

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION WIN-1366

Effective February 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 **September 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 SH-2200 Vinyl Single Hung Windows, Individual, Non-impact Resistant, manufactured by

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1070 Technology Drive
Nokomis, Florida 34275
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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 SH-2200 single hung windows are vinyl single hung windows. The vinyl single hung windows evaluated in this report are individual, non-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 SH-2200 Vinyl Single Hung Window; Equal; (O/X)	H-R40 44 x 84 Neg DP=50
2	Series SH-2200 Vinyl Single Hung Window; Oriel; (O/X)	H-R50 44 x 84
3	Series SH-2200 Vinyl Single Hung Window; Equal; (O/X)	H-R50 44 x 75
4	Series SH-2200 Vinyl Single Hung Window; Equal; (O/X)	H-R45 44 x 75 Neg DP=50
5	Series SH-2200 Vinyl Single Hung Window; Equal; (O/X)	H-R45 44 x 62
6	Series SH-2200 Vinyl Single Hung Window; Oriel; (O/X)	H-R50 44 x 62
7	Series SH-2200 Vinyl Single Hung Window; Equal; (O/X)	H-R35 52 x 75
8	Series SH-2200 Vinyl Single Hung Window; Oriel; (O/X)	H-R35 52 x 75
9	Series SH-2200 Vinyl Single Hung Window; Equal; (O/X)	H-R50 52 x 62
10	Series SH-2200 Vinyl Single Hung Window; Oriel; (O/X)	H-R50 52 x 62
11	Series SH-2200 Vinyl Single Hung Window; Oriel; (O/X)	H-R45 52 x 62

Product Dimensions:

System	Overall Size	Sash Size	Fixed Daylight Opening Size
1	44" x 84"	40 ⁷ / ₈ " x 36 ³ / ₈ "	39" x 38 ¹ / ₈ "
2	44" x 84"	40 ⁷ / ₈ " x 20"	39" x 59"
3	44" x 75"	40 ⁷ / ₈ " x 36 ³ / ₈ "	39" x 33 ¹ / ₂ "
4	44" x 75"	40 ⁷ / ₈ " x 36 ³ / ₈ "	39" x 33 ¹ / ₂ "
5	44" x 62"	40 ⁷ / ₈ " x 30"	39" x 27 ¹ / ₂ "
6	44" x 62"	40 ⁷ / ₈ " x 20"	39" x 37"
7	52 ¹ / ₈ " x 75"	48 ⁷ / ₈ " x 36 ³ / ₈ "	47 ¹ / ₈ " x 33 ⁵ / ₈ "
8	52 ¹ / ₈ " x 75"	48 ⁷ / ₈ " x 20"	47 ¹ / ₈ " x 50"
9	52 ¹ / ₈ " x 62"	48 ⁷ / ₈ " x 29 ⁷ / ₈ "	47" x 27 ¹ / ₄ "
10	52 ¹ / ₈ " x 62"	48 ⁷ / ₈ " x 20"	47" x 37"
11	52 ¹ / ₈ " x 62"	48 ⁷ / ₈ " x 20"	47" x 37"

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1-11	IG-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:

IG-1: The fixed and operable sashes contain a sealed insulating glass unit. The sealed insulating glass unit in the tested assembly is comprised of two double strength (¹/₈") annealed glass lites separated by a reinforced butyl spacer system. The glass thickness and type 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 active sash is exterior glazed. The insulating glass unit in the fixed sash is interior glazed. The insulating glass units are glazed onto a silicone sealant bedding. The insulating glass units are secured in place with vinyl glazing beads.

Frame Construction: The frame members are manufactured from extruded vinyl (PVC). The frame corners are mitered and welded construction. The fixed meeting rail is secured with a zinc clip slid into the fixed meeting rail then the clip is secured to the frame side jambs with screws.

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

Hardware:

- Metal sweep locks with keepers (Systems 1, 2, 3, 4, 7, 8, 9, 10, and 11); Two (2) required; Located on the sash meeting rail, 8 inches from each end.
- Metal sweep locks with keepers (Systems 5 and 6); One (1) required; Located on the sash meeting rail at the mid span.

Hardware (continued):

- PVC tilt latches; Two (2) required; Located on the active meeting rail ends.
- Metal tilt pins; Two (2) required; Located on the bottom rail ends.
- Block and tackle balance assembly; Two (2) required; One (1) per jamb.

