Laxmi Minerals Corporation

MINE OWNER, MANUFACTURERS & EXPORTERS OF MICA AND MINERALS

Physical Properties of MICA

Characteristic	Unit	Muscovite	Phlogopite
Colour		Ruby/ Green	Amber/ Yellow
Density	gm/cm³	2.6 - 3.2	2.6-3.2
	lb/ln³	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/cm²	about 1750	about 1000
	lbf/in²	About 25000	About 15000
Shear Strength	kgf/cm²	2200 - 2700	1000 - 1300
	lbf/in²	31000-38000	14000-19000
Compression strength	kgf/cm²	1900 - 2850	------
	lbf/in²	27000 - 32000	-----
Modulus of Elasticity	kgf/cm²× 10-³	1400-2100	1400-2100
	lbf/in² × 10-6	20 -30	20 -30
Coefficient of expansion per° C perpendicular to cleavage plane		9 X 10-6 36x10-6	30 X 10-6 60X10-6
Calcining Temperature	C	700-800	900-1000
	F	1290-14700	1650-1830
	C	500-600	800-900
	F	930-1110	1470-1650
Thermal Condutivity			
Perpendicular to cleavage planes	Gm.cal/sec/cm2/C/cm	About 0.0013	About 0.0001
	BTU/hr/ft2/Of/ft	About 0.31	About 0.24
Parallel to	Gm.cal/sec/cm2/C/cm		About 0.012
Cleavage planes	BTU/hr/ft2/Of/ft		About 3.0
Water of constitution%		4.5	3.0
Moisture absorption		Very low	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	30-60
	Thick volts per 0.001	1000-2000	750-1500
Permittivity at 15 C (60 F)		6-7	5-6
Power factor (loss tangent)	@15 C (60 F)	0.0001-0.0004	0.001-0.005
Volume resistivity	25 C (77 F) ohm cm	40 x 10 ^{13}-2 x 10^{17}	1 x 10^{12} - 1 x 10^{12}
Acid reaction		Affected by hydrofluoric acid	Affected by sulphuric acid

Chemical Properties of Mica

1	Silica (Si02)	45.57%
2	Alumina (Alb03)	33.10%
3	Potassium Oxide (K20)	9.87%
4	Ferric Oxide (Fe203)	2.48%
5	Sodium Oxide (Na20)	0.62%
6	Titanium Oxide (Ti02)	Traces
7	Calcium Oxide (CaO)	0.21%
8	Magnesia (MgO)	0.38%
9	Moisture at 1000 C	0.25%
10	Phosphorus (F)	0.03%
11	Sulphur (S)	0.01%
12	Graphitic Carbon (C)	0.44%
13	Loss on ignition (H2 o)	2.74%