

## SEVEN-YEAR LIMITED WARRANTY

The following terms and conditions constitute the sole warranty made by Sheffield Plastics regarding MAKROLON AR Sheet (the “Product”). In all cases, Sheffield Plastics’ sole liability and Buyer’s sole remedy shall consist of Sheffield Plastics Inc. replacing the defective Product or refunding the purchase price, at Sheffield Plastics’ option as discussed herein. This warranty shall not apply to any Product improperly installed, maintained or used in an inappropriate application. Failure of Product due to incomplete or incorrect Buyer-supplied information shall not be warranted. Notwithstanding any other provision in this warranty or elsewhere to the contrary, Sheffield Plastics’ liability, for any cause whatsoever, shall not exceed the purchase price of the Product in question. Sheffield Plastics shall not be liable for any special, incidental, indirect or consequential damages of any kind, arising at any time or for any cause whatsoever. In no event shall this warranty cover the cost of removal, reinstallation, transportation and handling, or similar costs. All warranties begin on the date of sale to Buyer. Buyer must notify Sheffield Plastics within 30 days of an alleged defect or this warranty shall be void. This warranty shall not apply unless Buyer returns defective material and proof of purchase to Sheffield Plastics or the original dealer prior to the expiration of the warranty.

Subject to the conditions and definitions contained herein, if the Product breaks (see Breakage (i) below) within seven (7) years from the date of sale due to a manufacturing defect, then the Buyer, or the fabricator designated by the Buyer, will receive a free replacement sheet. If a replacement sheet cannot be provided within fourteen (14) days, Sheffield Plastics may opt to refund the original sheet purchase price in lieu of providing a replacement sheet.

Subject to the conditions and definitions contained herein, if the Product incurs coating failure (see Coating Failure (ii) below), exhibits excessive increased haze due to loss of abrasion resistance (see Abrasion Resistance (iii) below) or exhibits excessive yellowing or loss of light transmission (see Yellowing and Light Transmission (iv) below), in each case within seven (7) years from the date of sale due to a manufacturing defect, then the Buyer will receive a free replacement sheet. If a replacement sheet cannot be provided within fourteen (14) days, Sheffield Plastics may opt to refund the original sheet purchase price minus the adjusted cost in lieu of providing a replacement sheet.

### CONDITIONS

This warranty applies only when the Product is used in flat, vertical, architectural glazing, excluding specifically sloped glazing; transportation; and outdoor recreational and off-road vehicle applications. This warranty only applies if the Product is cleaned and installed in sash according to Sheffield Plastics recommendations (see reverse side for cleaning recommendations). This warranty does not cover (re)installation expenses or any other direct or indirect loss(es) which may result from the sheet failure.

**Breakage (i):** The warranty against breakage applies only to sheet fabricated, installed, and cleaned according to Sheffield Plastics recommendations. The Product is stronger than acrylic and resists impact, abuse, and vandalism. However, no material can be described as unbreakable, for it is impossible to account for all types of usage.

**Coating Failure (ii):** The warranty against coating failure applies when the abrasion-resistant surface treatment exhibits flaking of the surface treatment or loss of adhesion between the surface treatment and the substrate sheet, either of which is visibly detectable without the aid of instruments.

**Abrasion Resistance (iii):** The coated sheet will not exhibit an increase in haze of more than 15%. Criteria: The samples as manufactured shall be abraded according to Test ASTM D1044 (Taber Abrader) using CS-10F wheels for 100 cycles with a 500 gram load.

**Yellowing and Light Transmission (iv) :** The warranty against loss of light transmission applies only to **clear transparent** (A00) Product with the abrasion resistant surface treatment. The Yellowness Index (YI) of the Product (**clear only**) cleaned according to the recommendations of Sheffield Plastics Inc. shall be less than (<) 5 during a five-year period from the date of sale, and shall be less than (<) 10 during a seven year period from the date of sale as determined according to ASTM D1925 (1977) modified by Sheffield Plastics as measured with a Hunter Ultrascan spectrophotometer.

