

Structure Parts of Alumina (Al_2O_3)

Features

- Higher Mechanical Strength
- Higher Dielectric Strength

Applications

- Support Insulators for Electronic Instrument, Meter and Automobile
- Tubes
- Plates
- Various Parts

Characteristics of Material

Item		Unit	Value		
Alumina Content		%	MS-1 Steatite	A-75 75	A-95 95
Bulk Density		g/cm^3	2.7	3.2	3.6
Bending Strength		MPa	> 140	> 200	> 280
Dielectric Constant	at 1MHz 20°C		7.5	9	9~10
	at 1MHz 500°C		—	—	9~10
	at 10GHz 20°C		—	—	9~10
Dielectric Loss Angle	at 1MHz 20°C	$\times 10^{-4}$	8	10	4
	at 1MHz 500°C		—	—	30~40
	at 10GHz 20°C		—	—	10
Thermal Expansion Coefficient	at 20°C~100°C	$\times 10^{-6}/^\circ\text{C}$	8	6	—
	at 20°C~500°C		—	—	6.5~7.5
	at 20°C~800°C		—	—	6.5~8
Volume Resistivity	at 100°C	$\Omega \text{ cm}$	$> 10^{12}$	$> 10^{12}$	$> 10^{13}$
	at 300°C		—	—	$> 10^{10}$
	at 500°C		—	—	$> 10^8$
Dielectric Strength (at D.C)		kV/mm	> 20	> 20	> 18



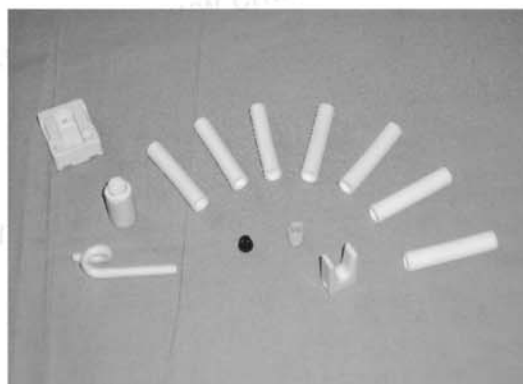
Pipe fittings



Crucibles



Support insulators



Various insulating parts