

MarkeTech Aluminum Oxide Ceramic - Alumina 97.5%

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Data provided by the supplier, MarkeTech International. Because of their high temperature, chemical, electrical, and mechanical properties along with their relatively low cost and ease of manufacture, alumina ceramics are the workhorse of engineered ceramics. They are compounded from pure alumina, silica and trace elements to achieve specific properties. Alumina is cast or pressed into sheets, tubes, rods and shapes. For custom engineer ceramics, alumina is often iso-pressed in to large shapes, and while in a chalk like form, can be easily "green machined" to near net shape. After high temperature firing, the parts are then finished machined using diamond tools. Surfaces of alumina can be lapped and polished. The final alumina ceramic can also be metallized, plated and brazed to metal components to form completed parts that are vacuum tight.

Order this product through the following link:

http://www.lookpolymers.com/polymer_MarkeTech-Aluminum-Oxide-Ceramic-Alumina-975.php

Physical Properties	Metric	English	Comments
Density	3.97 g/cc	0.143 lb/in ³	
Open Porosity	0.00 %	0.00 %	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	210 MPa	30500 psi	
Flexural Strength	380 MPa	55100 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	7.60 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	4.22 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 $\text{Å}^\circ\text{C}$	@Temperature 68.0 $\text{Å}^\circ\text{F}$	
Maximum Service Temperature, Air	1650 $\text{Å}^\circ\text{C}$	3000 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Al2O3	97.5 %	97.5 %	

Electrical Properties	Metric	English	Comments
Dielectric Constant	9.4	9.4	
	@Frequency 1000 - 1.00e+9 Hz	@Frequency 1000 - 1.00e+9 Hz	
Dielectric Strength	9.10 kV/mm	231 kV/in	DC @ 0.100 in (2.5 mm) thickness
	@Thickness 2.50 mm	@Thickness 0.0984 in	

Electrical Properties

Metric

English

Comments

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