

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION

CWSF-04

Effective May 1, 2009

*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 2013.*

*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.*

### **Series 5000 Aluminum Outswing Entrance Doors with Transom and Sidelites, Storefront Framing System, Impact Resistant, manufactured by**

**Arch Aluminum & Glass Co., Inc.**  
**10200 N.W. 67<sup>th</sup> Street**  
**Tamarac, Florida 33321**  
**(800) 432 - 8132**

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 Series 5000 storefront framing system is an aluminum frame system used for commercial storefront installations. The aluminum storefront framing system is comprised of outswing double entrance door with a transom and sidelites. The perimeter frame members are 2 ½" x 5" and the mullions are 2 ½" x 5". The door panel stiles are 3 ½". The aluminum storefront framing system evaluated in this report is an impact resistant storefront framing system. This product evaluation report is for an aluminum storefront framing system based on the following tested construction:

### **General Description:**

**System 1:** Series 5000 Aluminum Storefront Framing System; Comprised of double outswing entrance doors; two sidelites; and a transom over the doors. The overall dimension is 197" x 120". The assembly consists of the following:

Double outswing entrance doors:

Overall dimension: 74 ½" x 96"

Panel Dimensions (2): 35 ⅞" x 95 ¼"

Panel Daylight Openings (2): 26 ⅝" x 84 ⅝"

One Sidelite:

Overall Dimensions: 60" x 120"

Daylight Opening Size: 57 ½" x 114 ½"

**General Description (continued):**

**System 1 (continued):**

One Sidelite:

Overall Dimensions: 60" x 120"

Daylight Opening Size (2): 57 1/2" x 56"

Transom:

Overall Dimensions: 74 1/2" x 24"

Daylight Opening Size: 70 3/8" x 20"

**Glazing Description:**

System	Glass Construction <sup>1</sup>	Glazing Method <sup>2</sup>
1	Doors: SG-1 or SG-3 or SG-5 Sidelites and Transom: SG-2 or SG-4 or SG-6	GM-1

Note: <sup>1</sup> See the "Glass Construction Key" for the glazing construction.

<sup>2</sup> See the "Glazing Method Key" for the glazing method description.

**Glass Construction Key:**

SG-1: Single glazed with a laminated glass unit. The laminated glass unit is comprised of two 3/16" heat strengthened glass lites with a 0.100" Safeflex HP interlayer. The glass thickness and type used in the laminated glass unit shall comply with ASTM E 1300-04.

SG-2: Single glazed with a laminated glass unit. The laminated glass unit is comprised of two 1/4" heat strengthened glass lites with a 0.100" Safeflex HP interlayer. The glass thickness and type used in the laminated glass unit shall comply with ASTM E 1300-04.

SG-3: Single glazed with a laminated glass unit. The laminated glass unit is comprised of two 3/16" heat strengthened glass lites with a 0.090" Safeflex Keepsafe Maximum interlayer. The glass thickness and type used in the laminated glass unit shall comply with ASTM E 1300-04.

SG-4: Single glazed with a laminated glass unit. The laminated glass unit is comprised of two 1/4" heat strengthened glass lites with a 0.090" Safeflex Keepsafe Maximum interlayer. The glass thickness and type used in the laminated glass unit shall comply with ASTM E 1300-04.

SG-5: Single glazed with a laminated glass unit. The laminated glass unit is comprised of two 3/16" heat strengthened glass lites with a 0.090" SentryGlas Plus interlayer. The glass thickness and type used in the laminated glass unit shall comply with ASTM E 1300-04.

SG-6: Single glazed with a laminated glass unit. The laminated glass unit is comprised of two 1/4" heat strengthened glass lites with a 0.090" SentryGlas Plus interlayer. The glass thickness and type used in the laminated glass unit shall comply with ASTM E 1300-04.

**Glazing Method Key:**

GM-1: The laminated glass units are exterior glazed in the doors and the sidelites and are interior glazed in the transom using Dow 995 structural silicone and an adhesive foam tape. There is an extruded snap on glazing bead with a vinyl wedge between the glass and the bead. There is a neoprene setting block between the glass on the bottom and the aluminum at each end of the glass unit.

**Frame Construction:** The frame members consist of hollow and solid extruded aluminum with various wall thickness. The frame members are equal leg type with butt joints and a mill and white coated finish. The frame corners are sealed with silicone.

