



Technical Products, Inc.

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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 ³	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 ⁶	11.0	12.0	10.6
	GPa	75	82.7	73.1
Impact Strength IZOD (notched)	ft-lbs/in	1.8	1.7	1.3
	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 ⁻⁶)	/° 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 ⁹	10 ¹²	10 ¹¹
Volume Resistivity	Ω-cm (25° C)	10 ¹⁰	10 ¹⁴	10 ¹²
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.