

Steatite – Magnesium Silicate

Steatite Ceramics are excellent electrical insulators. Our Steatite products are low cost materials having good mechanical strength, great electrical insulating properties, good wear and corrosion resistance and can function at safe operating temperatures up to 1000 C. Typical applications include, but are not limited to, electric heating elements, igniters, lamp bases/sockets, resistors, stand offs, band heaters, knife sharpeners, thermocouple cores, thermostat pins, load banks, ovens, furnaces, connectors, spacers, electrostatic air cleaners, relays, switches, fuses, substrates, sensors and stiffening rods.

Mechanical, Electrical, Thermal and Physical Properties

Material Grade	L-3	L-5
Physical Properties		
Water Absorption (%)	Impervious: 0.00 – 0.02	Impervious: 0.00 – 0.02
Density (g/cc)	2.5	2.7
Color	Off White (Cream)	Off White (Cream)
Mechanical Properties		
Flexural Strength (1K PSI)	18	20
Compressive Strength (1K PSI)	80	90
Tensile Strength (1K PSI)	8.5	9
Hardness (Moh's Scale)	7.5	7.5
Impact Resistance (Inch-Lbs.)	5	5.3

Electrical Properties

Dielectric Strength (Volts/Mil)	230	240
Dielectric Constant (@1MHz)	5.5	6.2
Volume Resistivity 25 C (ohms-cm)	>1E14	>1E14
Loss Index (@1MHz)	0.028	0.007

Thermal Properties

C.O.T.E. (20-650 C)	8.0 x 10-6	8.4 x 10-6
Safe Operating Temperature (C)	1000	1000
Thermal Conductivity (W/m-C)	3.4	3.4