

Canovelles, August 2024

The company Mercantil Luz Negra, S.L. with registrated office in
 C/Carles Buhigues 13, Polígono Industrial Can Castells, 08420 Canovelles (Barcelona, Spain)

CERTIFIES

That the following products described below have carried out the relevant technical tests according to the data:

Product reference: **18.188**
 Product name: **Upper frosted methacrylate cover for led profile Badalona (l=3m)**

Physical properties

Pay special attention to linear expansion due to the large difference in coefficients between aluminium profiles and PMMA/Polycarbonate covers.

Mechanical features	Measured value	Unit	Standard
Specific weight	1.18	g/cm ³	DIN 53479
Strength (reduced uniform specimen)	12	kJ/m ²	DIN 53453
Notch resistance (reduced unified sample)	2	kJ/m ₂	DIN 53453
Tensile strength (1/1 specimen 3; v= 5mm/1min)	72	N/mm ²	DIN 53455
Tearing elongation (1/1 specimen 3; v= 5mm/1min)	45	%	DIN 53455
Bending strength (specimen 80x10x4mm)	105	N/mm ²	DIN 53452
Compressive yield point	103	N/mm ²	DIN 53454
Modulus of elasticity	3300	N/mm ²	DIN 53457
Modulus of tangential elasticity at about 10 Hz	1700	N/mm ²	DIN 53445
Ball drop hardness BRINDELL H961/30	190	N/mm ²	DIN 53456
Optical features	Measured value	Unit	Standard
Material transmission factor of 3mm in the field of view	~92	%	DIN 5036
Refractive index n20 D	1.491		DIN 53491
Thermal properties	Measured value	Unit	Standard
Coefficient of linear expansion for 0 - 50 °C	70 - 10 ⁶	1/ °C	VDE 0304/1
Heat conductivity	0.19	W/m ² C	DIN 52612
Heat transfer factor			
For 3 mm thickness	5.6	W/m ² C	DIN 4701
For 5 mm thickness	4.4	W/m ² C	DIN 4701
Moulding temperature (oven temperature)	~150	°C	
Tempering temperature	> 80	°C	
Maximum continuous operating temperature	70	°C	
VICAT process B softening temperature	102	°C	DIN 53460
Thermal deformation			
Bending stress ISO 75 1.80 N/mm ²	90	°C	DIN 53461
Thermal deformation according to Martens	85	°C	DIN 53458

Thermal properties	Measured value	Unit	Standard
Specific resistance	$> 10^{15}$	Ohm - cm	DIN 53482
Surface resistance	$5 - 10^{13}$	Ohm	DIN 53482
Puncture resistance (1mm test)	~ 30	kV/mm	DIN 53481
Dielectric constant at 50 Hz	3.6		DIN 53483
Dielectric constant at 0.1 MHz	2.7		DIN 53483
Dielectric loss factor at 50 Hz	0.06		DIN 53483
Dielectric loss factor at 0.1 MHz	0.02		DIN 53483
Eddy current resistance	KC > 600		DIN 53480

Thermal properties	Measured value	Unit	Standard
Water absorption in weight gain after 24 hours immersion	0.3	%	DIN 53495

The certificate is issued under the responsibility of the manufacturer (data issued by the manufacturer).

The product described has been tested according to the standards listed above. It is possible to use the CE marking.

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For the record and at request of the interested party, this certificate has been issued.



Nuño Tellez
CEO

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