

Corning Macor® Machinable Glass Ceramic

Category : Ceramic , Glass , Glass Ceramic , Machinable Ceramic

Material Notes:

The CTE of Macor® matches most metals and sealing glasses. It is nonwetting, exhibits zero porosity, and, unlike ductile materials, will not deform. It is an excellent insulator at high voltages, various frequencies, and high temperatures. When properly baked out, it will not outgas in vacuum. Used in ultra-high vacuum environments, constant vacuum applications, aerospace, nuclear-related experiments (not affected dimensionally by irradiation), welding nozzles, electrode and furnace fixtures, and medical equipment. Information provided by Corning Incorporated.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Corning-Macor-Machinable-Glass-Ceramic.php

Physical Properties	Metric	English	Comments
Density	2.52 g/cc	0.0910 lb/in ³	
Porosity	0.0 %	0.0 %	

Mechanical Properties	Metric	English	Comments
Hardness, Knoop	250	250	100g
Hardness, Rockwell A	48	48	
Modulus of Elasticity	66.9 GPa	9700 ksi	
Modulus of Rupture	0.0938 GPa	13.6 ksi	
Compressive Strength	345 MPa	50000 psi	
Poissons Ratio	0.29	0.29	
Fracture Toughness	1.53 MPa-m ^{1/2}	1.39 ksi-in ^{1/2}	
Shear Modulus	25.5 GPa	3700 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	7.40 μm/m-°C	4.11 μin/in-°F	
	@Temperature -200 - 25.0 °C	@Temperature -328 - 77.0 °F	
	9.30 μm/m-°C	5.17 μin/in-°F	
	@Temperature 25.0 - 300 °C	@Temperature 77.0 - 572 °F	
	11.4 μm/m-°C	6.33 μin/in-°F	
	@Temperature 25.0 -	@Temperature 77.0 -	

Thermal Properties	600 °C Metric	1110 °F English	Comments
	12.6 $\mu\text{m}/\text{m}\cdot\text{°C}$	7.00 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 25.0 - 800 °C	@Temperature 77.0 - 1470 °F	
Specific Heat Capacity	0.790 J/g-°C	0.189 BTU/lb-°F	
Thermal Conductivity	1.46 W/m-K	10.1 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	800 °C	1470 °F	Continuous
	1000 °C	1830 °F	No Load

Component Elements Properties	Metric	English	Comments
Al2O3	16 %	16 %	
B2O3	7.0 %	7.0 %	
Fluorine, F	4.0 %	4.0 %	
K2O	10 %	10 %	
MgO	17 %	17 %	
SiO2	46 %	46 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+16$ ohm-cm	$\geq 1.00\text{e}+16$ ohm-cm	
Dielectric Constant	5.67	5.67	
	@Frequency 8.50e+9 Hz	@Frequency 8.50e+9 Hz	
	6.03	6.03	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	30.9 kV/mm	785 kV/in	AC
	@Thickness 0.305 mm	@Thickness 0.0120 in	
	205.0 kV/mm	5206 kV/in	DC
	@Thickness 0.305 mm	@Thickness 0.0120 in	
Dissipation Factor	0.0047	0.0047	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0071	0.0071	
	@Frequency 8.50e+9	@Frequency 8.50e+9	

Electrical Properties

Hz
Metric

Hz
English

Comments

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China