



# POLYCARBONATE CLEAR™ FR

POLYCARBONATE CLEAR™ FR is a flame-retardant solid polycarbonate sheet. The sheet is produced with vast knowledge of our production team extrusion experience.

The product can be used where fire performance is required.

The product is virtually unbreakable with extremely high impact resistance and offers high temperature performance.

POLYCARBONATE CLEAR™ FR provides designers, specifiers, and architects with possibilities to use transparent polycarbonate sheets in applications where high clarity, high impact resistance and optical performance is required.

Excellent fire performance complying requirements to UL 94 V0 from 3 mm. 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 CLEAR™ FR BENEFITS:

- UL 94 V0 FROM 3 mm
- Outstanding high clarity and surface quality
- High Impact strength
- Half the weight of glass
- Easy to thermoform or fabricate

## APPLICATION AREAS:

POLYCARBONATE CLEAR™ FR is the best choice where there is a demand for improved fire properties.

## DELIVERY PROGRAM:

Standard size: 2050 x 3050 mm

Thickness range: 3 – 6 mm

Colour: Clear

Special sizes, special thicknesses, and textures on request.

## POLYCARBONATE CLEAR™ FR TYPICAL PROPERTY VALUES

Property	Value	Unit	Standard
<b>POLYCARBONATE CLEAR® FR special properties</b>			
Limiting Oxygen index	35	%	ISO 4589
V0 (on resin)	3	Mm	UL94
<b>Physical properties</b>			
Density	1,2	g/cm <sup>3</sup>	ISO 1183
Refractive index (20 °C)	1,586		ISO 489
Moisture absorption 24 h, 23 °C, 50% RH	0,15	%	ISO 62
<b>Mechanical properties</b>			
Tensile strength at yield (at break)	60 (70)	N/mm <sup>2</sup>	ISO 527
Elongation at yield (at break)	6 (110)	%	ISO 527
Elastic modulus	>2300	N/mm <sup>2</sup>	ISO 527
Flexural modulus	>2300	N/mm <sup>2</sup>	ISO 178
Charpy unnotched impact strength -40 °C	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength -30 °C	11	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength +23 °C	65	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength -30 °C	10	kJ/m <sup>2</sup>	ISO 180/1A
<b>Thermal properties</b>			
Coefficient of linear thermal expansion (20-70 °C)	65x10 <sup>-6</sup>	K <sup>-1</sup>	ISO 11359-2
Heat deflection temperature, HDT A (1,80 N/mm <sup>2</sup> )	132	°C	ISO 75
Heat deflection temperature, HDT B (0,45 N/mm <sup>2</sup> )	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
<b>Electrical properties</b>			
Volume resistivity, dry	>10 <sup>14</sup>	Ω.m	IEC 62631
Surface resistivity, dry	10 <sup>16</sup>	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

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.