EXPRESS ELECTRONICS

MATERIAL DATASHEET

96% ALUMINA EE-C96

DESCRIPTION

Alumina Ceramic, also known as Aluminum Oxide or Al_2O_3, it is one of the most widely used technical ceramic materials and has good electrical insulation, heat resistance and wear resistance etc. Alumina ceramic can be manufactured in several purities to suit for different applications, such as: photovoltaics, machinery, electrical appliances, electronics and power, petrochemicals, automotive, food, medical, military, aerospace etc.

MAIN PROPERTIES:

- High hardness
- High mechanical strength
- Outstanding wear resistance
- Good acid & alkali resistance
- High temperature resistant
- Good electrical insulation
- Low dielectric constant

TYPICAL APPLICATIONS:

- Seal rings for pumps
- Plungers or pistons for valves
- Electronic ceramic substrates
- High temperature thermocouple tubes
- Textile eyelets or guides
- Electrical insulators
- Heat resistant ceramic crucibles
- Ceramic parts for high temperature furnace

PHYSICAL PROPERTIES:

*Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in anyway whatsoever and should only be treated as indicative and for guidance only.

Property	Unit		Value
Color	----		White
Density	g/cm^3		≥ 3.7
Thermal Conductivity	20℃ $W/(m \cdot K)$		≥ 24
Dielectric Constant	$1MHz$		9~10
Dielectric Loss	$1MHz$		$< 3 \times 10^{-4}$
Dielectric Strength	Kv/mm		≥ 17
Flexural Strength	MPa		≥ 350
Camber	Length$\%_0$		$\leq 2\%_0$
Surface Roughness (Ra)	μm		0.2~0.75
Electrical Resistivity	$\Omega \cdot cm$		$\geq 10^{14}$
Water Absorption	%		≤ 0.001
Thermal Expansivity	$10^{-6}/℃$	20~300℃	6.5~7.5
		300~800℃	6.5~8