The light transmission characteristics of the Product cleaned according to the recommendations of Sheffield Plastics shall not decrease (from initial manufactured value) by more than 5% during a five-year period from the date of sale, by more than 7% during a seven year period from the date of sale when tested by the procedure specified in ASTM D1003 modified by Sheffield Plastics.

This warranty is limited to excessive yellowing and light transmission losses due to the degradation for the Product and does not cover yellowing or light transmission losses due to dirt, atmospheric particulate deposits, abrasion or changes in the physical structure of the Product. Nor does this warranty cover exposure to adverse or hazardous chemical or environmental substances or conditions as determined by Sheffield Plastics (including but not limited to those identified in the Sheffield Plastics fabrication guide). You should be aware that all glazing and outdoor sign materials are subject to irreversible deposits of atmospheric elements and can be expected to show signs of hazing eventually. Regular, proper cleaning will significantly reduce, but not eliminate, that process (see reverse side for cleaning and maintenance instructions). This warranty does not cover hazing caused by physical abuse including failure to clean according to the instructions on the reverse side.

**THE WARRANTIES STATED IN THIS PUBLICATION ARE THE ONLY WARRANTIES MADE BY SHEFFIELD PLASTICS INC. WITH RESPECT TO THE PRODUCT AND ARE IN LIEU OF ALL WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**NOTICE:** This distributor is authorized to fulfill the above obligations of this warranty to the purchaser at the expense of: Sheffield Plastics 119 Salisbury Road, Sheffield, MA 01257.

# Limited Product Warranty

## MAKROLON® AR Sheet

This limited warranty must be completed by the distributor at the time of sale.

Customer Name \_\_\_\_\_

Distributor Name \_\_\_\_\_

Date of Sale \_\_\_\_\_ Distributor Purchase Order Number \_\_\_\_\_

### Cleaning Procedures & Cleaning Agents

The proprietary UV and abrasion resistant surface coating on MAKROLON® AR Sheet significantly improves long-term performance. Periodic cleaning using proper procedures and compatible cleaners is recommended to prolong service life. For general cleaning, it is recommended that the following instructions and cleaning agents be used.

#### Procedures:

1. Wash with a mild solution of soap or detergent and lukewarm water.
2. Using a soft cloth or sponge, gently wash the sheet to loosen dirt and grime and rinse well with clean water.
3. To prevent water spotting, thoroughly dry with chamois or cellulose sponge.
4. Avoid the use of abrasive cleaners, squeegees and/or other cleaning implements that may mar or gouge the coating.

**Agents:** Cleaning agents which have been found to be compatible with MAKROLON AR Sheet under laboratory conditions

#### Aqueous Solutions of Soaps and Detergents

Joy®  
Palmolive Liquid®  
Windex D with Ammonia D®

#### Organic Solvents \*

Naphtha VM&P (Turco 5042)  
Hexcel F.O 554 (Butyl Cellosolve)  
Kerosene (Neleco-Placer)

\*All residual organic solvents should be removed with a secondary rinse.

#### Alcohols: Methanol and Isopropyl Alcohol

Joy is a registered trademark of Proctor & Gamble  
Palmolive is a registered trademark of Colgate Palmolive  
Windex D is a registered trademark of S.C. Johnson & Son Inc.

#### Graffiti Removal:

A. Butyl cellosolve (for removal of paints, marking pen inks, lipstick, etc). The use of masking tape, adhesive tape or lint removal tools works well for lifting off old weathered paints.

B. To remove labels, stickers, etc., the use of kerosene or VM&P naphtha are generally effective.

If the solvent will not penetrate sticker material, apply heat (hair dryer) to soften the adhesive and promote removal.

**IMPORTANT:** If a material is found to be incompatible in a short-term test, it will usually be found to be incompatible in the field. The converse, however, is not always true. Favorable performance is no guarantee that actual end-use conditions have been duplicated, therefore, these results should be used as a guide only and it is recommended that the products be tested under actual end-use conditions by the user.

#### Disclaimer

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, and information to determine to your own satisfaction whether they 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 us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty of guarantee and is subject to changes 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 patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

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