

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION

Effective August 1, 2011

CWSF-16

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 **December 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.

**3300 Infold and Outfold 3 ½ x 9 ½ Aluminum Folding Glass Wall System, Impact Resistant,**  
manufactured by

**Solar Innovations**  
**31 Roberts Road**  
**Pine Grove, Pennsylvania 17963**  
**Telephone: (570) 915-1500**

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

## PRODUCT DESCRIPTION

The 3300 infold and outfold 3 ½ x 9 ½ glass wall system is an aluminum folding glass wall system. The aluminum folding glass wall system evaluated in this report is an impact resistant glass wall system. This evaluation report is for an aluminum folding glass wall system based on the following tested construction:

### General Description:

System	Description	Label Rating
1	3300 Outfold 3 ½ x 9 ½ Aluminum Folding Glass Wall System with Standard Sill; XXXXX	TAS-201, TAS-202, TAS-203 Design Pressure: +60/-60 psf Maximum Size Tested: 18'10" x 9'11"
2	3300 Infold and Outfold 3 ½ x 9 ½ Aluminum Folding Glass Wall System with Flush Sill or Bulb Sill; XXXXX	TAS-201, TAS-202, TAS-203 Design Pressure: +50/-60 psf Maximum Size Tested: 18'10" x 9'11"

### Product Dimensions:

System	Overall Size	Panel Size	Panel Daylight Opening Size
1	226 ¼" x 118 ½"	Five: 43 ⅞" x 114"	Five: 37" x 107 ¼"
2	226 ¼" x 118 ½"	Five: 43 ⅞" x 114"	Five: 37" x 107 ¼"

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**Glazing Description:**

System	Glass Construction <sup>1</sup>	Glazing Method <sup>2</sup>
1	IG-1 or SG-1	GM-1
2	IG-1 or SG-1	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: The panels contain laminated glass units. The laminated glass units consist of two  $\frac{3}{16}$ " annealed glass lites with 0.090" DuPont Sentry Glass Plus interlayer.

IG-1: The panels contain sealed insulating glass units. The sealed insulating glass units are comprised of a  $\frac{3}{16}$ " fully tempered glass lite and a laminated glass unit separated by an aluminum spacer system. The laminated glass units consist of two  $\frac{3}{16}$ " annealed glass lites with 0.090" DuPont Sentry Glass Plus interlayer. The glass thickness used in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

**Glazing Method Key:**

GM-1: The glass units are glazed with a structural silicone face seal on both surfaces. The glazing channel is back-filled with a silicone sealant. The glass units are secured in place with an extruded aluminum glazing bead at the interior and the exterior.

**Frame Construction:** The frame members consist of extruded aluminum. The frame head, sill, and side jambs are thermally broken. The frame corners are secured together with screws.

**Panel Construction:** The panel members consist of extruded aluminum. The panel members are thermally broken. The panel corners are secured together with screws.

**Hardware (Outfold):**

- Butt hinges; five (5) required on the interior face of panels 2/3 and 4/5 and on the exterior face of panes 1/2 and 4/5. Each hinge is secured to each panel with four (4) No. 10-32 x  $\frac{5}{8}$ " screws.
- Single handle two-point throw bolt by Solar Innovations; one (1) required; located 35  $\frac{1}{4}$  inches from the bottom of the hinge stile of panel 1.
- Pull handle; one (1) required; located 57 inches from the bottom rail on the second panel from the jambs.
- Flip type throw bolt by Solar Innovations; one (1) required; located 7 inches from the bottom rail and 6  $\frac{1}{4}$  inches from the top rail on the lock panel.
- Five point lock/deadbolt assembly by Amesbury; one (1) required; located 35 inches from the bottom of the swing panel lock stile.
- Bottom or top load pin and trolley system; one (1) required; located at panels 2/3 and 4/5.
- Top load pin and trolley system; one (1) required; located at panels 2/3 and 4/5.

**Hardware (Infold):**

- Butt hinges; five (5) required on the exterior face of panels 2/3 and 4/5 and on the interior face of panes 1/2 and 4/5. Each hinge is secured to each panel with four (4) No. 10-32 x  $\frac{5}{8}$ " screws.
- Single handle two-point throw bolt Solar Innovations; one (1) required; located 35  $\frac{1}{4}$  inches from the bottom of the hinge stile of panel 1.
- Pull handle; one (1) required; located 57 inches from the bottom rail on the second panel from the jambs.
- Flip type throw bolt by Solar Innovations; one (1) required; located 7 inches from the bottom rail and 6  $\frac{1}{4}$  inches from the top rail on the lock panel.
- Five point lock/deadbolt assembly by Amesbury; one (1) required; located 35 inches from the bottom of the swing panel lock stile.
- Top load pin and trolley system; one (1) required; located at panels 2/3 and 4/5.

**Reinforcement:** Two (2)  $\frac{3}{16}$ " thick steel C-channels welded together with a  $\frac{3}{16}$ " thick steel plate in between; located in all stiles except for the hinge stile and the swing panel jamb stile.

**Product Identification:**

**System 1:** A certification program label (NAMI) will be affixed to the assembly. The certification program label shall include the manufacturer's name; the product name: **3300 Outfold Aluminum Folding Glass Wall Panel System**; performance characteristics; the approved inspection agency (NAMI); and the applicable standards: TAS-201, TAS-202, TAS-203.

**System 2:** A certification program label (NAMI) will be affixed to the assembly. The certification program label shall include the manufacturer's name; the product name: **3300 Infold or Outfold Aluminum Folding Glass Wall Panel System (w/Flush Sill or Bulb Seal)**; performance characteristics; the approved inspection agency (NAMI); and the applicable standards: TAS-201, TAS-202, TAS-203.

**LIMITATIONS**

**Design pressures:**

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressure (psf)
1	226 $\frac{1}{4}$	118 $\frac{1}{2}$	+60/-60
2	226 $\frac{1}{4}$	118 $\frac{1}{2}$	+50/-60

**Impact Resistance:** These assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Inland I** and the **Seaward zone**. The assemblies passed a missile impact standard that is equivalent to Missile Level D specified in ASTM E 1996-02/05. 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:** Assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

## INSTALLATION INSTRUCTIONS

**General:** The assembly shall be installed in accordance with the manufacturer's installation instructions and this product evaluation. Detailed drawings and installation instructions are available from the manufacturer.

**Design Drawings:** The glass wall panel system shall be installed in accordance with Drawing No. 08-01078, titled "3300 Thermally Broken Aluminum In/Outfold Glass Wall 3 ½ x 9 ½ - Impact, dated August 06, 2010, signed and sealed by Luis R. Lomas., P.E on July 11, 2011. The stated drawings will be referred to as the approved drawings in this evaluation report.

**Wall Framing Construction:** The glass wall panel system may be mounted to several types of wall framing construction. The types of wall framing construction allowed include:

- Concrete (minimum compressive strength: 3,192 psi)
- Wood dimension lumber (minimum Spruce-Pine-Fir)
- Masonry – (ASTM C-90, Grade N, Type 1 or greater)

**Installation:**

- Refer to Sheet 3 of 8 of the approved drawings for the anchor layout and notes.
- Refer to Sheets 5 of 8 thru 8 of 8 of the approved drawings for installation details.
- The approved drawings indicate the minimum embedment depths for the fasteners and the minimum edge distances (minimum distance fastener must be from the edge of the substrate material) for the fasteners.

**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.