

TECHNICAL INFORMATION

MONOGAL (PLAZCARB) EXTRUDED POLYCARBONATE SHEET

MONOGAL (PLAZCARB) UV sheets are made from clear-transparent polycarbonate with UV protection on both sides by a co-extruded protection layer that will keep performances for large period.

MONOGAL (PLAZCARB) sheets are made from clear-transparent polycarbonate, suitable to be used in areas where not in contact with sun UV radiation.

MONOGAL (PLAZCARB) F UV and MONOGAL (PLAZCARB) F, have more fire resistance than standard grade.

1 - Optical Quality

Sheets are examined according to several parameters that determine their optical quality.

There are a maximum number of faults as follows:

- Black specks of 0.5 mm in size, with a minimum distance between them of 1 meter.
- Air bubbles of 0.3 mm in size, with a minimum distance between them of 1 meter.
- Fish eyes of 1 mm in size, when there are no more than five (5) on an area of 0.5 m².

2 - Range of Tolerances for Thickness, Size and Diagonals

A: Thicknesses Tolerances

- Less than 1.5mm ±8%
- Between 1.5 - 1.9 mm ±4%
- Between 2.0 – 15.0 mm ±3%

B: Sheets cut at production

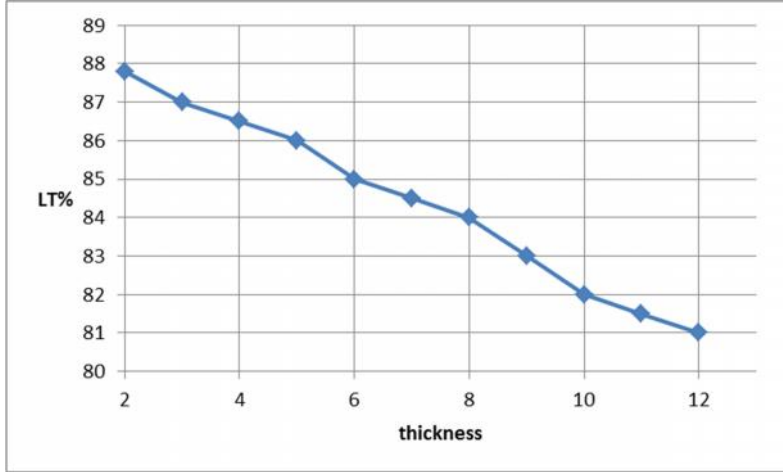
- Width & Length: -0.0 /+3.0 mm
- Diagonals:
 - Up to 4000 mm - up to 2.0 mm
 - Over 4000 mm - up to 4.0 mm

C: Sheets Cut to Size

- Width ± 0.50 mm
- Length ± 0.50 mm
- Diagonals: up to 0.5 mm

3 – Light Transmission

Depends on sheet thickness



4 - Thermal Insulation

Thickness (mm)	U value (W/m ² .°K)
3	5.7
5	5.2
6	5.4
8	4.52
10	4.64
12	4.42
15	4.1

5 - Cold Curving

Cold curving can be performed. The basic criteria for calculating the minimum radius is 150 times the sheet thickness.

Sheet thickness (mm)	Minimum radius (mm)	Minimum radius (cm)
1	150	15
2	300	30
3	450	45
4	600	60
5	750	75
6	900	90
7	1050	105
8	1200	120
9	1350	135
10	1500	150
11	1650	165
12	1800	180
13	1950	195
14	2100	210
15	2250	225

5 – Typical Properties Values

General Properties	Test Method	Units	Values
Density	ISO 1183	g/cm ³	1.2
Light transmission (thickness dependent)	ASTM D 1003	%	88-90
Refractive index	ASTM D 489		1.585
Mechanical Properties			
Tensile Modulus	ISO 527	MPa	2,300
Tensile Strength at yield	ISO 527	MPa	60
Elongation at break	ISO 527	%	>120
Elongation at yield	ISO 527	%	6
Flexural Strength	ISO 527-2	MPa	90
Flexural Modulus	ISO 178	MPa	2,300
Charpy Un-notched	ISO 179	KJ/m ²	Not Break
Izod Impact notched	ISO 180 a	KJ/m ²	> 65
Thermal Properties			
Temp of deflection (HDT) under load 1.8 MPa	ISO 75-1	°C	130
Thermal conductivity	DIN 52612	W/m.°C	0.2
Coefficient of linear thermal expansion 0-50°C	ISO 11359-2	1/°C	6.5E ⁻⁵
Degradation Temperature		°C	>280
Vicat softening temp (50°C/h 50N)	ISO 306	°C	144
Electrical Properties			
Volume Resistivity	IEC 60093	.cm	3 x10 ¹⁴
Surface Resistivity (dry)	IEC 60093		6x10 ¹⁵
Dissipation Factor 1Mhz	IEC 60250		0.009
Dissipation Factor 100 Hz	IEC 60250		0.0006

6 – Fire Resistance

Flame Resistance F Grade

Country	Thickness mm	Test Method	Classification
UK	3	BS 476/7	Class Y1
France	2-12	NF 92-507	Class M2
Germany	3	DIN 4102	Class B1
USA	3	UL-94	Class V0
Europe	3	EN 13501-1	"B-s1-d0"

Standard Grade

Country	Thickness mm	Test Method	Classification
UK	3 – 8	BS 476/7	Class Y2
UK	8 – 12	BS 476/7	Class Y1
Germany	3 - 8	DIN 4102	Class B1
Germany	8 - 12	DIN 4102	Class B2
USA	3 – 8	UL-94	Class V2
USA	8 – 12	UL-94	Class V0

5 – General

STORAGE

MONOGAL (PLAZCARB) sheets must be stored in a cool, dry and well-ventilated room, away from direct sunlight, rain, solvent's vapors or excessive humidity. Never leave sheets on uncovered pallets.

MONOGAL (PLAZCARB) sheets are best stored horizontally on their delivery pallets.

Plastic sheets are combustible. Store them according to Fire Hazard regulations

WHEN TO REMOVE THE FILM

It is preferable to leave the protective film in position throughout machining to keep the sheet surface in perfect condition. However protective at sheets stored for large periods of some months in hot areas or under sun radiation condition will be very difficult to be removed.

Please pay attention that your protective film is thermoforming grade.

If not, printed film must be removed before thermoforming, to avoid marks being transferred to the sheet's surface.

Always remove printed films from BOTH sheet's side when you print sheets.

CLEANING

Clean with water and mild washing-up liquid.

Alcohol solvents, commercial window cleaning liquids should not be used

See chemical material compatibility for chemical uses.

Recycling MONOGAL (PLAZCARB) Sheets

Sheets and their polyethylene cover are fully recyclable

