

Alumina (Al₂O₃)

Features

- Lower Thermal Expansion Coefficient
- Lower Dielectric Constant and Loss
- Higher Flexural Strength

Applications

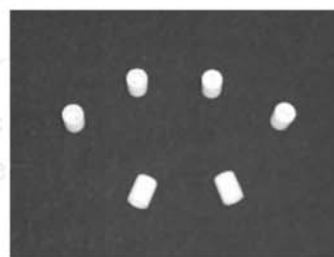
- Ceramic-metal Housings for Rectifier and Thyristor
- Ceramic Substrates for Power Semiconductor Device
- Thick Film and Thin Film
- Direct Copper Bonded
- Bolts, Nuts, Washers
- Rods, Tubes
- Plates, Discs
- Standoff Insulators

Characteristics of Material

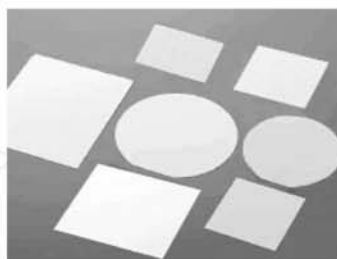
Item	Unit	Value		
Alumina Content	%	93	96	99
Bulk density	g/cm ³	3.6	3.7	3.8
Water Absorption	%	0	0	0
Flexural Strength	MPa	>310	>310	>340
Yong' s Modules	GPa	290	330	370
Dielectric Constant (at 1MHz)		8.8	9.4	9.9
Dielectric Loss Angle (at 1MHz)	× 10 ⁻⁴	6	4	2
Dielectric Strength	kV/mm	>15	>15	>15
Thermal Expansion Coefficient	× 10 ⁻⁶ /°C	7.1	7.2	7.3
Thermal Conductivity (at 20°C)	W/m.K	22	27	33
Volume Resistivity (at 20°C)	Ω cm	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴



Bed knife



Small insulators



Substrates



Cast component



Spacers



Insulators



Nozzles



Insulating plates