



POLYCARBONATE COLOURED UV LED

POLYCARBONATE COLOURED UV LED is a diffusive coloured polycarbonate sheet. The sheet is produced with vast knowledge of our production team extrusion experience with double sided UV-protection.

In 1994 Arla Plast pioneered the UV-protection co-extrusion technique in Europe, which has given us unparalleled experience with UV protected sheets.

Arla Plast AB offer a range of LED colours with diffusing properties. It has a UV protection layer against UV radiation and yellowing hence excellent for outdoor applications where glass is used today.

POLYCARBONATE COLOURED UV LED provides designers, specifiers, and architects with possibilities to use the LED coloured polycarbonate sheets in various applications with demands of diffusing effects and good light spreading.

STANDARD COLOURS:

Opal DB and Opal White.

Colour matching service on request.

Excellent fire performance complying requirements to EN 13501-1 (European fire classification for building and construction). In case of fire, the sheet will melt and allow venting where heat and smoke will be let out and therefore reduce the growth of fire by flame spread.

POLYCARBONATE COLOURED UV LED

BENEFITS:

- Excellent light spreading and hiding of the light source
- LED colours for homogenous light diffusion
- Double-sided UV-protection
- More than 10 times the impact strength of high impact acrylic
- Easy to cold bend or thermoform into complex shapes

APPLICATION AREAS:

LED applications, lamp covers, signs, displays and in other applications where a high impact strength and good light spreading and diffusion are needed.

DELIVERY PROGRAM:

Standard size: 2050 x 3050 mm

Opal LED colours: 2 - 4 mm

Colour: Opal DB, Opal White.

Customer specific colours upon request.

Special sizes, thicknesses, and textures on request.

POLYCARBONATE COLOURED UV LED TYPICAL PROPERTY VALUES

Property	Value	Unit	Standard
Physical properties			
Density	1,2	g/cm ³	ISO 1183
Refractive index (20 °C)	1,586		ISO 489
Moisture absorption 24 h, 23 °C, 50% RH	0,15	%	ISO 62
Mechanical properties			
Tensile strength at yield (at break)	60 (70)	N/mm ²	ISO 527
Elongation at yield (at break)	6 (110)	%	ISO 527
Elastic modulus	>2300	N/mm ²	ISO 527
Flexural modulus	>2300	N/mm ²	ISO 178
Charpy unnotched impact strength -40 °C	NB	kJ/m ²	ISO 179/1eU
Charpy notched impact strength -30 °C	11	kJ/m ²	ISO 179/1eA
Izod notched impact strength +23 °C	65	kJ/m ²	ISO 180/1A
Izod notched impact strength -30 °C	10	kJ/m ²	ISO 180/1A
Thermal properties			
Coefficient of linear thermal expansion (20-70 °C)	65x10 ⁻⁶	K ⁻¹	ISO 11359-2
Heat deflection temperature, HDT A (1,80 N/mm ²)	132	°C	ISO 75
Heat deflection temperature, HDT B (0,45 N/mm ²)	142	°C	ISO 75
Vicat temperature VST/B 120	149	°C	ISO 306
Vicat temperature VST/B 50	148	°C	ISO 306
Thermal conductivity	0,20	W/m.K	ISO 8302
Electrical properties			
Volume resistivity, dry	>10 ¹⁴	Ω.m	IEC 62631
Surface resistivity, dry	10 ¹⁶	Ω	IEC 62631
Dielectric strength, dry	30	kV/mm	IEC 60243
Dielectric constant, dry 50 Hz	3		IEC 62631
Dielectric constant, dry 1 MHz	2,9		IEC 62631
Dissipation factor (tan δ), dry 50 Hz	0,001		IEC 62631
Dissipation factor (tan δ), dry 1 MHz	0,01		IEC 62631
Light transmittance, Lt			
3 mm Opal DB	70	%	ASTM D1003
3 mm Opal White	48	%	ASTM D1003

Properties reported here are typical values for polycarbonate. Arla Plast makes no representation that the material in any particular shipment will conform exactly to the values given. The above information is based upon experience and given in good faith. Due to many factors which are outside our knowledge and control, no warranty is given or is to be implied with respect to such information. Detailed product specification and technical manual/information is available on request.