

Forsterite – Magnesium Silicate

Forsterite Ceramics have relatively high thermal expansion allowing them to seal to certain glasses and metals. Forsterite has excellent electrical insulating properties, good mechanical strength and can function at safe operating temperatures up to 1000 C. Typical applications include but not limited to, radiation detection devices and other vacuum and hermetic seal type applications.

Mechanical, Electrical, Thermal and Physical Properties

Material Grade	Forsterite
Physical Properties	
Water Absorption (%)	impervious:0.00
Density (g/cc)	2.8
Color	Tan
Mechanical Properties	
Flexural Strength (1K PSI)	20
Compressive Strength (1K PSI)	85
Tensile Strength (1K PSI)	9
Hardness (Moh's Scale)	7.5
Impact Resistance (Inch-Lbs.)	5
Electrical Properties	
Dielectric Strength (Volts/Mil)	250
Dielectric Constant (@1MHz)	6.4
Volume Resistivity 25 C (ohms-cm)	>1E14
Loss Index (@1MHz)	0.007

Thermal Properties

C.O.T.E. (20-650 C)	9.9 x 10 ⁻⁶
Safe Operating Temperature (C)	1000
Thermal Conductivity (W/m-C)	3.8

Note: This information is for design guidance only. Du-Co will not guarantee this information as absolute values. Various geometries can affect properties