



** 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

7.3x10⁻⁷m²/c

Continuous Operating Temperature

800°C

Maximum No Load Temperature

1000°C

MECHANICAL

Density

2.52 g/cm³

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

> 10¹⁶ohm-cm

CHEMICAL

(mg / cm²)

5% HCL (Hydrochloric Acid) @ 0.1 ph, 24hrs, 95°C

~ 100

0.002 N HNO₃ (Nitric Acid) @ 0.2.8 ph, 24hrs, 95°C

~ 0.6

0.1 NaHCO₃ (Sodium Bicarbonate) @ 8.4 ph, 24hrs, 95°C

~ 0.3

0.02 N Na₂CO₃ (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.