

TEXAS DEPARTMENT OF INSURANCE

Engineering Services / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
Phone No. (512) 322-2212 Fax No. (512) 463-6693

PRODUCT EVALUATION WIN-1327

Effective October 1, 2010

The following product has been evaluated for compliance with the wind loads specified in the *International Residential Code (IRC)* and the *International Building Code (IBC)*. This product shall be subject to reevaluation **February 2012**.

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

LightWise® Architectural Systems Aluminum Framed Glass Block Windows, Impact Resistant, manufactured by and available from:

Pittsburgh Corning Corporation
800 Presque Isle Drive
Pittsburgh, Pennsylvania 15239-2799
Telephone: (800) 545-5001

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

The LightWise® Architectural Systems aluminum framed glass block window is a pre-assembled glass block window that consists of 4" thick THICKSET® 90 glass blocks within a two-piece aluminum frame. The following patterns are available: DECORA®, ENDURA®, and VUE®. The glass block windows evaluated in this report are individual, impact resistant windows. This product evaluation report is for aluminum framed glass block windows based on the following tested construction:

General Description:

System	Description	Label Rating
1	LightWise® Aluminum Framed Glass Block Windows; (O)	FW-AW80 48 x 96 AAMA 506-06; Missile Level D

Product Dimensions:

System	Overall Size
1	48 ¼" x 95 ½"

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1	BLK-1	GM-1

Note: ¹ See the "Glass Construction Key" for the glazing construction.

² See the "Glazing Method Key" for the glazing method description.

Glass Construction Key:

BLK-1: THICKSET® 90 hollow glass blocks. The glass blocks are joined together vertically and horizontally in twelve (12) rows and six (6) columns to form the composite lite. Each block measures 8" x 8" x 4". Each row is separated by a continuous rigid vinyl (PVC) spacer. Each block is separated vertically by a rigid vinyl (PVC) spacer. A rigid vinyl (PVC) channel is located at the perimeter between the glass blocks and the aluminum frame. All glass block and frame intersections are sealed with silicone sealant.

Glazing Method Key:

GM-1: The glass blocks can be set from either the interior or the exterior and secured with an extruded snap-in aluminum section.

Frame construction: The frame members are manufactured from extruded aluminum. The two-piece aluminum frame is of double screw mitered corner construction. The base section is thermally improved using a polyurethane poured and debrided method.

Product Identification: A certification program (AAMA) label will be affixed to the window. The certification program label includes the manufacturer's code name (PC-1); the name of the product: **Lightwise Arch System**; performance characteristics; the approved inspection agency (AAMA); and the applicable standards: AAMA/WDMA/CSA 101/I.S.2/A440-05 and AAMA 506-06.

LIMITATIONS

Design pressures:

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressures (psf)
1	48 ¼	95 ½	± 80

Impact Resistance: These assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Inland I zone** and the **Seaward zone**. The assemblies passed Missile Level D specified in ASTM E 1996-06. The assemblies may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded. These assemblies will not need to be protected with an impact protective system.

Acceptance of Smaller Assemblies: Window assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

INSTALLATION INSTRUCTIONS

General: The window assembly shall be installed in accordance with the manufacturer's installation instructions.

Installation: The assembly shall be installed in accordance with one of the following options:

Option 1 (Wood Wall Framing): The wall framing shall be minimum Spruce-Pine-Fir dimension lumber. The extruded aluminum frame base shall be secured to the wood wall framing members with minimum No. 10 x 1 ½" long wood screws. The fasteners are located approximately 2 inches from each corner and approximately 8 inches on center along the perimeter of the window frame. The fasteners shall be long enough to penetrate a minimum of 1 ½ inches into the wood wall framing members. The exterior and interior frame members are sealed to the wall framing with silicone sealant except for a 4 inch long void at each interior sill corner.

Option 2 (Concrete or Masonry Wall Construction): The wall framing shall be cast-in-place or pre-cast concrete or concrete masonry units (CMU). Concrete shall have a minimum compressive strength of 2,000 psi. The CMU shall be grout-filled with a minimum compressive strength of 1,500

psi. The extruded aluminum frame base shall be secured to the concrete or CMU wall framing members with minimum $\frac{3}{16}$ " diameter Kwik-Con II anchors. The fasteners are located approximately 2 inches from each corner and approximately 12 inches on center along the perimeter of the window frame. The fasteners shall be long enough to penetrate a minimum of $1\frac{1}{4}$ inches into the wall construction (excluding the exterior wall covering). The anchors shall be located a minimum of $1\frac{1}{8}$ inches from the edge of the wall construction. The exterior and interior frame members are sealed to the wall framing with silicone sealant except for a 4 inch long void at each interior sill corner.

Option 3 (Steel Wall Construction): The wall framing shall be minimum $\frac{3}{16}$ " thick A36 steel. The extruded aluminum frame base shall be secured to the steel wall framing members with minimum No. 14 x $\frac{3}{4}$ " self-drilling screws. The fasteners are located approximately 2 inches from each corner and approximately 12 inches on center along the perimeter of the window frame. The fasteners shall be long enough to penetrate a minimum of 3 pitches of threads through the steel wall framing. The exterior and interior frame members are sealed to the wall framing with silicone sealant except for a 4 inch long void at each interior sill corner.

Note: The manufacturer's installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC); the International Building Code (IBC); and the Texas Revisions.