

IDEALUBE®

Boron Nitride Agglomerate Powders

Materials for Performance Brake Pads and Thermal Spray Abradable Coatings

Idealube® boron nitride powders are pure, white, ceramic materials with a hexagonal crystal structure similar to graphite. Commonly known as “white graphite”, hexagonal BN (hBN) is a synthetic ceramic produced at temperatures above 1600°C by reacting borax and nitrogen. The resulting product is a slippery white powder that is chemically inert, has excellent high temperature stability (oxidation resistant up to 850°C) and lubricating properties.

Idealube 1000 series powders (IDL1000, IDL2000 and IDL3000) are high purity and densified hBN agglomerates which are suitable for a variety of high and low temperature applications. Idealube agglomerates are comprised of many BN platelets packed in dense blocky shapes. Unlike typical fine mesh platy BN powders, Idealube high density agglomerates are “flowable” similar to a fine sand, are “robust” and resist breakage in processing or application.

Idealube high density agglomerates offer higher temperature oxidation resistance and lubricity compared to other solid lubricants such as graphite, metal sulfides or PTFE. Thanks to their blocky and dense configuration, IDL agglomerates are easily incorporated into metal matrix composites such as brake pad compositions to efficiently dissipate heat, modify friction and wear characteristics leading to reduced noise and chatter (vibration). IDL high density agglomerates are also used in thermal spray compositions for abradable coatings..



PRODUCT DATA SHEET



Features/Benefits

- Excellent high temperature stability and oxidation resistant in air up to 900°C
- Low coefficient of friction, lubricious at temperatures up to 1800°C (inert atmospheres)
- High thermal conductivity for efficient heat dissipation from moving parts
- Chemically inert and corrosion resistant
- Non-toxic, safe for human contact and the environment
- White, clean appearance

Key Applications

- Brake pads
- Dynamic friction composites
- Thermal spray compositions for abradable coatings

Target Markets

- Aerospace
- Performance motorsports
- Military vehicles
- High performance automotive

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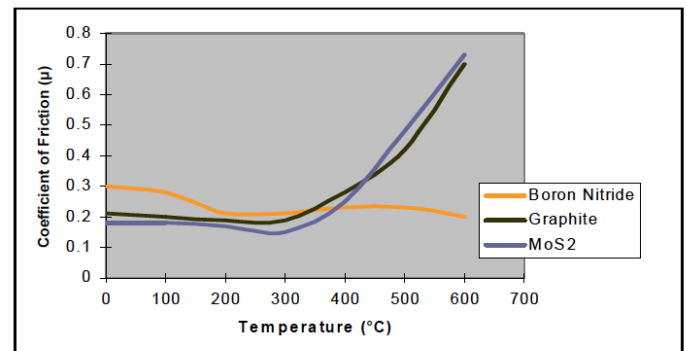
IDEALUBE® BORON NITRIDE AGGLOMERATED POWDERS – STANDARD GRADES AND TYPICAL PROPERTIES

Part No.	Chemistry, %			Particle Size Distribution, US Mesh			Other Physical	
	BN	O ₂	B ₂ O ₃	< 5%	90% min	< 5%	Tap Density, g/cc	Surface Area, m ² /g
IDL1000	99.0	0.1	0.5	+40	-40 / +140	-140	0.8	3
IDL2000	99.0	0.1	0.5	+80	-80 / +200	-200	0.8	3
IDL3000	99.0	0.1	0.5	+100	-100 / +270	-270	0.8	3

IDEALUBE VS. OTHER COMMONLY USED SOLID LUBRICANTS

Properties	IDEALUBE Boron Nitride	Graphite	MoS ₂	PTFE
Color Flexibility	****	○	○	****
Thermal Conductivity	****	***	*	○
Electrical Insulation	****	○	○	****
Oxidation Resistance at Temperatures > 400°C	****	*	*	○

**** very high *** high ** average * low ○ none



For further information, please visit us at www.bn.saint-gobain.com, or contact your IDEALUBE specialist at bnsales@saint-gobain.com.



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