



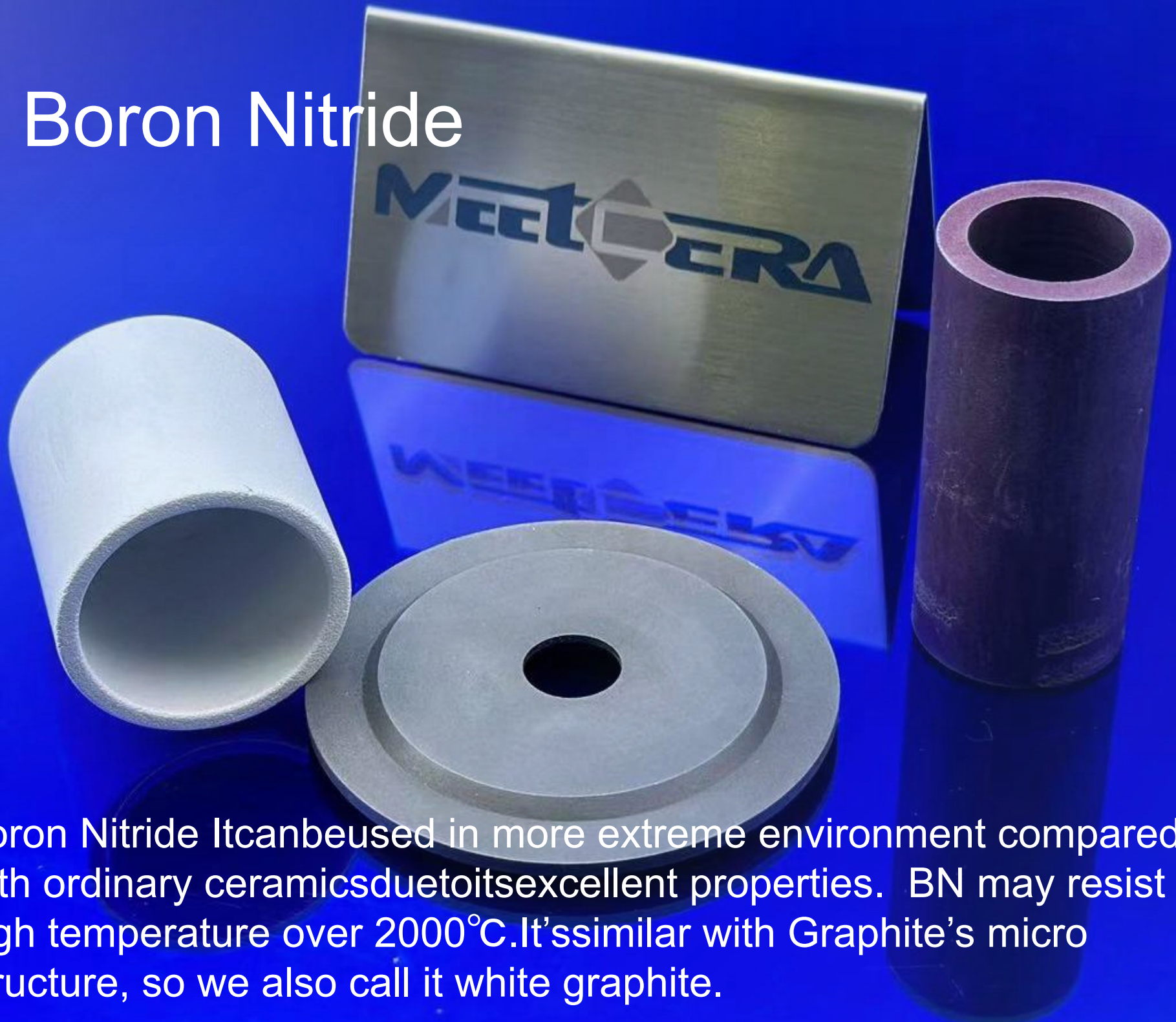
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# Boron Nitride Ceramics

