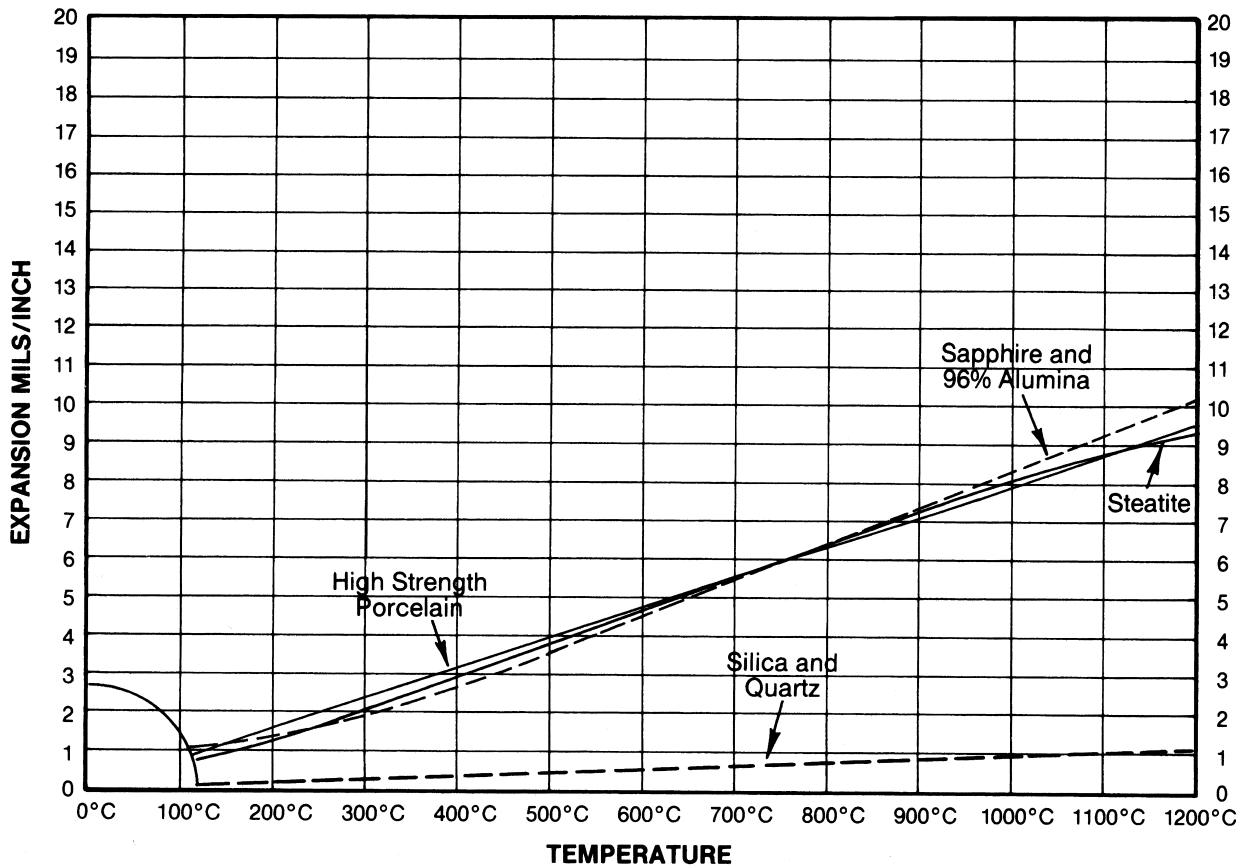


PROPERTIES OF CERAMIC INSULATORS

	PROPERTY	UNIT	STEATITE	85% NOM. ALUMINA	94% NOM. ALUMINA	97.5% NOM. ALUMINA	99.5% NOM. ALUMINA	
Mechanical	Compressive Strength	psi, 25°C	90,000	>240,000	>300,000	>250,000	>300,000	
	Flexural Strength	psi, 25°C	21,000	46,000	50,000	43,000	45,000	
	Porosity	—	Vacuum Tight	Vacuum Tight	Vacuum Tight	Vacuum Tight	Vacuum Tight	
	Water Absorption	%	0.00	0.00	0.00	0.00	0.00	
	Hardness	Moh's Scale	7.5	8	9	9	9	
Thermal	Thermal Conductivity	cal/cm ² /sec/°C	0.008	0.035	0.049	0.064	0.070	
	Max. Operating Temp.	°C	1000	1400	1600	1650	1725	
	Thermal Expansion	in/in/°C	25-200°C	6.9×10^{-6}	5.4×10^{-6}	6.3×10^{-6}	6.9×10^{-6}	6.9×10^{-6}
	Linear Coefficient	25-600°C	7.8×10^{-6}	7.5×10^{-6}	8.0×10^{-6}	8.5×10^{-6}	8.3×10^{-6}	
Electrical	Dielectric Constant	10 MHz at 25°C	6.1	8.2	9.07	9.53	9.58	
		1 GHz at 25°C	—	8.2	9.04	9.00	9.30	
		8.5 GHz at 25°C	5.9	8.2	8.98	9.04	9.37	
	Dielectric Strength	V/mil, 60 Cycle	230	600	650	1100	800	
	Dielectric Loss Factor	10 MHz at 25°C	.0050	.0070	.00236	.00038	.00029	
		1 GHz at 25°C	—	.0100	.00560	.00270	.00130	
		8.5 GHz at 25°C	.012	—	.00700	.00407	.00084	
	Volume Resistivity	Ohms/cm ³ at 25°C	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	>10 ¹⁴	
300°C		10 ¹¹	10 ¹⁰	10 ¹²	10 ¹³	10 ¹¹		
600°C		10 ⁷	10 ⁷	10 ⁸	10 ¹⁰	10 ⁸		

THERMAL EXPANSION FOR INSULATORS



All of these charts should be used as a rough guideline to match materials with the individual application. For standard products in this catalog, the temperature ratings (limitations) can be attributed to both materials used and seal configuration.