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[Mica Substrates](#)

Properties & Chemical Composition of Mica Grade V1 Grade Classification of Muscovite Mica

PHYSICAL PROPERTIES OF MICA GRADE V1		
Characteristic	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

Medium	X	X	X	*	*	*	*	*	*	*	*	*
Heavy	X	X	X	X	X	*	*	*	X	X	X	*
Hard	*	*	*	*	*	*	*	*	*	*	*	*
Soft	X	X	X	X	X	X	S	*	X	X	X	S
Stones and Holes	X	X	X	X	X	X	X	X	X	X	X	X
Buckles	X	X	X	X	X	X	S	*g	X	X	X	X
Reeves	X	X	X	X	X	X	X	X	X	X	X	X
Ridges	X	X	X	X	X	X	S	*g	X	X	X	X
Tears	X	X	X	X	X	X	X	X	X	X	X	X
Cracks	X	X	X	X	X	X	X	X	X	X	X	X
Hairline Cracks	X	X	X	X	X	X	X	X	X	X	X	X
Wedge	X	X	X	X	X	X	X	X	X	X	X	X
Tangle Sheet	X	X	X	X	X	X	X	X	X	X	X	X
Herringbones	X	X	X	X	X	X	X	*	X	X	X	X
Sand Blast	X	X	X	X	X	X	S	*	X	*	*	*

Symbols

Permissable	*
Not Permissable	X
Permissable Only If Specified	S
Few And Tiny In 1/4 Of Usable Area	a
In 1/2 Of Usable Area	b
Very Dense	c
Slight	d
In 2/3 Of Usable Area	e
Uniformly Distributed	f
Medium	g
Heavy	h

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