



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:

LFR4

Description: Glass cloth and epoxy resin binder laminate

According to specifications

CEI 15/10

CEI EN 60893

DIN 7735

NEMA LI - 1

EV⁴⁾

EP GC 202⁴⁾

Hgw 2372.1⁴⁾

FR4⁴⁾

Unit

Average values

Test method

Test conditions

Physical properties

Colour

translucid natural

Density

g/cm³

1,9

ISO 1183

a

Temperature Index (TI)²⁾

° C

B (130°C)

IEC 60216

-

Water Absorption (for 3 mm thickness)³⁾

mg

22

IEC 60893-2

b + d

Flammability (category)

-

V0

UL 94

-

Mechanical

Flexural strength ⊥

MPa

340

ISO 178

a

Modulus of elasticity

MPa

24x10³

ISO 178

a

Tensile Strenght

MPa

430

ISO 527

a

Compressive Strenght ⊥

MPa

520

ISO 604

a

Charpy impact strength //

KJ/m²

33

ISO 179

a

Dielectric properties

Dielectric strength ⊥ to lamination

kV/mm

14,2

ISO 60243-1

e

Dielectric strength // to lamination

KV

35

ISO 60243-1

e

Dissipation factor at 1 MHz

0,05

IEC 60250

d

Dielectric constant (permittivity) at 1MHz

5,5

IEC 60250

d

Tracking resistance

V

200

IEC 60112

a

Insulating resistance

MΩ

5x10⁴

ISO 60167

d

1) Tests done according to IEC 893-2

2) The temperature index is equivalent to continuous operating temperature. The properties of the material exposed to this temperature for 20 000 hours are assumed to fall maximum by 50 % of their initial values.

3) Water absorption is in line with laminate's thickness.

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

La MISOLET S.r.l. - Capitale sociale € 50.000,00 int.vers.

Phone.: +39-0377/43.71.25 (4 Lines) - Fax +39-0377/31.94.76

Works and offices: Via Pertini, 22/24 - 26845 Codogno (LO) - Italy

VAT IT06943440153

Internet: www.misolet.it - E-mail: info@misolet.it

Legal seat: Via Verbano, 8 - 20139 Milano - Italy

Laminate: **LFR4**

La MISOLET



THICKNESS mm	TOLERANCE	Particular properties:
0,2	± 0,07	Applications: similar to LG10 with the addition of being self-extinguishing Low water absorption Good dielectric properties High mechanical strength
0,3	± 0,08	
0,5	± 0,12	
0,8	± 0,16	
1,0	± 0,18	
1,2	± 0,20	
1,5	± 0,24	
2,0	± 0,28	
2,5	± 0,33	
3,0	± 0,37	
4,0	± 0,45	
5,0	± 0,52	
6,0	± 0,60	
8,0	± 0,72	
10,0	± 0,82	
12,0	± 0,94	
15,0	± 1,12	
20,0	± 1,30	
25,0	± 1,50	
30,0	± 1,70	
35,0	± 1,95	
40,0	± 2,10	
45,0	± 2,30	
50,0	± 2,45	
-	-	
-	-	

TO BE KEPT in dry stores, in a horizontal position

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

Ref. 216.158-R12-090517; 216.8623-A1-27122011; 217.798-25082015;

Ed. September 2017

(Page 2 of 2)