Product data sheet, September 2020

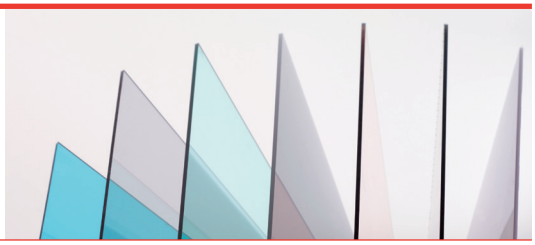
Makrolon® UV ClimateControl

Solid polycarbonate sheet

I Line
Innovative

Your benefits:

- Significantly reduced heat input
- Good transparency
- Excellent weather resistance
- Maximum impact strength



Makrolon® UV ClimateControl is a transparent polycarbonate sheet with a protective UV coating on both sides. The sheets substantially reduce high temperatures caused by sunlight as they block out the majority of infrared light.

Makrolon® UV ClimateControl is extremely resistant to permanent environmental impacts and has a long service life. The maximum permissible temperature for long-term use in the absence of loads is in the region of 120°C. An additional benefit, is that the sheets come with a 10-year warranty on weather resistance, transparency and breaking strength.

Applications:

Makrolon® UV ClimateControl is ideally suited for all applications which would benefit from reduced heat transmission through the glazing, e.g.:

- Roofings of passenger platforms, shelters, open areas and conservatories
- Barrel vaults and skylights
- Public buildings
- Roof and cladding constructions

	Test Conditions	Typical values[1]	Unit	Standard
PHYSICAL				
Density		1200	kg/m³	ISO 1183-1
Water absorption saturation	water at 23 °C	0.30	%	ISO 62
Water absorption equilibrium	23 °C, 50% relative humidity	0.12	%	ISO 62
Refractive index	Procedure A	1.587	–	ISO 489
MECHANICAL				
Tensile modulus	1 mm/min	2350	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
Nominal strain at break	50 mm/min	› 50	%	ISO 527-1,-2
Flexural modulus	2 mm/min	2350	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	80P	kJ/m²	ISO 179-1eA
Izod impact strength	23 °C, 3.2 mm, notched	90P	kJ/m²	ISO 180-A
THERMAL				
Vicat softening temperature	50 N, 50°C/h	148	°C	ISO 306
Thermal conductivity	23°C	0.20	W/(m.K)	ISO 8302
Coefficient of linear thermal expansion	23 to 55°C	0.65	104/K	ISO 11359-1, -2
Temperature of deflection under load	1.80 Mpa	128	°C	ISO 75-1, -2
Temperature of deflection under load	0.45 Mpa	140	°C	ISO 75-1, -2

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

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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 DIN EN ISO 13468
The light transmission τ_{D65} for all thicknesses between 3 and 12 mm is 55% for the following colors:
• green 2655

The light transmission τ_{D65} for the clear product is as follows:

Light transmission* in %	3	4	5	6	8	10	12
Makrolon® UV CC clear 2080	80	79	78	77	76	74	73

*) +/- 3%. Other light transmissions are on request. Please ask us for more information. The stated values are typical values only.

Product Type * All measurements valid for 3 mm.	Total energy transmission g	Selectivity index (=LT:g)	Shading coefficient
Makrolon®UV CC clear 2080	0.63	1.26	0.73
Makrolon® UV CC green 2655	0.44	1.25	0.51

Available sizes:
Makrolon® UV ClimateControl is available in thicknesses of 3 -12 mm and in the following colors.

Colors:
Makrolon®UV CC clear 2080
Makrolon® UV CC green 2655

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

Fire Rating (*):

Country	Standard	Rating	Thickness	Colour
Belgium	BS476	Class A1	3 + 12 mm	green 2655
Great Britain	BS476, part 7	1Y	3 + 12 mm	green 2655
Europe	EN 13501 – 1	B s1 d0	3 – 6 mm	green 2655
	EN 13501 – 1	B s2 d0	1 - 6 mm	all colours

(*) 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.

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