

MarkeTech Ceraflex 8Y Thin Zirconia Ceramic Oxygen Ion Conductor, Yttria Stabilized

Category : Ceramic , Oxide , Zirconium Oxide

Material Notes:

Data provided by the supplier, MarkeTech International. 8 mole% Y2O3 (13.8 wt%). CERAFLEX is a sintered and fully dense zirconia ceramic material that is formed into extremely thin sheets, that are both flexible and highly resilient. The high strength of CERAFLEX makes it easier to handle than other ceramic materials of the same thickness. CERAFLEX is available as strips, sheets, or custom parts. It is either partially or fully stabilized with yttria. The fully stabilized material is an oxygen ion conductor and used to build solid oxide fuel cells and oxygen sensors. A new cesium stabilized material (CERAFLEX:Cs) with much better electrical conductivity is now available. Properties and availability: Flatness 50 $\mu\text{m}/\text{in}$. Surface roughness 0.1 μm . Bending strength 40 kgf. Standard thicknesses 0.100 & 0.200 mm (up to 0.5 mm). Maximum size 200 x 200 mm.

Order this product through the following link:

http://www.lookpolymers.com/polymer_MarkeTech-Ceraflex-8Y-Thin-Zirconia-Ceramic-Oxygen-Ion-Conductor-Yttria-Stabilized.php

Physical Properties	Metric	English	Comments
Density	5.85 g/cc	0.211 lb/in ³	

Thermal Properties	Metric	English	Comments
CTE, linear	9.50 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	5.28 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 $\text{Å}^\circ\text{C}$	@Temperature 68.0 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	2.80 W/m-K	19.4 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	5.00 ohm-cm	5.00 ohm-cm	
	@Temperature 1000 $\text{Å}^\circ\text{C}$	@Temperature 1830 $\text{Å}^\circ\text{F}$	
	10.0 ohm-cm	10.0 ohm-cm	
	@Temperature 900 $\text{Å}^\circ\text{C}$	@Temperature 1650 $\text{Å}^\circ\text{F}$	
	20.0 ohm-cm	20.0 ohm-cm	
	@Temperature 800 $\text{Å}^\circ\text{C}$	@Temperature 1470 $\text{Å}^\circ\text{F}$	
	30.0 ohm-cm	30.0 ohm-cm	
	@Temperature 700 $\text{Å}^\circ\text{C}$	@Temperature 1290 $\text{Å}^\circ\text{F}$	
	120 ohm-cm	120 ohm-cm	

Electrical Properties	Metric	English	Comments
	@ Temperature 600 Â°C	@ Temperature 1110 °F	

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