



INTERNATIONAL CERAMIC ENGINEERING

235 Brooks Street, Worcester, MA 01606
 phone: (508) 853-4700 fax: (508) 852-4101 email: sales@intlceramics.com
Engineering Answers in Advanced Ceramics

Macor™ Property Data Sheet

<i>Compound</i>	<i>Approximate Weight %</i>
<i>SiO₂</i>	46%
<i>Al₂O₃</i>	16%
<i>MgO</i>	17%
<i>K₂O</i>	10%
<i>F</i>	4%
<i>B₂O₃</i>	7%
<i>Properties</i>	<i>Measurements</i>
<i>Density</i>	2.52 gm/cc
<i>Porosity</i>	0%
<i>Hardness</i>	250 Knoop
<i>Max. use Temperature under non loading conditions</i>	1000°C, 1832°F
<i>Coefficient of Thermal Expansion</i>	94 x 10 ⁻⁷ in/in °C 52 x 10 ⁻⁷ in/in °F
<i>Compressive Strength</i>	50000 psi
<i>Flexural Strength</i>	15000 psi
<i>Dielectric Strength</i>	1000 Volts/mil
<i>Volume Resistivity</i>	>10 ¹⁴ ohm/cm
<i>Young's Modulus (25°C)</i>	66.9 Gpa
<i>Poisson's Ratio</i>	0.29
<i>Fracture Toughness</i>	1.53 MPa m ^{0.5}
<i>Dielectric Constant (25°C)</i>	6.03 (1 KHz)
<i>Thermal Conductivity (25°C)</i>	1.46 W/m °C

*The information set forth herein is offered by comparison only, and is not to be construed as absolute engineering data or constituting a warranty or representation for which we assume legal responsibility.

MACOR™, a machinable glass ceramic from Corning is a white, odorless material with extraordinary properties. The opaque glass ceramic allows quick and very precise manufacturing work pieces. A high continuous use temperature of 800°C and a peak temperature of up to 1000°C, open up a wide variety of interesting applications. MACOR™ has zero porosity, is non-wetting and does not deform. The material does not out-gas, which allows the use in vacuum environments. It is an excellent insulator at high voltages and various frequencies; even at high temperatures.