

DATA SHEET

Laminate: **LFR5**

Description: Glass cloth and epoxy resin binder laminate for high temperatures

According to specifications	CEI 15/10	EV	Unit	Average values	Test method	Test conditions
	CEI EN 60893	EP GC 311				
	DIN 7735	Hgw 2372.2				
	NEMA LI - 1	FR5				
Physical properties	Colour			Dark red		
	Specific gravity		g/cm ³	1,9	ISO 1183	a
	Water absorption mm 3		mg	22	IEC 60893-2	b + d
	Thermal classification		°C	H (180°C)	IEC 60216	-
	Self extinguishing			V0	UL 94	-
	Thermal conductivity		W/mK	0,3	ISO 8302	-
	Expansion coefficient		10 ⁻⁶ /K	15	VDE 0304/VSM	-
	Silicone resin content		%	-	IEC 371-2	-
	Mica content		%	-	IEC 371-2	-
Mechanical properties	Flexural strength ⊥		MPa	444	ISO 178	a
	Charpy impact strength //		KJ/m ²	108	ISO 179	a
	Tensile strength		MPa	374	ISO 527	a
	Compressive strength ⊥		MPa	535	ISO 604	a
	Bonding strength //		N	8000	CEI	a
	Modulus of elasticity		MPa	23500	ISO 178	a
Dielectrical properties	Insulation resistance		MΩ	5x10 ⁴	ISO 60167	d
	Breakdown voltage		KV	45	ISO 60243-1	e
	Dielectric strength ⊥ to lamination		KV/mm	14,2	ISO 60243-1	e
	Tracking resi stance		V	600	IEC 60112	a
	Arc resistance		S	-	ASTM D495	-
	Dissipation factor at 1 MHz			0,04	IEC 60250	d
	Dielectric constant (permittivity) at 1 MHz			5	IEC 60250	-

Other information: Material compliant and certified according to the requirements of **UNI EN 45545-2: 2015** for **HL1** risk levels for **R22** and **HL1 - HL2** requirements set for **R23** (fire behavior) set requirements.

Halogen-Free Product and Confirms to European Directives **Rohs and Reach**.

We inform you that the data reported on the data sheet are provided to the end user for the sole purpose of providing a range of parameters in order to assess the hypothetical suitability of the product to the actual use of the same, therefore to be considered indicative as they represent average values from laboratory tests. **The user must then test the product to determine its properties and its suitability for its intended use.**

Misolet s.r.l expressly disclaims all liability for any damage, injury and costs to persons and/or property, arising directly or indirectly from the use of the product that has not been preceded by tests with respect to the conditions of use to which the same will be intended. The data contained in this data sheet does not constitute a guarantee of any kind, express or implied, including any suitability for a particular use or purpose.

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

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LFR5

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THICKNESS mm	TOLERANCE	Particular properties:
0,5	± 0,12	Applications: similar to LG11 with the addition of being self-extinguishing Low water absorption Good dielectric properties Excellent mechanical properties at high temperatures
0,8	± 0,16	
1,0	± 0,18	
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	± 1,05	
20,0	± 1,30	
25,0	± 1,50	
30,0	± 1,70	
35,0	± 1,95	
40,0	± 2,10	
50,0	± 2,45	
60,0	± 2,80	
-	-	
-	-	
-	-	

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