

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION WIN-919

Effective April 1, 2008

*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 **July 2008**.*

*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.*

### **FeelSafe and FeelSafe IG Impact Energy Saver Aluminum Clad Wood Casement Picture Windows, Individual, Impact Resistant, manufactured by**

**Hurd Windows and Doors**  
**575 South Whelen Avenue**  
**Medford, Wisconsin 54451**  
**Telephone: (800) 223-4873**  
**www.hurd.com**

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 FeelSafe and FeelSafe IG impact energy saver aluminum clad casement picture windows evaluated in this report are wood casement picture windows. The FeelSafe and FeelSafe IG impact energy saver aluminum clad wood casement picture windows evaluated in this report are individual, impact resistant windows. This product evaluation report is for aluminum clad wood casement picture windows based on the following tested construction:

#### **General Description:**

System	Description	Label Rating	Hallmark Certification
1	FeelSafe Impact Energy Saver Aluminum Clad Wood Casement Picture Windows; (X)	DP +65/-70 (72 x 72) F-HC65 72 x 72	436-H-105.05 436-H-109.03
2	FeelSafe Impact Energy Saver Aluminum Clad Wood Casement Picture Windows; (X)	DP +65/-80 (101 x 65) F-HC65 101 x 65	436-H-105.08 436-H-109.09
3	FeelSafe IG Impact Energy Saver Aluminum Clad Wood Casement Picture Windows; (X)	DP +65/-70 (47 x 91) F-C65 47 x 91	436-H-105.10 436-H-109.11

**PRODUCT DESCRIPTION (cont.)**

**Product Dimensions:**

System	Overall Size	Sash Size
1	72 $\frac{3}{16}$ " x 72 $\frac{3}{16}$ "	70 $\frac{9}{16}$ " x 70 $\frac{9}{16}$ "
2	101 $\frac{3}{16}$ " x 65 $\frac{3}{16}$ "	99 $\frac{9}{16}$ " x 63 $\frac{9}{16}$ "
3	47 $\frac{1}{4}$ " x 91 $\frac{1}{4}$ "	45 $\frac{5}{8}$ " x 89 $\frac{1}{2}$ "

**Glazing Description:**

System	Glass Construction <sup>1</sup>	Glazing Method <sup>2</sup>
1	SG-1	GM-1
2	SG-2	GM-2
3	IG-1	GM-3

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 sash contains a laminated glass unit. The laminated glass unit in the tested assembly is comprised of two  $\frac{5}{16}$ " annealed glass lites with a 0.100" PVB Solutia interlayer. The glass thickness and type used in the laminated glass unit of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-02 and ASTM E 1886-02 and ASTM E 1996-03.

SG-2: The sash contains a laminated glass unit. The laminated glass unit in the tested assembly is comprised of two  $\frac{1}{4}$ " annealed glass lites with a 0.075" PVB Solutia interlayer. The glass thickness and type used in the laminated glass unit of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-02 and ASTM E 1886-03 and ASTM E 1996-03.

IG-1: The window contains a sealed insulating glass unit. The sealed insulating glass units in the tested assembly is comprised of a  $\frac{5}{32}$ " fully tempered glass lite and a laminated glass unit separated by a desiccant-filled aluminum spacer system. The laminated glass unit is comprised of two ( $\frac{5}{32}$ " ) heat strengthened glass lites with a 0.090" PVB Solutia interlayer. The glass thickness, type, and construction used in the insulating glass unit of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-02 and ASTM E 1886-02 and ASTM E 1996-02.

**Glazing Method Key:**

GM-1: The laminated glass unit is set from the interior onto a continuous bed of Tremco S900 at the exterior side of the laminated glass unit and heel bead to the interior between the glass edges to the sash members. EPDM glass setting blocks are located approximately 10 inches from each end and at the midspan. Wood glazing beads are utilized at the interior and secured with wire brads spaced 8-10 inches on center.

GM-2: The laminated glass unit is set from the interior onto a continuous bed of Tremco S700 or DOW 995 at the exterior side of the laminated glass unit and heel bead to the interior between the glass edges to the sash members. EPDM glass setting blocks are located approximately 10 inches from each end and at the midspan. Wood glazing beads are utilized at the interior and secured with wire brads spaced 8-10 inches on center.

## PRODUCT DESCRIPTION (cont.)

### Glazing Method Key (Continued):

GM-3: The insulated glass unit is set from the interior onto a continuous bed of Tremco S900 at the exterior side of the insulated glass unit and heel bead to the interior between the glass edges to the sash members. EPDM glass setting blocks are located approximately 10 inches from each end and at the midspan. Wood glazing beads are utilized at the interior and secured with wire brads spaced 8-10 inches on center.

**Frame Construction:** The frame members consist of finger-jointed pine at the head, sill, and side jambs. The frame corners are square cut, rabbeted, silicone sealed, and secured with staples. The interior side stops are secured to the frame with nails. Wood frame extensions are applied at the head, sill, and side jambs and are secured to the frame with staples.

**Aluminum Cladding:** The exterior aluminum cladding corners are mitered, corner keyed, sealed, foam gasket applied, and secured with two screws per corner. The exterior aluminum cladding is snap-fit to the wood frame members and secured with staples.

