

ICC-ES Evaluation Report

ESR-2728

Reissued August 1, 2012

This report is subject to renewal October 1, 2013.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 08 00 00—OPENINGS
Section: 08 84 00—Plastic Glazing
REPORT HOLDER:
SHEFFIELD PLASTICS, INC.
 119 SALISBURY ROAD
 SHEFFIELD, MASSACHUSETTS 01257
 (413) 528-7847
www.sheffieldplastics.com
dennis.furlano@bayer.com
EVALUATION SUBJECT
**MAKROLON® GP, MAKROLON® SL, MAKROLON® AR
 AND MAKROLON® 15 POLYCARBONATE PANELS**
1.0 EVALUATION SCOPE
Compliance with the following code:

 2006 *International Building Code*® (IBC)

Properties evaluated:

- Light-transmitting plastics
- Surface-burning characteristics
- Safety glazing (indoor applications only)
- Durability

2.0 USES

The Makrolon GP®, Makrolon SL®, Makrolon AR® and Makrolon 15® polycarbonate panels recognized in this report comply with the requirements for light-transmitting plastics for installation on the interior of the building envelope as regulated in IBC Section 2606.4. The 0.06-inch-thick (1.5 mm) Makrolon® GP and Makrolon® SL polycarbonate panels recognized in this report comply with the requirements for light-transmitting plastics for installation on the exterior of the building envelope as regulated in IBC Section 2606.4. The 1/8-inch-thick (3.2 mm) Makrolon® AR polycarbonate panel may also be used where safety glazing (indoor applications only) is required by IBC Section 2406.1.2. The 0.06-inch-thick (1.5 mm) and 0.236-inch-thick (6 mm) Makrolon GP® and 0.177-inch-thick (4.5 mm) Makrolon 15® polycarbonate panels can be used where a Class C interior finish is permitted. End use of the polycarbonate panels is outside the scope of this report, thereby requiring that compliance with code requirements applicable to end use (such as, but not

limited to, structural and drop-out performance) be demonstrated to the code official.

3.0 DESCRIPTION
3.1 General:

The Makrolon® polycarbonate panels are light-transmitting plastics complying with IBC Section 2606.4, and have a CC1 classification. Makrolon® panels are available in a variety of transparent, translucent opaque colors and patterns. Makrolon GP, AR, 15 and SL panels are manufactured from the same polycarbonate material but have different coatings and surface treatments. The panels are available in various lengths, with thicknesses as set forth in Table 1.

3.2 Surface-burning Characteristics:

The 0.06-inch-thick (1.5 mm) and 0.236-inch-thick (6 mm) Makrolon GP® and 0.177-inch-thick (4.5 mm) Makrolon 15® polycarbonate panels exhibit a flame-spread of 75 or less and smoke-developed index of 450 or less when tested in accordance with ASTM E 84.

4.0 INSTALLATION

Use of Makrolon® panels is limited to applications permitted by the IBC for light-transmitting plastics. The manufacturer's published installation instructions and this report must be strictly adhered to.

5.0 CONDITIONS OF USE

The Makrolon GP®, Makrolon SL®, Makrolon AR® and Makrolon 15® polycarbonate panels described in this report comply with, or are suitable alternatives to what is specified in, the code indicated in Section 1.0 of this report, subject to the following conditions:

- 5.1** The panels are manufactured, installed and identified as described in this report, the IBC and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.
- 5.2** End use of the panels (such as, but not limited to, structural and drop-out performance) requires justification of compliance with applicable code requirements.
- 5.3** The Makrolon AR and 15 panels have been evaluated for interior use only.

6.0 EVIDENCE SUBMITTED

- 6.1** Manufacturer's descriptive literature.

- 6.2 Reports of tests in accordance with ASTM D 2843, ASTM D 635, ASTM D 1929 and ASTM E 84.
- 6.3 Reports of weathering tests in accordance with Section A.4.1.2 of the ICC-ES Acceptance Criteria for Plastic Glazed Skylights (AC16), dated February 2008 (editorially revised April 2008), on 0.06-inch-thick (1.5 mm) Makrolon® GP and Makrolon® SL polycarbonate panels.
- 6.4 Reports of tests in accordance with ANSI Z97.1 and CPSC 16 CFR1201 on 1/8-inch-thick (3.2 mm) Makrolon® AR polycarbonate panels.
- 6.5 Quality documentation.

7.0 IDENTIFICATION

Each polycarbonate panel must be identified by a label bearing the manufacturer's name (Sheffield Plastics), the product name (Makrolon GP®, Makrolon SL®, Makrolon AR® or Makrolon 15®), the CC1 plastic classification and the evaluation report number (ESR-2728).

The 1/8-inch-thick (3.2 mm) Makrolon® AR polycarbonate panels used as safety glazing in hazardous locations must be legibly and permanently marked in one corner with the words "American National Standard Z97.1-2004" or "ANSI Z97.1-2004"; the thickness of the panel; and the manufacturer's mark of designation in accordance with Section 6.0 of ANSI Z97.1-2004.

TABLE 1—PROPERTIES OF MAKROLON® PRODUCT PROPERTIES

PARAMETER	MAKROLON® MODEL			
	GP	SL	AR	15
Thickness (inch)	0.060 to 0.250	0.060 to 0.118	0.118 to 0.250	0.118 to 0.250
Plastic classification	CC1	CC1	CC1	CC1

For **SI**: 1 inch = 25.4 mm.

ICC-ES Evaluation Report**ESR-2728 Supplement**

Reissued August 1, 2012

This report is subject to renewal October 1, 2013.www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 08 00 00—OPENINGS
Section: 08 84 00—Plastic Glazing**REPORT HOLDER:****SHEFFIELD PLASTICS, INC.**
119 SALISBURY ROAD
SHEFFIELD, MASSACHUSETTS 01257
(413) 528-7847
www.sheffieldplastics.com
dennis.furlano@bayerbms.com**EVALUATION SUBJECT:****MAKROLON® GP, MAKROLON® SL, MAKROLON® AR AND MAKROLON® 15 POLYCARBONATE PANELS****1.0 EVALUATION SCOPE****Compliance with the following code:**2007 *Florida Building Code—Building***Properties Evaluated:**

- Light-transmitting plastics
- Surface burning characteristics
- Safety glazing (indoor applications only)
- Durability

2.0 PURPOSE OF THIS SUPPLEMENT

This supplement is issued to indicate that the Makrolon GP®, Makrolon SL®, Makrolon AR® and Makrolon® 15 polycarbonate panels described in Sections 2.0 through 7.0 of the master report comply with the 2007 *Florida Building Code—Building*, when designed and installed in accordance with the master evaluation report.

Use of the Makrolon GP®, Makrolon SL®, Makrolon AR® and Makrolon 15® polycarbonate panels described in the master evaluation report for compliance with the High Velocity Hurricane Zone provisions of the 2007 *Florida Building Code—Building* has not been evaluated, and is outside the scope of this supplement.

This supplement expires concurrently with the master report reissued August 1, 2012.