

Warranty, November 2004

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.

Product Liability Clause: This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided – especially that contained in our safety data and technical information sheets – and to test products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery

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Warranty, November 2004**Makrolon[®] NR**
Solid Polycarbonate Sheet**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 %