**Entrance Door and Transom:** The upper frame corners and the intermediate frame member have one aluminum shear block fastened to the vertical members and the horizontal members with screws. The lower frame corners have an aluminum angle fastened to the frame jamb and to the threshold with screws. The threshold has a 0.5" high overall interior sill flange.

**Sidelites:** The upper frame corners and the horizontal mullion are fastened with screws.

**Panel Construction:** The panel members consist of hollow extruded have butt joints and a white coated finish. The top and bottom rails have a steel threaded rod the full length of the rails, fastened at each end with a washer and nut.

**Vertical Mullions:** Two piece vertical mullion. The frame members consist of hollow and solid extruded aluminum with various wall thickness. The mullions are sealed with silicone.

**Horizontal Mullions:** The frame members consist of solid extruded aluminum with various wall thickness. The mullions are sealed with silicone.

**Reinforcement:** None.

**Hardware:**

- Three-point lock system by Adams Rite; One (1) required; Located at the active panel stile, 34 inches from the bottom. Throw bolts at the frame head and sill penetrate  $\frac{3}{4}$  inch into the frame.
- Two-point lock system by Adams Rite; One (1) required; Located at the in-active panel lock stile, 34 inches from the bottom. Throw bolts at the frame head and sill penetrate  $\frac{3}{4}$  inch into the frame.
- Hinge Options:
  - Pivot hinges by Jackson Pivots (mid-span pivot) and by Ives (top and bottom pivots); Six (6) required; Three (3) at each frame jamb (One at each end of the jamb stile and one at the mid-span). Each hinge is secured to the frame with four  $\frac{1}{4}$ -20 x  $\frac{3}{4}$ " screws and to the panel with four  $\frac{1}{4}$ -20 x  $\frac{3}{4}$ " screws.
  - 4  $\frac{1}{2}$ " butt hinges by Hager (brass) or by Regent (steel); Six (6) required; Three (3) at each of the frame jambs. Each hinge is secured to the frame with four 12-24 x  $\frac{3}{4}$ " screws and to the panel with four 12-24 x  $\frac{3}{4}$ " screws.
  - 95  $\frac{3}{16}$ " long aluminum Roton hinge; Two (2) required; One (1) located at each of the frame jambs. The hinge is fastened to the frame with a double row of No. 12 x  $\frac{3}{4}$ " screws and to the panel with No. 12 x  $\frac{3}{4}$ " screws.

**Product Identification:** A label will be affixed to the window wall system. The label includes the manufacturer's name; the product name; the design pressure rating.

## LIMITATIONS

### Allowable dimensions:

#### System 1:

- Overall Dimensions: 197" x 120"
- Maximum Sidelite Dimensions: 60" x 120"
- Maximum Transom Dimension: 74 ½" x 24"
- Maximum Vertical Mullion Length: 120"
- Maximum Horizontal Transom Mullion Length: 72"
- Maximum Horizontal Sidelite Mullion Length: 57 ½"

### Design pressures (DP):

#### System 1: ± 85 psf

**Impact Resistance:** These window assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in both the **Inland I** and **Seaward** zones. These window assemblies have passed an impact criteria equivalent to Missile Level D specified in ASTM E 1996-04. These window assemblies may be installed at any height on the structure as long as the design pressure rating for the assembly is not exceeded. These window assemblies will not need to be protected with an impact protective system when installed in areas where windborne debris protection is required.

**Acceptance of Smaller Assemblies:** Windows 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 prepared and installed in accordance with the manufacturers recommended installation instructions. Detailed installation instructions and drawings are available from the manufacturer.

**Installation:** The wood wall framing shall be minimum Southern Yellow Pine Dimension lumber. The window assembly shall be installed using the assembly frame head and sill with minimum No. 14 x 3" wood screws. The assembly frame sill is secured to the wall framing with a single row of fasteners spaced approximately 4 inches and 8 inches from each corner of each sidelite. The assembly frame head is secured to the wall framing with a single row of fasteners spaced approximately 4 inches and 8 inches from each corner and 4 inches and 8 inches on each side of each vertical mullion. The fasteners shall be long enough to penetrate a minimum of 1 ½ inches into the wall framing.

**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.