



COMPOSITION

Natural mica base insulating materials are made by using processed raw mica mineral. The electrical, mechanical and thermal properties of natural mica fulfill the need of insulation in high temperature area up to 1200 degree. The crystalline structure and splitting characteristic of mica is used to manufacture different products as per needs. Raw Mica is processed to Mica Blocks. Mica blocks are splitted layer by layer to make Mica splittings of required thickness. This Mica splitting are bonded together with different bonding Agent like Shellac, Alkyd Vinyl, Epoxy, Silicon to make rigid and flexible sheets or plates

Four Types Of Natural Mica Base Are

1. HRM Sheet
2. Flexible Micanite Sheets
3. Segment Plates
4. Moulding Micanite Sheets

1. HRM SHEET

About	Manufactured from specially selected mica splitting, incorporating a low level synthetic binder and compressed in high pressure with heat. This gives a rigid material, which can be punched or cut to shape.	
Properties & Applications	Manufactured from specially selected mica splitting, incorporating a low level synthetic binder and compressed in high pressure with heat. This gives a rigid material, which can be punched or cut to shape	
Availability	Size :	1000 mm x 1000 mm +/- 10mm:
	Thickness :	Min 1mm , Tolerance +/- 10%
Storage	Unlimited shelf life in a dry place at room temperature.	

FOUR TYPES OF NATURAL MICA BASE ARE

Properties	Unit	Value
Mica Content - Max	%	95
Binder Content - Min	%	5
Density	2.2 Gm/cm3	
Heat Resistance : Continuous Service	°c	120
Intermittent Service	°c	150
Strength N/mm2	>75 N/mm2	120tensile
Flexural Strength	N/mm2	>200 N/mm2
Water Absorption	%	<0.5%
Dielectric Strength	Kv/mm	>30 Kv/mm
Thermal Classification	Grade	Class - B

2. FLEXIBLE MICANITE SHEETS

- a. Alkyd Flexible Plate
- b. Epoxy Flexible Plate
- c. Silicon Flexible Plate

a. Alkyd Flexible Plate

Composition	SmithLamina ST - AFP is a flexible mica plate made from mica splittings bonded with flexible Alkyd resin. The plate exhibits excellent flexibility and formability at room temperature. There are different grades available depending on the type of mica & binder content.
Application	For class "B" applications such as mechanical pads, D.C. coil separators, cone insulation, pads of field coils, under cross cover & lead terminals.

Product Data

Property	Unit	Value
Thermal classification	°C	130°C
Thickness range	mm	0.13 – 0.76
Thickness tolerance	mm	As per NEMA FI-1-1996 Grade 6.
Binder content	%	9 – 18
Dielectric strength	kV/mm	12 min

b. Epoxy Flexible Plate

Composition	SmithLamina ST-EFP is a flexible mica plate made from mica splittings bonded with flexible Epoxy resin. The plate exhibits excellent flexibility and formability at room temperature. There are different grades available depending on the type of mica used & binder content.
Application	For class "F" applications such as mechanical pads, D.C. coil separators, cone insulation, pads of field coils etc.

Product Data

Property	Unit	Value
Thermal classification	°C	155
Thickness range	mm	0.125 - 0.76
Thickness tolerance	mm	As per NEMA FI-1-1996 Grade 6
Binder content	%	7 - 20
Volatile content	%	0.5 max.
Dielectric strength	kV/mm	>12

Different Grades		
Code No.	Mica type	Binder Content, %
ST - EFP - 01	5 BF Ruby	13 - 27
ST - EFP - 02	6 1st Ruby / 6 DL Ruby	07 - 12

Available size of sheets	1020 mm X 1020 mm ± 10 mm	1020 mm X 510 mm ± 10 mm
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c. Silicon Flexible Plate

Composition	SmithLamina ST - SFP is a flexible mica plate made from mica splittings bonded with flexible Silicone resin. The plate exhibits excellent flexibility and formability at room temperature.
Application	For class "H" applications such as mechanical pads, traction motor coil separators, cone insulation, pads of field coils etc.

Product Data		
Property	Unit	Value
Thermal classification	°C	180
Thickness range	mm	0.30 – 0.76
Thickness tolerance	mm	As per NEMA FI-1-1996 Grade 86.
Binder content	%	10 ± 2
Dielectric strength	kV/mm	>12

Different Grades		
Code No.	Mica type	Binder Content, %
ST - SFP - 01	6 1st / 6 DL Ruby	10 - 20
ST - SFP - 02	6 DL Ruby	08 - 10

Available size of sheets	1020 mm X 1020 mm ± 10 mm	1020 mm X 510 mm ± 10 mm
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3. SEGMENT PLATES

- a. Epoxy Segment Plate
- b. Shellac Segment Plate
- c. Alkyd Vinyl Segment Plate

a. Epoxy Segment Plate

Composition	SmithLamina Epoxy Segment Plates is a built-up Epoxy bonded segment plate milled to IEC 371 thickness tolerances. It has excellent heat stability. There are different grades available depending on the type of mica used.
Application	This plate is specially suited to segment insulation in commutators of traction motors. 02-97 can be supplied in the form of sheets or punched segments, which can also be supplied stack gauged to ensure precise dimensional control on built-up commutators

Property	Unit	Value
Thermal Classification	°C	155
Thickness range	mm	0.40 - 1.85
Thickness Tolerance	mm	Avg. ± 0.025 Individual ± 0.050
Binder Content	%	03 – 05
Dielectric Strength	kV/mm	22 min.
Heat stability as per IEC 371-2-11		;300°C / 600 kg/cm ² / 30 minutes
No exudation of binder &		no mica displacement
Compressibility as per IEC 371-2-12; at 600 kg /cm ² pr. %		At R.T. - 3 max. At 200°C - 2 max.

Different Grades		
Code No.	Mica type	Binder Content, %
ST - SFP - 01	6 1st / 6 DL Ruby	10 - 20
ST - SFP - 02	6 DL Ruby	08 - 10

Available size of sheets	1020 mm X 1020 mm ± 10 mm	1020 mm X 510 mm ± 10 mm
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