Product data sheet, May 2023

Exolon® UV AdLight

Solid polycarbonate sheet for Signs

I Line
Innovative

Your benefits:

- high light diffusion in combination with high light transmission
- extreme impact strength
- good fire rating

Solid **Exolon® UV AdLight** sheets are polycarbonate diffusor sheets for backlit signage applications. **Exolon® UV AdLight** combines high light diffusing properties with good light transmission, as required in state-of-the-art sign projects based on LED technology. They offer extreme impact strength that exceeds the physical properties of other products of their class. **Exolon®** sheets resist temperature ranges of -100 to +120°C and have a good fire rating.

Exolon® UV AdLight is available with a matt finish on one side and a glossy finish on the other side, both with improved weatherability, so that either side can be used, depending on the required finish. It has a bright appearance, also when it is not backlit. When illuminated, it will transmit the light practically unchanged, yet provide a uniform light spreading.

Applications:
Typical applications for **Exolon® UV AdLight** include all types of illuminated signs such as fascia signs, channel letters, totems and logos.It can be used for displays and other applications which incorporate lighting.

Your benefits:
Exolon® UV AdLight minimizes breakage losses, eliminates LED hot spots and allows for optimum design freedom.

	Test Conditions	Typical Values[1]	Unit	Test Method
PHYSICAL				
Density		1200	kg/m³	ISO 1183-1
Water absorption saturation	water at 23°C	0.3	%	ISO 62
Water absorption equilibrium	23°C, 50 % RH	0.12	%	ISO 62
MECHANICAL				
Tensile modulus	1 mm/min	2300	MPa	ISO 527-1,-2
Yield stress	50 mm/min	>60	MPa	ISO 527-1,-2
Yield strain	50 mm/min	6	%	ISO 527-1,-2
Strain at break	50 mm/min	120	%	ISO 527-1,-2
Flexural modulus	2 mm/min	2300	MPa	ISO 178
Flexural strength	2 mm/min	90	MPa	ISO 178
Charpy impact strength	23°C, unnotched	non-break	kJ/m²	ISO 179-1eU
Charpy impact strength	23°C, 3 mm, notched	70P	kJ/m²	ISO 179-1eU
Izod impact strength	23°C, 3.2 mm, notched	70P	kJ/m²	ISO 180-A
THERMAL				
Vicat softening temperature	50 N; 50°C/h	144	°C	ISO 306
Thermal conductivity	23°C	0.2	W/(mK)	ISO 8302
Coefficient of thermal expension	23 to 55°C	0.65	10^{-4} K	ISO 11359-1,-2
Temperature of deflection under load	1.8 Mpa	126	°C	ISO 75-1,-2
	0.45 Mpa	138	°C	ISO 75-1,-2
ELECTRICAL				
Electrical strength	1 mm	34	kV/mm	IEC 60243-1
Volume resistivity		1E14	Ohm.m	IEC 60093
Surface resistivity		1E16	Ohm	IEC 60093
Relative permittivity	100 Hz	3.1	-	IEC 60250
Relative permittivity	1 MHz	3	-	IEC 60250
Dissipation factor	100 Hz	5 10^{-4}	-	IEC 60250
Dissipation factor	1 MHz	90 10^{-4}	-	IEC 60250

[1] These values are measured on injection molded samples, and are not intended for specification purposes.

Made of makrolon®

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Ideas, innovative, intelligent, interesting... Exolon Group i-line represents the next generation of quality products. This seal guarantees innovative and intelligent first-class solutions at all times for a multitude of requirements.

Light Transmission:
Test Method according to CIE 130-1998, on a spherical photometer with a diameter of 1.5 m. Please ask us for more information. The stated values are typical values only.

Sample Thickness (mm)	**2**	**3**	**4**	**5**
Light Transmission τ_{D65}	61	59	55	51

Light diffusion:
According to DIN 5036-3 with a swivel-arm device using a luminance meter of class L (Fa. LMT) and a illuminance meter of class A (Fa. Czibula & Grundmann GmbH). The stated values are typical values only.

Sample Thickness (mm)	**3**	**4**	**5**
Half-power angle $[\gamma]$	77°	77°	78°
Light diffusion factor $[\sigma]$	0.86	0.89	0.90

Dimensions:
Thicknesses: **Exolon® UV AdLight** is available in 2 - 5 mm
Sizes: **Exolon® UV AdLight** is available in 2,050 x 3,050 mm

Permanent Service Temperature:
The permanent service temperature without load is approx. 120 °C.

Fire Rating*:

Country	**Standard**	**Rating**	**Thickness**
Europe	EN 13501-1	B-s2-d0	2 - 5 mm
USA	UL 94	HB	2 - 5 mm

*Fire certificates are limited in time and scope, always check if the mentioned certificate is valid for the purchased polycarbonate sheet type at the date of delivery. Polycarbonate sheets may change their fire behavior due to ageing and weathering. The indicated fire rating was tested on new / unweathered product in accordance with the indicated fire classification standards.

Glow Wire Flammability Tests:
Glow Wire Flammability Index (GWFI): 2.0 mm: 850°C
Glow Wire Ignition Test (GWIT): 3.0 - 5.0 mm: 960°C

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