

## Mica Tapes

Insulation for fire-resistant cables with circuit integrity up to 1000°C

### Descripción

Mica tapes are composite materials made of high-purity mica paper bonded to an alkali-free glass-fibre fabric backing and impregnated with a high thermal-resistance silicone resin. This construction provides a protective barrier that preserves electrical insulation integrity during fire exposure, keeping the cable functional at temperatures up to 1000°C depending on the mica grade selected.

In fire-resistant cable construction, the mica tape is applied directly over the conductor with the mica side in contact with the copper. During a fire, while the organic cable materials degrade, the mica layer maintains electrical insulation between conductors, allowing safety circuits — alarms, emergency lighting, fire-suppression and smoke-extraction systems — to remain operational throughout the time needed for evacuation.

Two mica types are available depending on the source mineral: calcined muscovite (750–950°C) and phlogopite (up to 1000°C). Muscovite delivers higher dielectric strength at an optimised cost, while phlogopite provides greater thermal resistance and flexibility for standards that demand higher test temperatures or longer exposure times.

### Muscovite Mica — FR80M28

Propiedad	Value	Unit
Thickness	0.110 ±0.02	mm
Tape weight	128 ±15	g/m <sup>2</sup>
Mica content	80 ±5	g/m <sup>2</sup>
Glass content	28 ±2	g/m <sup>2</sup>
Binder content	20 ±3	g/m <sup>2</sup>
Dielectric strength	≥1.3	kV/layer
Tensile strength	≥100	N/10mm
Service temperature	750 - 950	°C

### Phlogopite Mica — 28GS series

Propiedad	FR90P28	FR120P28	FR160P28
Thickness (mm)	0.100 ±0.02	0.120 ±0.02	0.150 ±0.02
Tape weight (g/m <sup>2</sup> )	135 ±10	171 ±11	206 ±11
Mica content (g/m <sup>2</sup> )	90 ±5	125 ±5	160 ±5
Glass content (g/m <sup>2</sup> )	28 ±2	28 ±2	28 ±2
Binder content (g/m <sup>2</sup> )	17 ±3	18 ±4	18 ±4
Dielectric strength (kV/layer)	≥1.0	≥1.2	≥1.5
Tensile strength (N/10mm)	≥100	≥100	≥100
Service temperature (°C)	Up to 1000	Up to 1000	Up to 1000

## Construcción

<b>Mica paper</b>	Calcined muscovite or Phlogopite
<b>Backing</b>	Alkali-free glass-fibre fabric
<b>Binder</b>	High-resistance silicone resin
<b>Halogens</b>	Halogen-free
<b>Toxic gases</b>	Free of toxic gases

## Guía de selección

The choice between muscovite and phlogopite depends primarily on the test temperature specified in the applicable standard and on the characteristics of the taping process. Phlogopite delivers superior performance at a higher cost, while muscovite is more economical for tests up to 950°C.

### Muscovite vs. Phlogopite

Factor	Muscovite Mica	Phlogopite Mica
Maximum temperature	750-950°C	Up to 1000°C
Dielectric strength	Higher ( $\geq 1.3$ kV/layer)	Standard ( $\geq 1.0$ - $1.5$ kV/layer depending on ref.)
Flexibility	Standard	Higher
Relative cost	Lower	Higher
When to choose	Tests up to 950°C, good cost/performance ratio	Standards with tests at 1000°C, long exposure times

### Selection by standard

Standard	Test temperature	Recommended mica
IEC 60331	750°C-950°C	Muscovite or Phlogopite
EN 50200	830°C-950°C	Muscovite or Phlogopite
BS 6387 Cat. C	950°C	Muscovite or Phlogopite
BS 6387 Cat. W	650°C + water	Phlogopite (greater resistance)
EN 45545 (railway)	Variable by HL	Per specific requirement

## Variantes disponibles

### Mica type

- Calcined muscovite — 750-950°C, higher dielectric strength
- Phlogopite — up to 1000°C, greater flexibility

### Manufacturing grades

- Standard grade — general taping
- High-quality grade — high-speed taping, small conductor sections

### Mica content

- 80 g/m<sup>2</sup> (FR80M28) — standard muscovite
- 90 g/m<sup>2</sup> (FR90P28) — basic phlogopite
- 125 g/m<sup>2</sup> (FR120P28) — reinforced phlogopite
- 160 g/m<sup>2</sup> (FR160P28) — phlogopite max. protection

## Formatos de entrega

The supply format directly influences process continuity and taping efficiency. Material can be supplied in different formats and dimensions adapted to each machine type and production speed.

**Pad / Roll (pancake)**

Core ID:	76 mm (3"), 120 mm (others on request)
Max OD:	80 - 600 mm
Width range:	5 - 1000 mm
Core material:	Plastic or cardboard

**Spool (TWS / STS reel)**

Core ID:	76 mm (3")
Max OD:	up to 300 mm
Max width:	up to 300 mm
Min tape width:	from 4 mm
Winding type:	Traverse Wounded (TWS) or Step to Step (STS)
Core material:	Plastic or cardboard

**Almacenamiento**

Minimum 12 months under standard storage conditions, original packaging (20°C).

*The values shown below come from in-house tests and characterise the material's behaviour both during processing and in service.*

Los valores indicados son típicos y no constituyen especificaciones vinculantes.