## -White Graphite

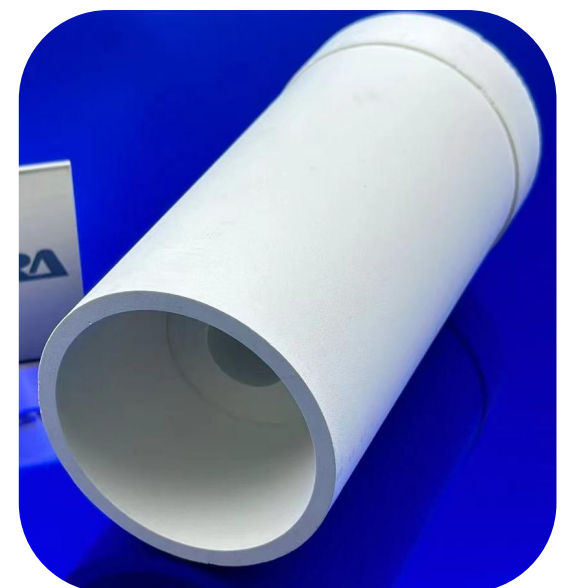
## ● Boron Nitride



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

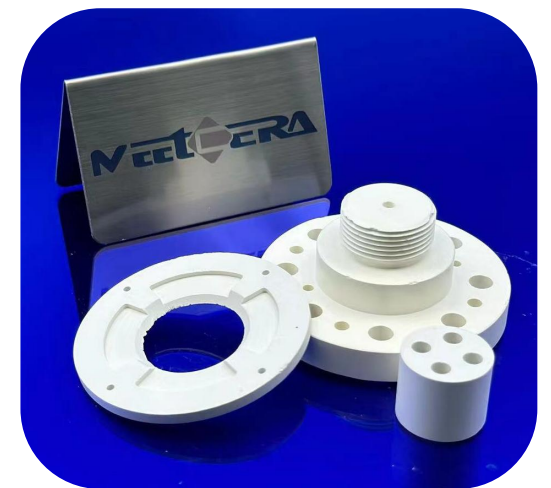
## ● Boron Nitride

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



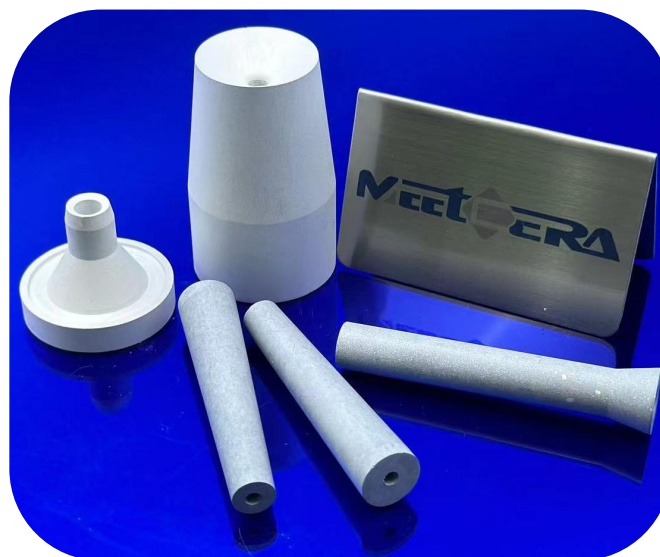
## ● Ability

Max size: 500x500x200mm

Best tolerance: +/-0.05mm

Thickness: 0.5 to 200mm

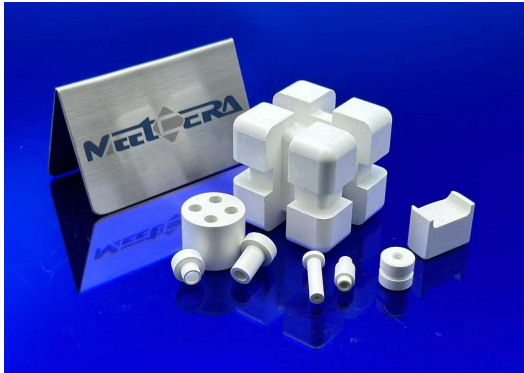
High purity and composited Boron Nitride are both available



