

Product data sheet, September 2020

Makrolon® UV ClimateControl Solid polycarbonate sheet



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 Water absorption saturation Water absorption equilibrium Refractive index	water at 23 °C 23 °C, 50% relative humidity Procedure A	1200 0.30 0.12 1.587	kg/m³ % ~	ISO 1183-1 ISO 62 ISO 62 ISO 489
MECHANICAL Tensile modulus Yield stress Vield strein Nominal strain at break Flexural modulus Flexural strength Charpy impact strength Izod impact strength	1 mm/min 50 mm/min 50 mm/min 2 mm/min 2 mm/min 23 °C, unnotched 23 °C, 3 mm 23 °C, 3.2 mm, notched	2350 >60 6 >50 2350 90 non-break 80P 90P	MPa MPa % MPa kJ/m² kJ/m² kJ/m²	ISO 527-1,-2 ISO 527-1,-2 ISO 527-1,-2 ISO 527-1,-2 ISO 178 ISO 178 ISO 179-1eU ISO 179-1eA ISO 180-A
THERMAL Vicat softening temperature Thermal conductivity Coefficient of linear thermal expansion Temperature of deflection under load Temperature of deflection under load	50 N, 50°C/h 23°C 23 to 55°C 1.80 Mpa 0.45 Mpa	148 0.20 0.65 128 140	°C W/(m.K) 104/K °C °C	ISO 306 ISO 8302 ISO 11359-1,-2 ISO 75-1,-2 ISO 75-1,-2

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

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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 $\tau_{\mbox{\tiny D65}}$ 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.



Exolon Group GmbH Rommerskirchener Str. 21 50259 Pulheim Germany

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