



DATA SHEET

MICA

Characteristic	Unit	Muscovite	Phlogopite
Colour		Ruby / Green	Amber / Yellow
Density	gm/cm ³	2.6 - 3.2	2.6 - 3.2
	lb/in ³	0.095-0.116	0.095-0.116
Specific Heat		0.21	0.21
Hardness	Moh Scale	2.8 - 3.2	2.3 - 3.0
	Shore Test	80 - 105	70 - 100
Optic Axial Angle		55 - 75	5 - 25
Tensile Strength	kgf/cm ²	about 1750	about 1000
	lbf/in ²	about 25000	about 15000
Shear Strength	kgf/cm ²	2200 - 2700	1000 - 1300
	lbf/in ²	31000 - 38000	14000 - 19000
Compression Strength	kgf/cm ²	1900 - 2850	---
	lbf/in ²	27000 - 32000	---
Modulus of Elasticity	kgf/cm ² x 10 ⁻³	1400 - 2100	1400 - 2100
	lbf/in ² X 10 ⁻⁶	20 - 30	20 - 30
Coefficient of expansion per °C perpendicular to cleavage plane		9X10 ⁻⁶ -36X10 ⁻⁶	30X10 ⁻⁶ -60X10 ⁻⁶
Calcining Temperature	C	700 - 800	900 - 1000
	F	1290 - 1470	1650 - 1830
Maximum operating temperature	C	500 - 600	800 - 900
	F	930 - 1110	1470 - 1650



Thermal conductivity	Unit	Muscovite	Phlogopite
<i>Perpendicular to cleavage planes</i>	Gm.cal/sec/cm ² /C/cm	about 0.0013	about 0.0001
	BTU/hr/ft ² /0f/ft	about 0.31	about 0.24
<i>Parallel to cleavage planes</i>	Gm.cal/sec/cm ² /C/cm		about 0.012
	BTU/hr/ft ² /0f/ft		about 3.0
<i>Water of constitution %</i>		4.5	3.0
<i>Moisture absorption</i>		Very low	Very low
<i>Apparent electric strength</i>	0.001" to 0.003"	120 - 200	---
	KV/mm		
<i>R.M.S. at 15° C (60°F)</i>	thick Volts per 0.001"	3000 - 5000	---
	0.01" to 0.05" KV/mm	40 - 80	30 -60
	thick Volts per 0.001"	1000 - 2000	750 -1500
<i>Permittivity at 15°C(60°F)</i>		6-7	5-6
<i>Power Factor (loss tangent)</i>	@ 15° C (60° F)	0.0001 - 0.0004	0.001 - 0.005
<i>Volume Resistivity</i>	25° C (77° F) ohm cm	40 x 10 ¹³ -2 x 10 ¹⁷	1x10 ¹² - 1x10 ¹²
<i>Acid reaction</i>		Affected by Hydrofluoric Acid	Affected by Sulphuric Acid