Reinforcement:

Systems 1, 2, 3, 4, 7, 8, 9, 10: Extruded aluminum reinforcement is located in the fixed meeting rail, the locking rail, the bottom rail, and the active sash stiles. The reinforcement extends the length of the members.

Systems 5 and 6: Extruded aluminum reinforcement is located in the fixed meeting rail. The reinforcement extends the length of the members.

System 11: Steel reinforcement is located in the active sash lock rail, the sash lift rail, and the stiles. Extruded aluminum reinforcement is utilized in the fixed meeting rail. The reinforcement extends the length of the members.

Product Identification: A certification program label (Keystone) will be affixed to the window. The certification program label includes the performance characteristics and approved inspection agency to indicate compliance with the requirements of AAMA/WDMA/CSA 101/I.S.2/A440-05. The certification program label contains a Certification Authorization Report (CAR) number located on the top right side of the label and a model name for the window. The following CAR number and model name is located on the label:

Label Identification:

System	Model	Certification Authorization Report (CAR) number
1	SH2200 Equal SH (Std Reinforcement)	199-720
2	SH2200 Oriel Single Hung (Standard Reinforcement)	199-721
3	SH2200 Equal Single Hung (Standard Reinforcement)	199-740
4	SH2200 Equal SH (Std Reinforcement)	199-722
5	SH2200 Equal Single Hung (Standard Reinforcement)	199-723
6	SH2200 Oriel Single Hung (Standard Reinforcement)	199-724
7	SH2200 Equal Single Hung (Standard Reinforcement)	199-716
8	SH2200 Oriel Single Hung (Standard Reinforcement)	199-717
9	SH2200 Equal Single Hung (Standard Reinforcement)	199-718
10	SH2200 Oriel Single Hung (Standard Reinforcement)	199-719
11	SH2200 Oriel Single Hung (Standard Reinforcement)	199-715

LIMITATIONS

Design pressures (DP):

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressure (psf)
1	44	84	+40/-50
2	44	84	± 50
3	44	75	± 50
4	44	75	+45/-50
5	44	62	± 45
6	44	62	± 50
7	52 $\frac{1}{8}$	75	± 35
8	52 $\frac{1}{8}$	75	± 35
9	52 $\frac{1}{8}$	62	± 50
10	52 $\frac{1}{8}$	62	± 50
11	52 $\frac{1}{8}$	62	± 45

Impact Resistance: These window assemblies do not satisfy the Texas Department of Insurance's criteria for protection from windborne debris. These window assemblies will need to be protected with an impact protective system when installed in areas where windborne debris protection is required.

Tested to Higher Negative Design Pressure: The Keystone label indicates that the product was tested to a higher negative design pressure rating. The higher negative design pressure rating is specified in the table above.

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 installed in accordance with the manufacturer's installation instructions and this evaluation report. Detailed installation instructions and drawings are available from the manufacturer.

Installation:

Systems 1 and 2: The window frame shall be fastened to minimum Southern Yellow Pine lumber. The window is secured to the wall framing using the window frame with minimum No. 10 screws. The fasteners are required along the frame head, and the frame side jambs. Along the head, the fasteners shall be spaced approximately 6 inches from each corner and one at the mid span. Along the side jambs, the fasteners shall be spaced approximately 6 inches from the sill and approximately 16 $\frac{1}{2}$ inches on center. The fasteners shall be long enough to penetrate a minimum of 1 $\frac{1}{2}$ inches into the wall framing.

Systems 3, 4, 7, and 8: The window frame shall be fastened to minimum Southern Yellow Pine lumber. The window is secured to the wall framing using the window frame with minimum No. 10 screws. The fasteners are required along the frame head, and the frame side jambs. Along the head, the fasteners shall be spaced approximately 6 inches from each corner and one at the mid span. Along the side jambs, the fasteners shall be spaced approximately 6 inches from the sill and approximately 19 inches on center. The fasteners shall be long enough to penetrate a minimum of 1 $\frac{1}{2}$ inches into the wall framing.

Systems 5, 6, 9, 10, and 11: The window frame shall be fastened to minimum Southern Yellow Pine lumber. The window is secured to the wall framing using the window frame with minimum No. 10 screws. The fasteners are required along the frame head, and the frame side jambs. Along the head, the fasteners shall be spaced approximately 6 inches from each corner and one at the mid span. Along the side jambs, the fasteners shall be spaced approximately 6 inches from the sill and approximately 15 inches on center. The fasteners shall be long enough to penetrate a minimum of 1 $\frac{1}{2}$ 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.