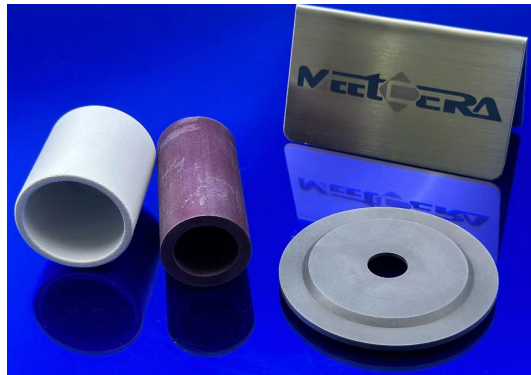
Properties	Units	UHB	HB	BC	BMS	BMA	BSC	BMZ	BAN
Main Composition	-	BN>99.7%	BN>99%	BN>97.5%	BN+AL+S	BN+ZR+AL	BN+SIC	BN+ZRO2	BN+ALN
Color	-	White	White	White	White Graphite	White Graphite	Greyish - Green	White Graphite	Greyish-Green
Density	g/cm <sup>3</sup>	1.6	2	2.0~2.1	2.2~2.3	2.25~2.35	2.4~2.5	2.8~2.9	2.8~2.9
Three-Point Bending Strength	MPa	18	35	35.00	65	65	80.00	90	90.00
Compressive Strength	MPa	45	85	70.00	145	145	175.00	220	220.00
Thermal Conductivity	W/m·k	35	40	32.00	35	35	45.00	30	85.00
Thermal Expansion Coefficient (20-1000°C)	10 <sup>-6</sup> /K	1.5	1.8	1.60	2	2	2.80	3.5	2.80
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
Room Temperature Electric Resistivity	Ω·cm	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>13</sup>
Typical Application	-	Nitrides Sintering	High Temperature Furnace	High Temperature Furnace	Powder Metallurgy	Powder Metallurgy	Powder Metallurgy	Metal Casting	Powder Metallurgy
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



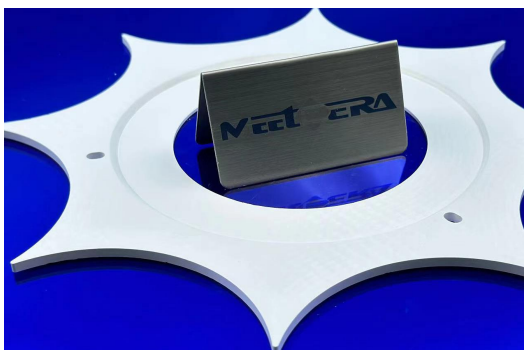
special-shaped parts



Purple special-shaped parts



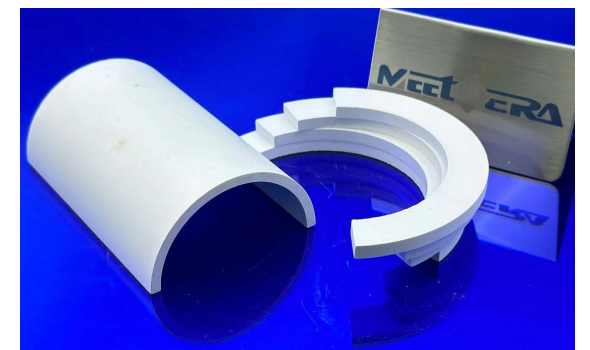
perforated pipe



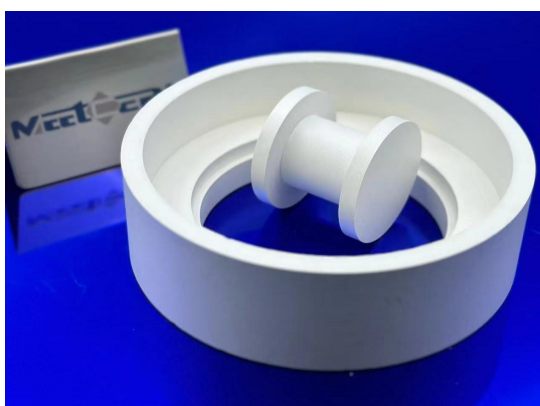
Setter for Sintering



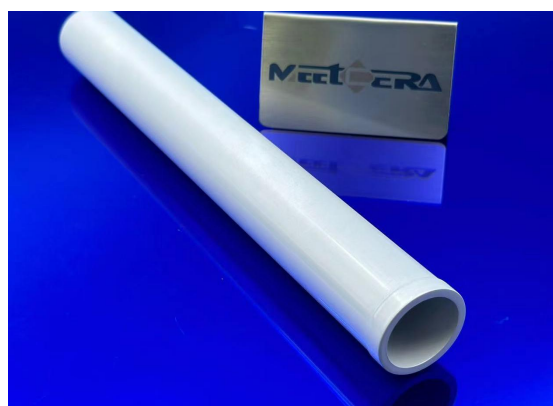
Heat Dissipation



Plates for Furnace



Breaking Rings



Tubes for Insulation



Crucibles for Sintering

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