

Boron Nitride Ceramics

-White Graphite

■ Boron Nitride



BMATS® Solid Boron Nitride is a unique material from INNOVACERA. It can be used in more extreme environment compared with ordinary ceramics due to its excellent properties. BMATS® BN may resist high temperature over 2000°C. It's similar with Graphite's micro structure, so we also call it white graphite.

■ Features

1. Easily machine to custom design
2. Good thermal resistance
3. Low thermal expansion
4. Good thermal shock resistance
5. High electrical insulation
6. Non wet to molten metal and glass
7. Good corrosion resistance



■ Applications

- MOCVD components
- Setters for Nitrides' sintering
- Atomizer nozzles for powder metal atomization
- Insulators for high-temperature furnaces
- BN parts for casting
- Continuous casting break rings
- High temperature mechanical components
- Crucibles and molds for molten metal processing



■ Ability

Max size: 500x500x200mm

Best tolerance: +/-0.05mm

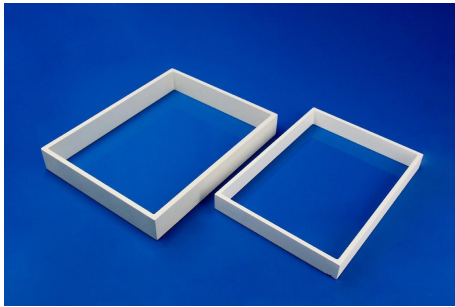
Thickness: 0.5 to 200mm

High purity and composited Boron Nitride are both available

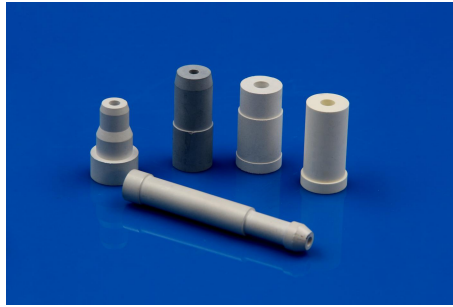
Properties	Units	UHB	HB	BC	BMS	BMA	BSC	BMZ	BAN	BSN
Main Composition	-	BN>99.7%	BN>99%	BN>97.5%	BN+Al+Si	BN+Zr+Al	BN+SiC	BN+ZrO ₂	BN+AlN	BN+Si ₃ N ₄
Color	-	White	White	White	White Graphite	White Graphite	Greyish-Green	White Graphite	Greyish-Green	Gray Black
Density	g/cm ³	1.6	2	2.0~2.1	2.2~2.3	2.25~2.35	2.4~2.5	2.8~2.9	2.8~2.9	2.2~2.3
Three-Point Bending Strength	MPa	18	35	35	65	65	80	90	90	/
Compressive Strength	MPa	45	85	70	145	145	175	220	220	400~500
Thermal Conductivity	W/(m·k)	35	40	32	35	35	45	30	85	20~22
Thermal Expansion Coefficient (20~1000°C)	10 ⁻⁶ /K	1.5	1.8	1.6	2	2	2.8	3.5	2.8	/
Max Using Temperature In Atmosphere In Inactive Gas In High Vacuum (Long Time)	(°C)	900 2100 1800	900 2100 1800	900 2100 1900	900 1750 1750	900 1750 1750	900 1800 1800	900 1800 1800	900 1750 1750	900 1750 1700
Room Temperature Electric Resistivity	Ω·cm	>10 ¹⁴	>10 ¹⁴	>10 ¹³	>10 ¹³	>10 ¹³	>10 ¹²	>10 ¹²	>10 ¹³	/
Typical Application	-	Nitrides Sintering	High Temperature Furnace	High Temperature Furnace	Powder Metallurgy	Powder Metallurgy	Powder Metallurgy	Metal Casting	Powder Metallurgy	Metal Casting
High Temperature Electrical Furnace Components	-	-	√	√	√	√	√	√	√	√
Metal Vaporize Crucible	-	-	√	√	-	-	-	-	√	√
The Container of Metal or Glass Melting	-	√	√	√	√	√	√	√	√	√
The Casting Mould Components of The Precious Metal and Special Alloy.	-	-	-	√	-	√	-	-	√	√
High Temperature Support Part	-	-	-	-	-	√	-	√	√	√
Nozzle and Transport Tube of The Melting Metal	-	-	√	√	√	√	√	√	√	√
Nitrides Sintering (Sagger and Setter Plate)	-	√	-	-	-	-	-	-	-	-

Remark: The value is just for review, different using conditions will have a little difference.

■ Applications



Frames for
Sintering Nitrides



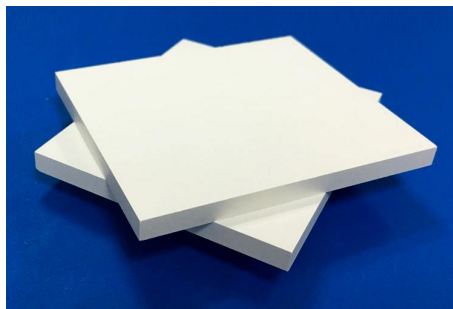
Nozzles for
Atomizer



Stir Bar for Molten
Aluminum



PVD/CVD
Insulation Part



Setter for
Sintering



Heat Dissipation



Breaking Rings



Tubes for
Insulation



Crucibles for
Sintering



Crucible for
Spinner System



Plates for
Furnace



Sleeves for
Furnace



INNOVACERA

technical ceramic solutions .com



0086 592 558 9730



sales@innovacera.com



www.innovacera.com

XIAMEN INNOVACERA ADVANCED MATERIALS CO.,LTD

Block A, 6/F, No.588 Jiahe Road, Torch High-tech Industrial District,
Xiamen, China