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# ICC-ES Evaluation Report

# ESR-1653

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Reissued 06/2017  
This report is subject to renewal 06/2019.

**DIVISION: 08 00 00—OPENINGS**  
**SECTION: 08 84 00—PLASTIC GLAZING**

**REPORT HOLDER:**

**ARKEMA INC.**

**900 FIRST AVENUE**  
**KING OF PRUSSIA, PENNSYLVANIA 19406**

**EVALUATION SUBJECT:**

**PLEXIGLAS® ACRYLIC SHEET**



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**DIVISION: 08 00 00—OPENINGS**  
**Section: 08 84 00—Plastic Glazing**

## REPORT HOLDER:

**ARKEMA, INC.**  
**900 FIRST AVENUE**  
**KING OF PRUSSIA, PENNSYLVANIA 19406**  
**(610) 878-6979**  
[www.arkema.com](http://www.arkema.com)

## EVALUATION SUBJECT:

**PLEXIGLAS® ACRYLIC SHEET**

### 1.0 EVALUATION SCOPE

#### Compliance with the following codes:

- 2009 and 2006 *International Building Code*® (IBC)
- 2009 and 2006 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)<sup>†</sup>

<sup>†</sup>The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

#### Properties evaluated:

- Light-transmission
- Safety glazing
- Durability

### 2.0 USES

Plexiglas plastic products are light-transmitting plastics complying with IBC Section 2606.4 and are intended for use in interior or exterior applications as described for the individual products in Section 4.0.

### 3.0 DESCRIPTION

#### 3.1 Plexiglas G, Q, MC, DR, T2, SG Plus, V, VM and MI:

Plexiglas G, Q, MC, DR, T2 and SG Plus are acrylic plastic sheets that can be thermoformed or cold-formed to specified shapes. The sheets are available in clear and various translucent colors and tints. Plexiglas MC is a general-purpose, continually processed acrylic sheet, available in thicknesses from 0.080 inch (2.0 mm) to 0.354 inch (9.0 mm) inch. Plexiglas Q is a continually processed acrylic sheet product available in thicknesses from 0.118 inch (3.0 mm) to 0.220 inch (5.6 mm). Plexiglas T2 is a continually processed acrylic sheet product available in thicknesses from 0.098 inch (2.5 mm) to 0.354 inch (9 mm). Plexiglas SG Plus is a continually processed acrylic sheet product available in thicknesses from 0.118 inch (3.0 mm) to 0.177 inch (4.5 mm). Both Plexiglas T2

and SG Plus are available on reels in thicknesses up to 0.177 inch (4.5 mm).

Plexiglas DR sheet is a continually processed acrylic sheet product available in thicknesses from 0.080 inch (2.0 mm) to 0.354 inch (9.0 mm). Plexiglas G is a cell cast acrylic sheet available in thicknesses from 0.118 inch (3.0 mm) to 0.944 inch (24.0 mm).

Plexiglas is also available as molding resins, designated as Types V, VM, MI and DR, which are in pellet form and may be extruded into sheets or injection molded into various forms as recognized in a specific ICC-ES evaluation report.

The Plexiglas products comply with IBC Section 2606.4 and have a CC2 classification. Plexiglas G and Plexiglas Q may be used as safety glazing in locations subject to human impact hazards as regulated in IBC Section 2406 and IRC Section 308.3. The minimum thickness of Plexiglas G and Plexiglas Q for use in hazardous locations must be 0.125 inch (3.2 mm).

### 4.0 INSTALLATION

Plexiglas G, Q, MC, DR, and SG Plus may be used in interior and exterior locations. Plexiglas T2, is recognized for use as light-transmitting plastic in internal locations only. Plexiglas G and MC sheets, when freely mounted, meet the fallout and retention requirements of IBC Section 2606.7.2, and are thereby exempt from Chapter 8 requirements when installed in accordance with IBC Section 2606.7. For specific installations, refer to the manufacturer's published installation instructions. The manufacturer's published installation instructions shall be at the jobsite during installation.

### 5.0 CONDITIONS OF USE

The Plexiglas plastic products described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1** Installation shall comply with this report, the manufacturer's published installation instructions and the requirements of the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report shall govern.
- 5.2** End use of the products requires justification of compliance with appropriate code requirements, including structural considerations.
- 5.3** Plexiglas G, Q, SG Plus, DR and MC are recognized for use in skylight, exterior wall and roof panel

applications provided the skylight, exterior wall and roof panel products utilizing the plastics are recognized in ICC-ES evaluation reports.

Products molded from Plexiglas Types V, VM, MI and DR molding resins are outside the scope of this report and must be recognized in separate ICC-ES evaluation reports.

- 5.4 The individual sheets shall meet the size requirements of IBC Section 2606.7.3.

#### **6.0 EVIDENCE SUBMITTED**

- 6.1 Reports containing results of testing performed in accordance with ASTM D2843, ASTM D1929 and ASTM D635.
- 6.2 Reports on Plexiglas G, Q, MC, DR, and SG Plus containing results of weathering and impact tests in

accordance with the ICC-ES Acceptance Criteria for Plastic Glazed Skylights (AC16), dated April 2011.

- 6.3 Reports on Plexiglas G and Q containing results of testing performed in accordance with CPSC 16 CFR 1201 and ANSI Z97.1.
- 6.4 A quality control manual.

#### **7.0 IDENTIFICATION**

The products are identified by a label noting the type of plastic or molding resin, the manufacturer's name (Arkema) and address, the evaluation report number (ESR-1653), and the plastic classification. In addition, Plexiglas G and Plexiglas Q sheets intended for use as safety glazing shall be labeled in accordance with IBC Section 2406.2 and identified as Category II sheets.