

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION

WIN-1242

Effective January 1, 2010

Revised November 1, 2011

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 **April 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 4000 Vinyl Single Hung Windows, Individual and Mulled, New and Replacement Construction, Impact Resistant,** manufactured by:

**Krestmark Windows**  
3950 Bastille Road  
Suite 100  
Dallas, Texas 75212  
(214) 237-5055

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 4000 window is a vinyl single hung window. The vinyl single hung windows evaluated in this report are individual and mulled, impact resistant windows. This product evaluation report is for vinyl single hung windows based on the following tested constructions:

### General Description:

System	Description	Label Rating
1	Series 4000 Vinyl Single Hung Windows; (O/X)	H-R60 36 x 72 AAMA 506-06
2	Series 4000 Vinyl Single Hung Window; (O/X)	H-R55 44 x 72 AAMA 506-06
3	Series 4000 Vinyl Single Hung Window; Twin; (O/X O/X)	H-R50 80 x 72 AAMA 506-06
4	Series 4000/4750 Vinyl Single Hung Window; (O/X)	H-R50 48 x 72 AAMA 506-06

### Product Dimensions:

System	Overall Size	Operable Sash Size	Fixed Daylight Opening Size
1	35 1/2" x 71 1/2"	33 1/16" x 35 3/8"	33 7/8" x 33 1/8"
2	43 1/2" x 71 1/2"	41 3/4" x 35 3/8"	41" x 33"
3	79 1/2" x 71 1/2"	37 5/8" x 35 1/4"	36 1/4" x 33"
4	47 1/2" x 71 1/2"	33 1/2" x 40 3/8"	42" x 33"

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**Glazing Description:**

System	Glass Construction <sup>1</sup>	Glazing Method <sup>2</sup>
1	IG-1	GM-1
2	IG-1	GM-1
3	IG-1	GM-1
4	IG-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:**

IG-1: The fixed and operable sashes contain sealed insulating glass units. The sealed insulating glass unit is comprised of a laminated glass unit and a double strength ( $\frac{1}{8}$ " ) annealed glass lite separated by an aluminum Swiggle strip spacer system. The laminated glass unit is comprised of two single strength ( $\frac{3}{32}$ " ) annealed glass lites with a 0.090" interlayer. The glass thickness used in the insulating glass unit of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

**Glazing Method Key:**

GM-1: The insulating glass unit in the operable sash and in the fixed sash is exterior glazed with silicone backbedding compound at the interior face along the full perimeter. A rigid vinyl (PVC) snap-in glazing bead secures the insulating glass units in place from the exterior.

**Frame Construction:** The frame members are manufactured from extruded vinyl (PVC). The frame corners are mitered and welded construction. The fixed interlock is secured to the frame with screws.

**Sash Construction:** The sash members are manufactured from extruded vinyl (PVC). The sash corners are mitered and welded construction.

**Sill Riser (Systems 1 and 2):** A vinyl sill adaptor is snap-fit onto the frame sill interior leg to increase the height of the sill.

**Reinforcement:**

**Systems 1, 2 and 4:** Extruded aluminum reinforcement is utilized in the fixed interlock, in the sash top rail, and in the sash stiles. The reinforcement extends the length of the members.

**System 3:** Extruded aluminum reinforcement is utilized in the fixed interlock, in the sash top rail, in the sash stiles, and in the vertical mullion. The reinforcement extends the length of the members.

**Hardware (per window):**

- Metallic sweep lock; Two (2) required; Located on the sash meeting rail,  $5\frac{1}{2}$  inches from each end.
- Keepers; Two (2) required; Located on the fixed interlock rail.
- Block and tackle balance; Two (2) required; Located in each frame jamb.
- Metallic tilt latch; Two (2) required; Located at each end of the sash top rail.

**Product Identification:**

**Systems 1 and 2:** A certification program label (AAMA) will be affixed to the window. The certification program label includes the manufacturer's code name (**KR-1**); **Series 4000 SH**; performance characteristics; the approved inspection agency (AAMA); and the applicable standards: AAMA/WDMA/CSA 101/I.S.2/A440-05 and AAMA 506-06.

**System 3:** A certification program label (AAMA) will be affixed to the window. The certification program label includes the manufacturer's code name (**KR-1**); **Series 4000/4750 SH**; performance characteristics; the approved inspection agency (AAMA); and the applicable standards: AAMA/WDMA/CSA 101/I.S.2/A440-05 and AAMA 506-06.

**Systems 4:** A certification program label (AAMA) will be affixed to the window. The certification program label includes the manufacturer's code name (**KR-1**); **Series 4000/4750 SH**; 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	35 ½	71 ½	± 60
2	43 ½	71 ½	± 55
3	79 ½	71 ½	± 60
4	47 ½	71 ½	± 50

**Impact Resistance:** These window assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Inland I zone** and the **Seaward zone**. The window assemblies passed Missile Level D specified in ASTM E 1996-04. The window assemblies may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded. These window 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. Detailed installation instructions and drawings are available from the manufacturer.

**Installation:**

**New Construction (Systems 1, 2 and 4):** The wood wall framing members shall be minimum Spruce-Pine-Fir dimension lumber. The window shall be secured to the wall framing using the nailing fin of the window with minimum No. 8 screws. The fasteners shall be spaced approximately 2 inches from each corner and approximately 12 inches on center along the perimeter of the window. The fasteners shall be long enough to penetrate a minimum of 1 ½ inches into the wall framing. The frame is sealed with silicone around the perimeter.

**New Construction (System 3):** The wood wall framing members shall be minimum Spruce-Pine-Fir dimension lumber. The window shall be secured to the wall framing using the nailing fin of the

window with minimum No. 8 screws. The fasteners shall be spaced approximately 2 inches from each corner and approximately 12 inches on center along the perimeter of the window. A flat (4.255" x 1.25") aluminum clip is secured to the vertical mullion reinforcement with two (2) No. 8 x 1 ¼" screws through holes at the bottom of the mullion. The aluminum clip is secured to the wall framing with two (2) No. 8 screws. The fasteners shall be long enough to penetrate a minimum of 1 ½ inches into the wall framing.

**Replacement Construction (System 2 and 4):** The wood wall framing members shall be minimum Spruce-Pine-Fir dimension lumber. The window shall be secured to the wall framing using the frame of the window with minimum No. 8 screws. Fasteners are required along the head and the side jambs. The fasteners shall be spaced approximately 2 inches from each corner and approximately 12 inches on center. The fasteners shall be long enough to penetrate a minimum of 1 ½ inches into the wall framing. The frame sill is secured with silicone.

**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.