

Warranty, January 2020

Makrolon® NR Solid Polycarbonate Sheet

10 years warranty against weathering and breakage

Product definition

Makrolon® NR sheets with a matt surface protection on **one side** for improved weather resistance.

Scope of warranty

We guarantee the solid sheets Makrolon® NR without structured surface for 10 years against weathering and breakage.

Warranty statements

1. Makrolon® NR retains its light transmission

This means that the sheets will have a transmittance after 10 years which is not more than 8% lower than at the time of delivery. The transmittance is measured on clean, unscratched specimens according to DIN 5036.

2. Makrolon® NR retains its rigidity

This means that sheets will have a modulus of elasticity of ≥ 2100 MPa after 10 years. The 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. Makrolon® NR does not turn brittle and retains its strength

This means that the tensile strength is ≥ 55 MPa after 10 years. The tensile strength is measured in the tensile test according to ISO 527, at 23 °C, as the average value established for 5 specimens with unscratched parallel faces which have been conditioned to the equilibrium state in the standard climate of 23 °C/50% RH.

Note

The specimen thickness must be between 1 and 4 mm. The specimen surfaces, obtained by mechanical treatment, need to be smooth and polished.

Conditions of warranty

Makrolon® NR sheets

- must be stored, transported, fabricated and installed (or used) in a manner that suits the material,
- must not be (adversely) affected by connecting, fixing and/or sealing elements,
- must be protected against the adverse influences of chemicals,
- may only be exposed to the weather on the (matt) UV side, not on both sides,
- must not be thermoformed.

The above conditions being met, drilled or riveted sheets are covered by the 10 year warranty on light transmission only.

This warranty is valid for all European countries.

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 Exolon Group. 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.

Makrolon® is a registered trademark, owned and licensed by Covestro Group

The logo for Makrolon, featuring the word "makrolon" in a bold, red, lowercase, sans-serif font, with a registered trademark symbol (®) to the right.

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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 claim is justified, we will replace the material free of charge ex works as stipulated on the right.

If replacement material cannot be supplied, the customer will be refunded with the original purchase price according to the same pattern. Further claims are excluded.

Replacement of faulty material

Period after purchase date	Percentage replaced
up to 5 years	100 %
within 6 th year	75 %
within 7 th year	60 %
within 8 th year	45 %
within 9 th year	30 %
within 10 th year	15 %

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