Product data sheet, January 2020

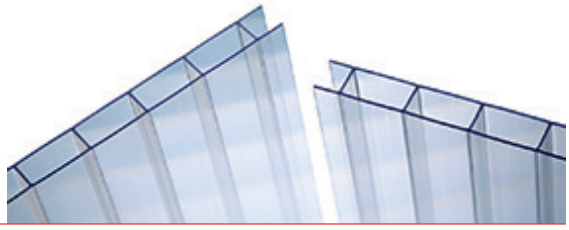
# Makrolon® multi UV 2/16-30

## Multiwall polycarbonate sheet

I Line
Innovative

**Your Benefits:**

- excellent load bearing
- high surface quality
- two-side UV-protection
- 20 years warranty



**Makrolon® multi UV 2/16-30** is a twinwall polycarbonate sheet with a thickness of 16 mm. It combines a high level of light transmission with thermal insulation and excellent weather resistance. The sheet is lightweight, impact-resistant and easy to install.

**Makrolon® multi UV 2/16-30** is ideal for flat glazing.

- industrial glazing
- greenhouses
- carports, porches, shelters
- covered walkways
- partition walls
- Restoration of glazed surfaces
- Hall skylights

The sheets are produced with a coextruded UV-protective layer on both sides, which is homogeneously fused with the sheet material. It provides Makrolon® multi UV 2/16-30 with a highly effective protection against weathering, guaranteed for 20 years.

On request:

**No drop**

The "no drop" version of **Makrolon®multi UV** has an extremely durable water-dispersing coating on one side (side facing indoors) and UV-protective layer on the other side. This coating causes condensation to flow off as a continuous film, preventing drops forming on the inside of the roof.

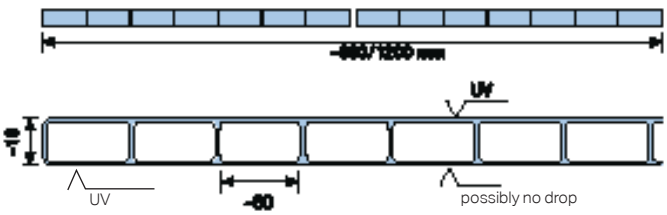
**ClimateControl**

**Makrolon® multi UV ClimateControl clear** is a transparent polycarbonate sheet that largely absorbs infrared light on both sides. This therefore significantly reduces heat transfer whilst simultaneously providing a high level of light transmission.

**TECHNICAL DATA (TYPICAL VALUES)**

| | | |
|---|---|---|
| Area weight | 3.6 kg/m² | |
| Sheet width | 980/1.200 mm | |
| Possible delivery lengths | 2.000 to 7.000 mm | |
| Minimum permissible cold-bending radius [1] | 2.400 mm | |
| Light transmittance $\tau_{D65}$ (UV-absorbing) | clear 2099:<br>white 2146:<br>bronze 2845:<br>CC clear 2070: | ca. 77 %<br>ca. 57 %<br>ca. 22 %<br>ca. 70% |
| Total energy transmission g | clear 2099:<br>white 2146:<br>bronze 2845:<br>CC clear 2070: | ca. 74 %<br>ca. 60 %<br>ca. 46 %<br>ca. 54% |
| Heat transfer coefficient Ug [3] | 2.8 W/m² K (vertical application)<br>3.0 W/m² K (horizontal application) | |
| Coefficient of thermal expansion $\alpha$ | 0.065 mm/m °C | |
| Possible expansion due to heat and moisture | 3 mm/m | |
| Max. service temperature without load | 120°C | |
| Weighted sound reduction index | 22 dB | |
| Fire rating [2] | | |
| • Europe | clear 2099, white 2146<br>bronze 2845 | B-s1-d0 (EN 13501-1) |

[1] The cold-bending must be parallel to the ribs of the sheets, never crosswise (risk of buckling).
[2] 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, except for Product rated "B1" in accordance with DIN 4102.
[3] Heat transfer coefficient Ug according to EN ISO 10077-2




dimensions in mm

Product data sheet, January 2020

# Makrolon® multi UV 2/16-30

## Multiwall polycarbonate sheet

**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.**

When using **Makrolon® multi UV 2/16-30** in roof or wall installations, the forces exerted by snow and wind loads must be absorbed by a suitable substructure. We recommend implementing the support distance indicated in the diagram for the respective loads.

The diagram shows the load-bearing capacity of **Makrolon® multi UV 2/16-30** (supported on all sides, rebate depth ≥ 20 mm) with a standard profile on the longitudinal sides. The load-bearing curves enable the user to calculate the actual load-bearing characteristics of the multi-wall sheets in their support construction.

If the rebate depth is smaller, the support distances should be reduced in accordance with the relevant load. For wind forces alone, the loads are permitted to be multiplied by 1.1.

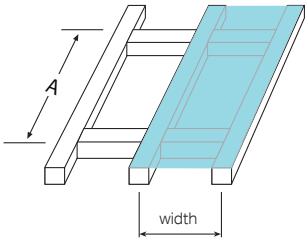
**Load bearing characteristics (determination):**
The component resistance (limit state of load-bearing capacity) of **Makrolon® multi UV 2/16-30** has been defined in accordance with the European guideline ETAG 010 regarding practical tests. The characteristic values identified were calculated on the longitudinal sides by considering the chucking effect (standard profiles). The results were partially applied to other widths using simplified, conservative models. The loads were applied as uniformly distributed linear loads, i.e. loads such as snow acting perpendicular to the sheet.

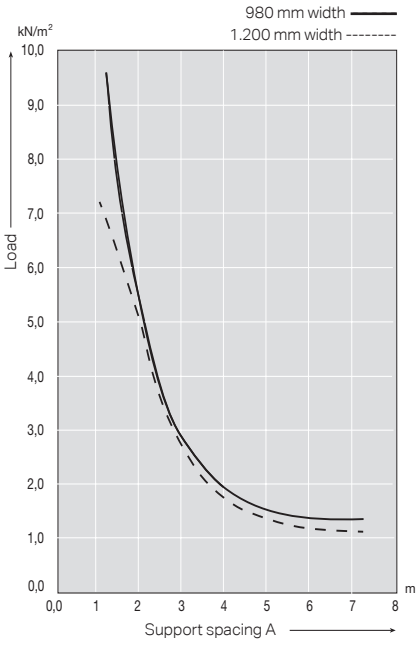
The values are reference values calculated by an independent and notified institute through tests on actual systems. Adequate safety margins must be observed in addition to these values. The margins are to be assessed on a case-by-case basis.

In general, experience has proven that a safety factor of 1.3 is adequate with regard to the measured resistance values. This safety factor is included in the load tables and diagram.

**These specifications do not replace national regulations, such as building inspectorate approval in Germany (DIBt), Avis Techniques in France, etc.**

*Further information can be obtained on request




| Load | kN/m² | 0.75 | 1 | 1.25 | 1.5 | 2 | Width in mm |
|---|---|---|---|---|---|---|---|
| distance A | m | ∞ | ∞ | ∞ | 5.0 | 3.7 | 980 |
| | m | ∞ | ∞ | 5.8 | 4.5 | 3.6 | 1.200 |

Exolon Group also produces solid sheets in polycarbonate (Makrolon® GP) and in polyester (Vivak® and Axpet®).
For more information, take a look at www.exolongroup.com.

Exolon Group GmbH
Rommerskirchener Str. 21
50259 Pulheim
Germany

www.exolongroup.com
sales@exolongroup.com