



** MACOR® is the registered trademark of

CORNING

PRODUCT CAPABILITIES:

- Rod : 1/4" - 2"
- Sheet : 1/4" - 2"

ADVANTAGES:

- Continuous Use Temperature 800°C And Peak Temperature 1000°C
- Coefficient Of Thermal Expansion Readily Matches Most Metals And Sealing Glasses
- Exhibits Zero Porosity, And Unlike Ductile Materials, Won't Deform

PRODUCT COLORS:

- White

APPLICATIONS INCLUDE:

- Ultra High Vacuum Environments
- Constant Vacuum Applications
- Microwave Spacers, Headers, Windows
- Aerospace Industry - Retaining Rings, Radiation Detectors
- Welding Nozzles
- Fixtures, Electrodes, Burner Blocks, Medical Equipment

GENERAL PROPERTIES

MACOR® MGC
Typical Values

PHYSICAL

Coefficient Of Expansion	
-200 – 25 °C	74 x 10 ⁻⁷ /°C
25 – 300 °C	93 x 10 ⁻⁷ /°C
25 – 600 °C	114 x 10 ⁻⁷ /°C
25 – 800 °C	126 x 10 ⁻⁷ /°C
Specific Heat @ 25°C	0.79kJ / kg°C
Thermal Conductivity @ 25°C	1.46 W/m°C
Thermal Diffusivity@ 25°C	7.3x10 ⁻⁷ m ² /c
Continuous Operating Temperature	800°C
Maximum No Load Temperature	1000°C

MECHANICAL

Density	2.52 g/cm ³
Porosity	0%
Young's Modulus @ 25°C (Modulus Of Elasticity)	66.9 GPa
Poisson's Ratio	0.29
Shear Modulus @ 25°C	25.5 GPa
Hardness, Knoop 100g	250
Hardness, Rockwell	48
Modulus Of Rupture @ 35°C (Flexural Strength)	94 MPa
Compressive Strength	345 MPa
Fracture Toughness	1.53 MPa m ^{0.5}

ELECTRICAL

Dielectric Constant @ 25°C, 1 KHz	6.03
Dielectric Constant @ 25°C, 8.5 GHz	5.67
Loss Tangent @ 25°C, 1 KHz	4.7 x 10 ⁻³
Loss Tangent @ 25°C, 8.5 GHz	7.1 x 10 ⁻³
Dielectric Strength, AC Or DC (0.1" Thickness @ 25°C)	40 KV/mm
DC Volume Resistivity @ 25°C	> 10 ¹⁶ ohm-cm

CHEMICAL

5% HCL (Hydrochloric Acid) @ 0.1 ph, 24hrs, 95°C	~ 100
0.002 N HNO ₃ (Nitric Acid) @ 0.2.8 ph, 24hrs, 95°C	~ 0.6
0.1 NaHCO ₃ (Sodium Bicarbonate) @ 8.4 ph, 24hrs, 95°C	~ 0.3
0.02 N Na ₂ CO ₃ (Sodium Carbonate) @ 10.9 ph, 6hrs, 95°C	~ 0.1
5% NaOH (Sodium Hydroxide) @ 13.2 ph, 6hrs, 95°C	~ 10
Resistance to water over time @ 7.6pH, 1 Day, 95°C	0.01

NOTE: The information contained here in is typical values intended for reference only. They should NOT be used as a basis for design specifications or quality control.