



SmithLamina™

Mica Paper Base

COMPOSITION

The Electrical, Mechanical and Thermal Properties of Mica make it the best insulation material in the earth. The Mica Scrap and waste is used to make reconstituted Mica paper, which is used to make different kinds of electrical and thermal insulation material.

The properties of mica mineral are retained by using Mica paper with different bonding agents like, Epoxy and Silicon. The bonding agent are used as per requirement of application..

FIVE TYPES OF MICA PAPER BASE ARE

- Heater Mica Plate
- Insulation Mica Sheet
- Flexible Mica Sheet
- Commutator mica Plate
- Synthetic mica Sheet

HEATER MICA PLATE

Smiththerm Heater Mica Plate is manufacture using best quality Muscovite or Phlogophite Mica paper with Silicon resins binder under specific heat and pressure to produce Rigid and flat surface sheets.

It is blister free and generates very low smoke on first heat. Fully resist against high heat with excellent electrical insulation. Suitable for easy die punching or machining as require. It is widely used as a heating barrier as well as electrical insulation for many domestic appliances and various industrial applications.

Availability

- Sheet Size- 1000mm x 1200mm ,1000mm x 600mm
- Thickness- 0.1mm to 2mm (+/- 5%)

Characteristics		Smitherm - Sm14	Smitherm - Sp14
Mica Type		Muscovite	Phlogophite
Colour		White Cream	Brown
Mica Content	% Min	90	90
Resin Content	% Max	10	10
Density	Gm/cm3	2.0~2.2	2.0~2.2
Heat Resisting Continuous	°c	500	700
Heat Resisting Intermittent	°c	800	1000
Dielectric Strength @23°c	Kv/mm	>20	>18
Edge Strength	Kg / 0.1mm	1.3	0.9
Tensile Strength	N/mm2	140	100
Flexural Strength	N/mm2	180	150
Water Absorbation	%	<1	<1

Data are average results of laboratory tests conducted under standard procedures and are subject to Variation, These do not constitute a warranty or representation for which we assume legal responsibility.

INSULATION MICA SHEET

Smiththerm Mica Insulation Plate is manufacture using best quality Muscovite or Phlogophite Mica paper with Silicon resin binder under specific heat and pressure to produce Rigid and flat surface sheets.

Mica plates have very good electrical and mechanical properties. Fully resist against high heat with excellent electrical insulation. It is well suited for any machining into any shapes.

It is widely used for Arc Chutes, Bus bar supports, Furnace Lining, Induction furnace, Resistor banks, Insulation of high heating area etc

Availability

- Size - 1000x1200mm
- Thickness - 2mm to 50mm
- Tolerance - +/- 5%

Characteristics		Smiththerm - Sm14	Smiththerm - Sp14
Mica Type		Muscovite	Phlogophite
Colour		White Cream	Brown
Mica Content	% Min	90	90
Resin Content	% Max	10	10
Density	Gm/cm3	2.0~2.2	2.0~2.2
Heat Resisting Continuous	°c	500	700
Heat Resisting Intermittent	°c	800	1000
Dielectric Strength @23°c	Kv/mm	>20	>18
Edge Strength	Kg / 0.1mm	1.3	0.9
Tensile Strength	N/mm2	140	100
Flexural Strength	N/mm2	>180	>150
Weight Loss @550°c For 4 Hrs	%	<1	<1
Water Absorbation	%	<0.5	<0.5

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FLEXIBLE MICA SHEET

Smiththerm Flexible Mica Plate is manufacture using best quality Muscovite or Phlogophite Mica paper with flexible resinous binder under specific heat and pressure to produce flexible and flat surface sheets.

.Flexible Mica Plates is a good heat resistant Insulating material, which retains its permanent flexibility at room temperature.

It is widely used for Transformers, Electric furnace, electric home appliances where insulation require in uneven shapes. Characteristics.

Characteristics		Smitherm - Sm14	Smitherm - Sp14
Mica Type		Muscovite	Phlogopite
Colour		White Cream	Brown
Sheet Size	Mm	1000 X 600mm	1000x1200mm
Thickness	Mm	0.15 - 3mm (+/-5%)	
Mica Content	% Min	85	85
Resin Content	% Max	15	15
Density	Gm/cm3	2.1 ~ 2.2	2.1 ~ 2.2
Heat Resisting Continuous	°c	500	800
Heat Resisting Intermittent	°c	800	1000
Tensile Strength	N/mm2	140	100
Dielectric Strength @23°c	Kv/mm	>16	>16
Tensile Strength	Kgf/15mm	>12	>12
Water Absorbation	%	<0.5	<0.5

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COMMUTATOR MICA PLATE

SmithLamina® epoxy mica sheet for commutator consist of Muscovite or phlogopite mica paper, impregnated with a specially selected epoxy resin. It performs good electrical properties, mechanical strength, and excellent moisture resistance.

Availability

This product is a hard, dense mica sheet for use in segments, separators and spacers. It can be sawed, sheared, and punched into intricate shapes using good commercial practice. Because of its superior uniformity, automatic feeding and stacking are possible for cost savings in high speed assembly operations.

Type		Scm-14	Scp-14
Mica Paper		Muscovite	Phlogopite
Bond Content %		≤10	≤10
Density G/cm3		2.1-2.4	2.1-2.4
Thickness Tolerance Mm	Average	+0.02	+0.02
	Individual	+0.03	+0.03
Compressibility	Ce-elastic %	≤2.5	≤2
	Cp-plastic %	≤2.5	≤2
Flexural Strength Mpa		>300	>300
Elastic Modulus Mpa		>80 000	>70 000
Resistance To Exudation And Displacement °c		200	200
Dielectric Strength Kv/mm		>25	>25

Availability

- In sheets of 1000x600mm, 1000x1200mm
- In strips and in cut parts, according to drawings
- Thickness: 0.1 mm - 1.9 mm

Package

- Package: Carton
- Size (LXW) : 1000x600mm or 1000x1200mm
- Protective package Pallet or Wooden case

SYNTHETIC MICA SHEET

SmithLamina® Synthetic Mica Plate is manufactured using best quality synthetic Mica paper with Silicon resins binder under specific heat and pressure to produce Rigid and flat surface sheets.

Synthetic mica has high temperature resistance than Muscovite and Phlogopite Mica. Synthetic mica is extensively applied on products with strict requirement of high dielectric strength and high temperature resistance.

Availability

Type	Scm-14	Scp-14
Mica Type		Synthetic
Colour		White
Mica Content	% Min	90
Resin Content	% Max	10
Density	Gm/cm ³	2.2~2.3
Heat Resisting Continuous	°C	900
Heat Resisting Intermittent	°C	1100
Dielectric Strength	20°C	>25
	400°C / 1 Hrs	>13
	600°C / 1 Hrs	>10
Tensile Strength	N/mm ²	140
Flexural Strength	N/mm ²	180
Water Absorption	%	<1.5
Thermal Conductivity	W / M.k	0.3

All values are attributes of the used raw materials.

The physical data contained in this table are typical values. They are obtained on test specimens under specific conditions and represent average values of a large number of tests. The results obtained on these tests specimens cannot be applied to finished parts without reservations, as behaviour is influenced by processing and shaping.