



# La MISOLET

## Working Of Electric And Thermo Insulating Materials

CNC machining by customers' drawing  
 Blanked findings  
 Direct selling  
 Sheets and panels – Rods – Tubes made of:  
 Bakelized Cloth and Bakelized Paper  
 Epoxy Glass Nema G10 and G11,  
 Silicone Nema G7 and Melamine Nema G5  
 Polyester Glass GPO3  
 Thermo Insulating Materials – Mica and Micanite  
 TOOLING, BLANKING AND DIEMAKING

### DATA SHEET

Laminate: **LTBF**

**Description:** Cotton fabric (24x24 ±2) and phenolic resin laminate

| According to specifications | CEI 15/10    | F         | Unit | Average values | Test method | Test conditions |
|-----------------------------|--------------|-----------|------|----------------|-------------|-----------------|
|                             | CEI EN 60893 | PF CC 201 |      |                |             |                 |
|                             | DIN 7735     | Hgw 2082  |      |                |             |                 |
|                             | NEMA LI - 1  | C         |      |                |             |                 |

| Physical properties | Colour                 |                     |           |              |       |
|---------------------|------------------------|---------------------|-----------|--------------|-------|
|                     | Specific gravity       | g/cm <sup>3</sup>   | 1,4       | ISO 1183     | a     |
|                     | Water absorption mm 3  | mg                  | 249       | IEC 60893-2  | b + d |
|                     | Thermal classification | °C                  | E (120°C) | IEC 60216    | -     |
|                     | Self extinguishing     |                     | HB        | UL 94        | -     |
|                     | Thermal conductivity   | W/mK                | 0,2       | ISO 8302     | -     |
|                     | Expansion coefficient  | 10 <sup>-6</sup> /K | 18        | VDE 0304/VSM | -     |
|                     | Silicone resin content | %                   | -         | IEC 371-2    | -     |
|                     | Mica content           | %                   | -         | IEC 371-2    | -     |

| Mechanical properties |                        |                   |      |         |   |
|-----------------------|------------------------|-------------------|------|---------|---|
|                       | Flexural strength ⊥    | MPa               | 142  | ISO 178 | a |
|                       | Charpy impact strength | KJ/m <sup>2</sup> | 9,7  | ISO 179 | a |
|                       | Tensile strength       | MPa               | 83   | ISO 527 | a |
|                       | Compressive strength ⊥ | MPa               | 329  | ISO 604 | a |
|                       | Bonding strength //    | N                 | 7000 | CEI     | a |
|                       | Modulus of elasticity  | MPa               | 7000 | ISO 178 | a |

| Dielectrical properties |   |       |     |             |   |
|-------------------------|---|-------|-----|-------------|---|
|                         | Insulation resistance                       | MΩ    | 1   | ISO 60167   | d |
|                         | Dielectric strength // to lamination        | KV    | 2   | ISO 60243-1 | a |
|                         | Dielectric strength ⊥ to lamination         | KV/mm | 0,6 | ISO 60243-1 | a |
|                         | Tracking resi stance                        | V     | -   | IEC 60112   | - |
|                         | Arc resistance                              | S     | -   | ASTM D495   | - |
|                         | Dissipation factor at 1 MHz                 |       | -   | IEC 60250   | - |
|                         | Dielectric constant (permittivity) at 1 MHz |       | -   | IEC 60250   | - |

The values shown above are indicative as they represent the average values observed during our routine control tests.

The user must make sure that the product he requests is compatible with the use to which it is destined.

**Test condition:**

- a) 48h 15-35°C 45/75 % relative humidity b) 1h 105°C c) 24h 105°C d) 24h 23°C in water
- e) 48h 50°C in water f) 24h 120°C in oil g) 96h 45°C 95% relative humidity

(Page 1 of 2)

Laminate:

**LTBF**

*La* MISOLET



| THICKNESS mm | TOLERANCE | Particular properties:   |
|--------------|-----------|--|
| 0,5          | ± 0,13    | - Suitable for small gears and other fine machining applications<br>- Suitable for low tension electric applications |
| 0,8          | ± 0,15    |  |
| 1,0          | ± 0,16    |  |
| 1,2          | ± 0,17    |  |
| 1,5          | ± 0,19    |  |
| 2,0          | ± 0,21    |  |
| 2,5          | ± 0,24    |  |
| 3,0          | ± 0,26    |  |
| 4,0          | ± 0,32    |  |
| 5,0          | ± 0,36    |  |
| 6,0          | ± 0,40    |  |
| 8,0          | ± 0,49    |  |
| 10,0         | ± 0,56    |  |
| 12,0         | ± 0,64    |  |
| 15,0         | ± 0,76    |  |
| 18,0         | ± 0,80    |  |
| 20,0         | ± 0,87    |  |
| 25,0         | ± 1,02    |  |
| 30,0         | ± 1,12    |  |
| 35,0         | ± 1,24    |  |
| 40,0         | ± 1,35    |  |
| 45,0         | ± 1,45    |  |
| 50,0         | ± 1,55    |  |
| 60,0         | ± 1,75    |  |
| 80,0         | ± 2,15    |  |
| 90,0         | ± 2,35    |  |

TO BE KEPT in dry stores, in a horizontal position

CAUTION: this material is photosensitive, light can gradually change the shade of colour.

We are available to effect cutting to measurement as well as machining to drawing of parts by CNC

Ref.217.798-010719; 216.8623-a1-160905;

Edit. September 2019