

Makrolon® multi UV 2/10-8 ULTRA light

Multiwall polycarbonate sheet



B Line
Basic

Covestro B-Line, the basic product line, represents a range of products which meet basic requirements. It is part of the **Makrolon®**-sheet range, the recognized quality brand of a reliable producer. In case you need sheets which meet certain standards, certifications or regulations, please refer to our S-Line of standard products in the **Makrolon®**-sheet range. Or take a look at our I-Line of highly innovative products.

Description:

Makrolon® multi UV 2/10-8 ULTRA light is a twin-wall polycarbonate sheet in 10 mm thickness. It is lightweight, weather resistant and easy to install. The sheets can be cold bended.

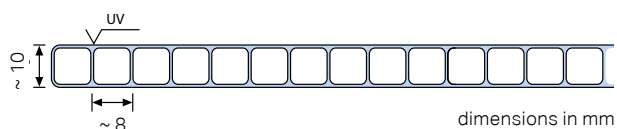
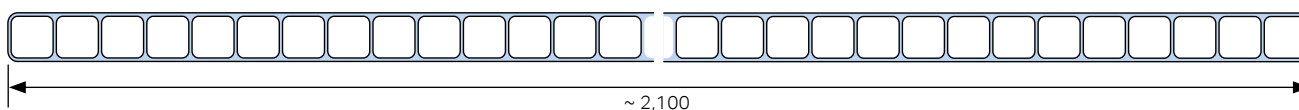
Makrolon® multi UV 2/10-8 ULTRA light is a cost-effective solution for roof glazing.

Installation guidelines:

The sheets have a UV-protection on one side for improved weatherability. Always install the sheets with this side facing outwards. Always install the sheets supported and clamped on all 4 sides, with a rebate depth of ≥ 20 mm. Ensure that the supporting substructure is sufficiently stable.

Typical applications include:

- greenhouses
- carports and porches
- all kinds of shelters



TECHNICAL DATA (TYPICAL VALUES)

Sheet width	2,100 mm
Sheet length*	5,800/ 6,000/ 7,000/ 11,800/ 12,000 mm
Minimum permissible cold-bending radius ⁽¹⁾	1,500 mm
Light transmittance τ_{D65}	
TR (UV-absorbing), clear transparent:	ca. 79%
WH (UV-absorbing), white:	ca. 77%
BR (UV-absorbing), bronze:	ca. 41%
Coefficient of thermal expansion α	0.065 mm/m°C
Possible expansion due to heat and moisture	3 mm/m
Max. service temperature	120°C

* Sheet length is subject to mode of transport type

⁽¹⁾ The cold-bending must be parallel to the ribs of the sheets, never crosswise (risk of buckling)

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Limited 10-years warranty on weathering

Warranty statements

1. The sheet retains its light transmission

This means that the sheets suffer a maximum loss of light transmission of 12 per cent points within 10 years of de-livery. The transmittance is measured on clean, unscratched specimens according to DIN 5036.

2. The sheet retains its rigidity

This means that sheets will have a modulus of elasticity of ≥ 2000 MPa after 10 years. This elastic modulus is measured in the tensile test according to ISO 527 at 23°C as the average value established for 5 specimens with parallel faces which have been conditioned to the equilibrium state in the standard climate of 23°C and 50% RH.

3. The sheet does not turn brittle and retains its strength

This means that the sheets have a tensile strength of $\sigma_y \geq 40$ MPa after 10 years. This strength is determined in the tensile test according to ISO 527, at 23°C, as the average value established for 5 unscratched specimens with parallel faces which have been conditioned to the equilibrium state in the standard climate of 23°C and 50% RH.

Conditions of warranty

Makrolon® multi UV ULTRA light sheets:

- have to be stored, transported, fabricated and installed (or used) in a manner that suits the material,
- must not be (adversely) affected by connecting, fastening and sealing elements,
- have to be protected against aggressive chemicals,
- must not be thermoformed,
- may only be exposed to the weather on the UV side, not on both sides (e.g. vertical glazing),
- must not be scratched or abraded.

This warranty applies throughout Europe.

Note

For reasons of testing technique it is impossible to establish characteristic material values on complicated profiles with sufficient accuracy. Therefore, specimens with parallel faces are cut out of the skins in the direction of the webs to measure the transmittance, modulus of elasticity and tensile stress at yield. Specimen surfaces obtained by mechanical treatment must be polished.

Applicability

A complaint under this warranty will be considered, a) if caused within the warranty period despite demonstrable observance of the conditions of warranty, b) if made without delay during the warranty period, and c) if an invoice issued by the salesperson is presented, showing the name and address of the buyer, the purchase date, complete product description and number of sheets purchased.

If the complaint is justified, we will replace the material free of charge ex works as stipulated below.

If, for some reason, replacement material cannot be supplied, the customer will be refunded with the original purchase price according to the same pattern. Further claims are ruled out.

Replacement of faulty material in case of weathering:

• up to 1 year	100%	• within 6th year	35%
• within 2nd year	75%	• within 7th year	30%
• within 3rd year	60%	• within 8th year	25%
• within 4th year	50%	• within 9th year	20%
• within 5th year	45%	• within 10th year	10%

In case you need sheets with an extended warranty, or which meet certain standards, certifications or regulations, please refer to our S-Line of standard products in the Makrolon® sheet range. Or take a look at our I-Line of highly innovative products



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The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by Covestro. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

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