

ASTM Grade Size	Area of minimum Rectangle		Minimum dimension of one side	
	Sq.In	Equivalent Sq Cm	Inch	Cm
OOEE SPECIAL	100	650	4	10
OOEE SPECIAL	80	520	4	10
EE SPECIAL	60	390	4	10
E SPECIAL	48	310	4	10
A-1 (SPECIAL)	36	235	3 1/2	8.8
NO. 1	24	155	3	8.8
NO. 2	15	97	2	5
NO. 3	10	65	2	5
NO. 4	6	40	1 1/2	3.8
NO. 5	3	20	1	2.5
NO. 5 1/2	2 1/2	15	8-Jul	2.2
NO. 6	1	6.5	4-Mar	1.9

PHYSICAL PROPERTIES OF MICA GRADE V1		
Characteristics	Unit	Muscovite
Colour		Ruby / Green
Density	gm/cm ³	2.6 - 3.2
	lb/in ³	0.095-0.116
Specific Heat		0.21
Hardness	Moh Scale	2.8 - 3.2
	Shore Test	80 - 105
Optic Axial Angle		55 - 75
Tensile Strength	kgf/cm ²	about 1750
	lbf/in ²	about 25000
Shear Strength	kgf/cm ²	2200 - 2700
	lbf/in ²	31000 - 38000
Compression Strength	kgf/cm ²	1900 - 2850
	lbf/in ²	27000 - 32000
Modulus of Elasticity	kgf/cm ² x 10 ⁻³	1400 - 2100
	lbf/in ² X 10 ⁻⁶	20 - 30
Coefficient of expansion per °C perpendicular to cleavage plane		9 X 10 ⁻⁶ - 36 X 10 ⁻⁶
Calcining Temperature	C	700 - 800
	F	1290 - 1470
Maximum operating temperature	C	500 - 600
	F	930 - 1110
Thermal conductivity		
Perpendicular to cleavage planes	Gm.cal/sec/cm ² /C/cm	about 0.0013
	BTU/hr/ft ² /0f/ft	about 0.31
Parallel to cleavage planes	Gm.cal/sec/cm ² /C/cm	
	BTU/hr/ft ² /0f/ft	
Water of constitution %		4.5
Moisture absorption		Very low
Apparent electric strength	0.001" to 0.003" KV/mm	120 - 200
	thick Volts per 0.001"	3000 - 5000
R.M.S. at 15° C (60°F)	0.01" to 0.05" KV/mm	40 - 80
	thick Volts per 0.001"	1000 - 2000
Permittivity at 15°C(60°F)		6 - 7
Power Factor (loss tangent)	@ 15° C (60° F)	0.0001 - 0.0004
Volume Resistivity	25° C (77° F) ohm cm	40 x 10 ¹³ -2 x 10 ¹⁷
Acid reaction		Affected by Hydrofluoric Acid

**CHEMICAL COMPOSITION
OF MICA V1**

Silica (SiO ₂)	45.57%
Alumina (Al ₂ O ₃)	33.10%
Potassium Oxide (K ₂ O)	9.87%
Ferric Oxide (Fe ₂ O ₃)	2.48%
Sodium Oxide (Na ₂ O)	0.62%
Titanium Oxide (TiO ₂)	Traces
Calcium Oxide (CaO)	0.21%
Magnesia (MgO)	0.38%
Moisture at 100°C	0.25%
Phosphorus (P)	0.03%
Sulphur (S)	0.01%
Graphite Carbon (C)	0.44%
Loss on Ignition (H ₂ O)	2.74%