FUSED SILICA
HOT PRESS PLATENS
CASTABLE CERAMICS
FIRED SHAPES
AEROSPACE TOOLING

Foundry Service & Supplies, Inc.

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HI-TEMP INSULATIONS
CALCIUM SILICATE BOARDS
MILLBOARD AND BLANKET
PAPERS AND CEMENTS
CUTTING AND FABRICATING

Micatemp Machinable Glass/Mica Ceramic Composite

GENERAL PROPERTIES	UNITS	MACHINING GRADES SHEET/ROD			MOLDING GRADES			
		400	500	1100	410	555	1301	371
Specific Gravity		2.5	2.7	2.8	3.8	3.7	3.9	4.8
Density	lbs/in.^{3}	.09	.10	.10	.14	.13	.14	.17
Thermal Conductivity	$\frac{\text{cal cm}}{\text{sec cm}^2\ °C}$ / $\frac{\text{BTU ft.}}{\text{hr. sq. ft °F}}$	.00100 0.24	.00120 0.29	.00140 0.34	.00120 0.29	.00130 0.31	.00125 0.30	.00136 0.31
Moisture Absorption		Nil	Nil	Nil	Nil	Nil	Nil	Nil
Coefficient of Thermal Expansion (x 10^{-6})	in/in/°C in/in/°F	10.5 5.8	11.2 6.0	9.4 5.2	11.2 6.0	11.0 6.0	10.3 5.5	11.5 6.3
Specific Heat	cal/gm/°C	0.12	0.12	0.11	0.24	0.24	0.23	0.25
Max. Continuous Operating Temp.	°F °C	750 400	750 400	1100 595	750 400	750 400	1300 700	700 370
Flammability		Does not burn						
Mica Filler		Natural	Synthetic	Synthetic	Natural	Synthetic	Synthetic	Natural
Radiation Resistance (3 x 10^{10} Rads-Cobalt)		Good	Better	Excellent	Good	Better	Excellent	Good

ELECTRICAL PROPERTIES

Dielectric Strength	V / mil ⅛" thick	400	400	380	375	375	375	350
Arc Resistance	Seconds	300	300	325	325	325	350	300
Permittivity	IMHz	6.7	6.9	6.8	9.3/8.4	8.8/8.2	9.5/8.8	—
Dissipation Factor	IMHz	0.0018	0.0013	0.0017	0.0012	0.0013	0.0015	0.006
Loss Index	IMHz	0.012	0.009	0.012	0.0115	0.0110	0.0150	—
Surface Resistivity	Dry ohm-cm (70°F)	10^{16}	10^{16}	10^{16}	10^{15}	10^{15}	10^{15}	10^{15}
Volume Resistivity	Ohm-cm (70°F)	10^{12}	10^{13}	10^{14}	10^{13}	10^{14}	10^{14}	10^{14}
Surface Resistivity	Wet ohm-cm (70°F)	10^{6}	10^{10}	10^{11}	10^{9}	10^{9}	10^{10}	10^{9}
Dielectric Constant	IMHz	6.7	6.9	6.8	8.6	8.8	9.0	12.5

MECHANICAL PROPERTIES

Tensile Strength	psi	6000	6000	5000	6500	6000	6000	6500
Flexural Strength	psi	13,000	12,500	11,000	10,000	9,000	9,000	10,000
Compressive Strength	psi	45,000	40,000	32,000	33,000	34,000	30,000	35,000
Modulus of Elasticity (in tension)	psi	11.0 x 10^6	12.0 x 10^6	10.6 x 10^6	7.0 x 10^6	7.2 x 10^6	9.0 x 10^6	—
Hardness - Rockwell H	H	90	90	90	90	90	90	90
Hardness - Brinell	H	56	56	56	56	56	56	56
Impact Strength - IZOD (notched)	Ft-lbs/in.	1.8	1.7	1.3	0.7	0.7	0.6	0.65