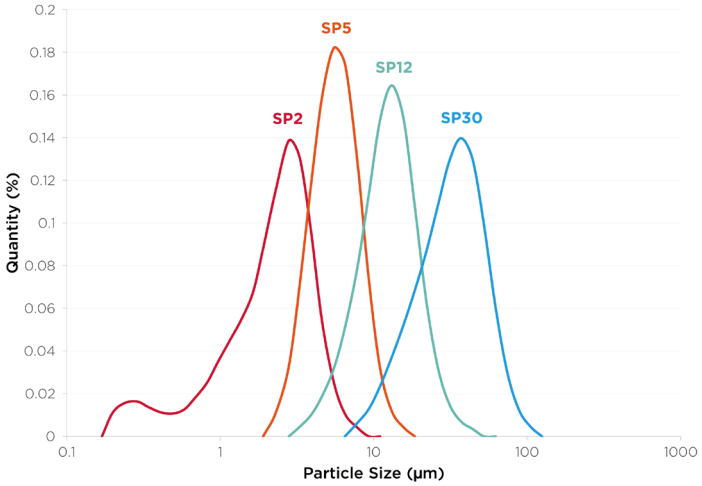
Benefits include:

- More isotropic thermal properties
- Improved flowability for easy handling
- Enhanced particle packing

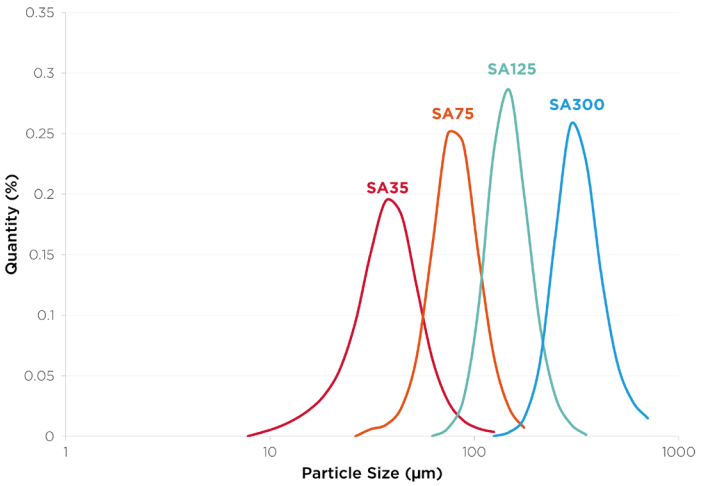
Powder Class Descriptions

	Powder Class	Applications
	**Standard Platelets** Standard Platelets powders are high purity single crystals of BN with no agglomeration and tight size distribution around the D50.	› Dielectric thermal filler › Potting compound › Polymer processing aid › Lubricant additive › Mold release › Nucleation aid › Cosmetic formulations
	**Modified Platelets** MP20 and MP50 are made of submicron BN crystals with different oxygen levels. MP05 is a higher density, slightly agglomerated particle of high purity platelets.	› Powder metal additive › Polymer processing aid › Lubricant additive
	**Spherical Agglomerates** Agglomerate powders with tight size distributions and spherical morphology for excellent packing and flowability. Provides higher through-plane thermal conductivity than platelet powders.	› High performance dielectric thermal filler › Potting compound filler › Thermal spray powder feed

Standard Platelets
Particle Size Distributions



Spherical Agglomerates
Particle Size Distributions



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Typical Powder Properties

	d10 µm	d50 µm	d90 µm	Tap Density g/cm³	Surface Area m²/g	BN Content %	B_2O_3 %	O_2 %
Standard Platelets								
SP2	0.6	2.2	4.2	0.20	12	98.6	0.06	1.3
SP5	3.3	5.5	10	0.30	9.0	99.3	0.10	0.6
SP6	3.9	6.5	12	0.45	8.0	99.6	0.04	0.4
SP8	4.2	8.5	19	0.45	2.8	99.3	0.02	0.7
SP12	6.0	12	23	0.50	1.8	99.3	0.02	0.7
SP16	7.4	16	29	0.50	1.6	99.4	0.02	0.6
SP30	14	30	50	0.55	1.1	99.7	0.02	0.3
Modified Platelets								
MP50	0.6	3.3	20	0.60	40	95.0	0.90	4.8
MP20	1.0	5.4	20	0.55	40	98.0	0.40	1.7
MP05	4.4	10	20	0.65	15	99.2	0.30	0.7
Spherical Agglomerates								
SA35	20	35	55	0.50	4.2	99.5	0.03	0.3
SA75	55	75	105	0.50	4.0	99.5	0.03	0.3
SA125	95	130	185	0.45	3.9	99.5	0.03	0.3
SA300	200	315	500	0.40	2.8	99.5	0.02	0.3

Typical properties, not to be used as product specification. We specialize in customizing our powder solutions to address customer needs. Custom offerings can be discussed upon request.

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