**Sash Construction:** The sash members consist of finger-jointed pine at the top and bottom rails and laminated veneer lumber at the stiles. The sash corners are mortise and tenon construction and secured with T-nails. The perimeter sash members utilize wood spacer blocks between the sash and the frame members. They are secured with wire brads. Sash clips are secured to the sash and to the frame with screws. The sash clips are spaced approximately 10 inches on center.

**Aluminum Cladding:** The extruded aluminum cladding corners are square cut, snap-fit to the wood members, silicone sealed, and staked in place.

**Hardware:** None.

### Product Identification:

**System 1:** A certification program label (WDMA Hallmark Certified) will be affixed to the window. The certification program label includes the manufacturer name; product name: **FeelSafe Impact Energy Saver Casement Picture**; performance characteristics; and approved inspection agency to indicate compliance with AAMA/NWWDA 101/I.S.2-97 and ASTM E 1886 and ASTM E 1996 Missile Level D.

**System 2:** A certification program label (WDMA Hallmark Certified) will be affixed to the window. The certification program label includes the manufacturer name; product name: **FeelSafe Impact Energy Saver Casement Picture**; performance characteristics; and approved inspection agency to indicate compliance with AAMA/WDMA/CSA 101/I.S.2/A440-05 and ASTM E 1886 and ASTM E 1996 Missile Level D.

**System 3:** A certification program label (WDMA Hallmark Certified) will be affixed to the window. The certification program label includes the manufacturer name; product name: **FeelSafe IG Impact Energy Saver Casement Picture**; performance characteristics; and approved inspection agency to indicate compliance with AAMA/WDMA/CSA 101/I.S.2/A440-05 and ASTM E 1886 and ASTM E 1996 Missile Level D.

## LIMITATIONS

### Design pressures (DP):

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressure (psf)
1	72 $\frac{3}{16}$	72 $\frac{3}{16}$	+65/-70
2	101 $\frac{3}{16}$	65 $\frac{3}{16}$	+65/-80
3	47 $\frac{1}{4}$	91 $\frac{1}{4}$	+65/-70

### LIMITATIONS (cont.)

**Impact Resistance:** These window assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris. The window assemblies passed Missile Level D specified in ASTM E 1996-03 and may be installed in the **Inland I** and **Seaward** zones. The window assembly 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:** 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 (System 1):

**Option 1:** The window shall be fastened to minimum Spruce-Pine-Fir dimension lumber. The window is secured to the wall framing using the window nailing flange. The nailing flange is secured to the window frame with No. 6 screws spaced 2 inches from each end and 8 to 10 inches on center. The window nailing flange is secured to the wall framing with minimum No. 8 screws. The fasteners are spaced approximately 9 inches from each corner and approximately 9 inches on center along the perimeter of the window. The fasteners shall be long enough to penetrate a minimum of  $1\frac{1}{2}$ " into the wall framing.

**Option 2:** The window shall be fastened to minimum Spruce-Pine-Fir dimension lumber. The window is secured to the wall framing using the window nailing flange. The nailing flange is secured to the window frame with No. 6 screws spaced 2 inches from each end and 8 to 10 inches on center. The window nailing flange is secured to the wall framing with minimum 2" long  $\frac{1}{8}$ " smooth shank gauge roofing nails. The fasteners are spaced approximately 4 inches from each corner and approximately 4 inches on center along the perimeter of the window. The fasteners shall be long enough to penetrate a minimum of  $1\frac{1}{2}$ " into the wall framing.

#### Installation (Systems 2 and 3):

**Option 1:** The window shall be fastened to minimum Southern Yellow Pine dimension lumber. The window is secured to the wall framing using the window nailing flange. The nailing flange is secured to the window frame with No. 6 screws spaced 2 inches from each end and 8 to 10 inches on center. The window nailing flange is secured to the wall framing with minimum No. 8 screws. The fasteners are spaced approximately 8 inches from each corner and approximately 8 inches on center along the perimeter of the window. The fasteners shall be long enough to penetrate a minimum of  $1\frac{1}{2}$ " into the wall framing.

**Option 2:** The window shall be fastened to minimum Southern Yellow Pine dimension lumber. The window is secured to the wall framing using the window nailing flange. The nailing flange is secured to the window frame with No. 6 screws spaced 2 inches from each end and 8 to 10 inches on center. The window nailing flange is secured to the wall framing with minimum 2" long  $\frac{1}{8}$ " smooth shank gauge roofing nails. The fasteners are spaced approximately 2 inches from each corner and approximately 4 inches on center along the perimeter of the window. The fasteners shall be long enough to penetrate a minimum of  $1\frac{1}{2}$ " into the wall framing.

### **INSTALLATION INSTRUCTIONS (cont.)**

**Option 3:** The window shall be fastened to minimum Southern Yellow Pine dimension lumber. The window is secured to the wall framing using the window frame. The window frame is secured to the wall framing with minimum No. 10 x 3" long screws. The fasteners are spaced approximately 6 inches from each corner and approximately 14 to 16 inches on center along the perimeter of the window. The fasteners shall be long enough to penetrate a minimum of 1 ½" 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.