

## Mykroy/Mycalex® (Mica) Material Specifications

The low thermal conductivity and electrical properties of Mykroy/Mycalex® make it an excellent material. Mycalex® is dimensionally stable at temperatures ranging from -240°C to 600°C and does not burn or outgas. It is a good alternative to Macor when high temperature and price are a factor.

Physical Properties	Units	M400	M500	M600
Density	g/cm <sup>3</sup>	2.6	2.7	2.8
Color	-	Dark Gray	Light Gray	Cream
Water Absorption	%	Nil	Nil	Nil
Mica Filler	-	Natural	Synthetic	Synthetic
Flammability	-	Does Not Burn		

Mechanical Properties	Units	M400	M500	M600
Compressive Strength	psi / MPa	45,000 / 310	40,000 / 276	32,000 / 221
Tensile Strength	psi / MPa	6000 / 41.4	6000 / 41.4	5000 / 34.5
Modulus of Elasticity	psi x 10 <sup>6</sup>	11.0	12.0	10.6
	GPa	75	82.7	73.1
Impact Strength	ft-lbs/in	1.8	1.7	1.3
IZOD (notched)	J/cm	0.961	0.908	0.694
Flexural Strength	psi / MPa	13,000 / 89.6	12,500 / 86.2	11,000 / 75.9
Hardness Rockwell	H / A	90 / 46	90 / 46	91 / 47

Thermal Properties	Units	M400	M500	M600
Max. Use Temperature	°F / °C	750 / 400	930 / 500	1100 / 600
Thermal Conductivity	W/m.K	.87	1.15	1.32
Specific Heat	cal/g/ °C	0.12	0.12	0.11
Coefficient of Thermal Expansion (x10 <sup>-6</sup> )	/° C @ 25 ° C	12.5	11.57	10.48
	@ 350 °C	11.0	10.53	9.74
	@ 500 °C	-	-	9.39
	@ 750 °C	-	-	-

Electrical Properties (Tested @ 25°C)	Units	M400	M500	M600
Dielectric Strength	V/mil	730	530	420
	kV/mm	28.7	20.9	16.5
Arc Resistance	Seconds	245	260	345
Dissipation Factor	1 MHz	0.0018	0.0013	0.0017
Loss Index	1 MHz	0.012	0.009	0.012
Surface Resistivity	Ω/sq (25° C)	10 <sup>9</sup>	10 <sup>12</sup>	10 <sup>11</sup>
Volume Resistivity	Ω-cm (25° C)	10 <sup>10</sup>	10 <sup>14</sup>	10 <sup>12</sup>
Dielectric Constant	1 MHz	6.7	6.9	6.8

\*\*The information provided in this table is a compilation of publicly available data. This information is provided for comparison purposes only, and is not intended to be warrantable. Further, *Technical Products, Inc.* disclaims any and all liability from errors, in accuracies, or omissions.