

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION WIN-824

Effective June 1, 2007

*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 three years from the effective date.*

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 450/455 Vinyl Double Hung Windows, Individual, Mullled, Non-impact Resistant,
manufactured by

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Dallas, Texas 75247
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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 450/455 window is a vinyl double hung window. This evaluation report includes individual and mullled vinyl double hung windows. The vinyl double hung windows evaluated in this report are non-impact resistant windows. This product evaluation report is for vinyl double hung windows based on the following tested constructions:

General Description:

System	Description	Label Rating
1	Series 450/455 Vinyl Double Hung Window; Individual; (XX)	H-R35 36 x 74
2	Series 450/455 Vinyl Double Hung Window; Individual; (XX)	H-R50 36 x 74 (MODIF)
3	Series 450/455 Vinyl Double Hung Window; Triple Mullled; (XX XX XX)	H-R30 108 x 74

Product Dimensions:

System	Overall Size	Interior Sash Size	Exterior Sash Size
1	36" x 74"	33" x 36 1/2"	32" x 33 7/8"
2	36" x 74"	33" x 36 1/2"	32" x 33 7/8"
3	108" x 73 7/8"	32 1/2" x 36 1/2"	31 5/8" x 35 1/2"

PRODUCT DESCRIPTION (Continued)

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1	IG-1	GM-1
2	IG-1	GM-1
3	IG-1	GM-2

Note: ¹ See the "Glass Description Key" for the glazing construction.

² See the "Glazing Method Key" for the glazing method description.

Glazing Description Key:

IG-1: Each sash contains a sealed insulating glass unit. The sealed insulating glass units are comprised of two single strength ($\frac{3}{32}$ ") annealed glass lites separated by a U-shaped steel spacer system.

Glazing Method Key:

GM-1: The insulating glass units are exterior glazed onto a backbedding compound at the interior. The insulating glass units are secured in place with vinyl snap-in glazing beads at the exterior.

GM-2: The insulating glass units are exterior glazed onto dual-sided adhesive foam tape. The insulating glass units are secured in place with dual durometer vinyl (PVC) glazing beads.

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

Mullions (System 3): The mullions are secured to the frame head and frame sill with four (4) screws per end.

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

Reinforcement:

System 1: Extruded aluminum reinforcement is utilized in the lock rail, the keeper rail, and the bottom lift rail. The reinforcement extends the length of the members.

System 2: Extruded aluminum reinforcement is utilized in the lock rail, the keeper rail, the bottom lift rail, and in the sash stiles. The reinforcement extends the length of the members.

System 3: Extruded aluminum reinforcement is utilized in the bottom rail, the interior meeting rail, and the exterior meeting rail of each window. The reinforcement extends the length of the members.

Hardware (Systems 1 and 2):

- Block and tackle balance; Two (2) required; Located in each jamb.
- Sweep lock; Two (2) required; Located 7 inches on center from each end of the bottom sash top rail.
- Sweep lock keeper; Two (2) required; Located $6\frac{5}{8}$ inches on center from each end of the top sash bottom rail.
- Balance shoe; Four (4) required; Two in each jamb.
- Tilt latch – left; Two (2) required; Located in the left end of the top sash top rail and the bottom sash top rail.

PRODUCT DESCRIPTION (Continued)

Hardware (Systems 1 and 2) - continued:

- Tilt latch – right; Two (2) required; Located in the right end of the top sash top rail and the bottom sash top rail.
- Pivot bar; Four (4) required; Located in each end of the top sash bottom rail and the bottom sash bottom rail.

Hardware (System 3 – each window):

- Cam lock with adjacent keeper; Two (2) required; Located on the interior meeting rail, 6 inches from each end with the keepers aligned on the exterior meeting rail.
- Vinyl tilt latches; Four (4) required; Located at each end of the top rail and the interior meeting rail.
- Sash balance retaining pins; Four (4) required; Located at each end of the exterior meeting rail and the bottom rail.
- Metal spring; Six (6) required; One located 3 inches from each end and the mid-span of the screen stile.

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 (ADW-1); **Series 450/455 DH**; performance characteristics; and approved inspection agency to indicate compliance with the requirements of AAMA/NWWDA 101/I.S.2.

Systems 3: A certification program label (AAMA) will be affixed to the window. The certification program label includes the manufacturer's code name (ADW-1); **Series 450/455 DH TRIPLE**; performance characteristics; and approved inspection agency to indicate compliance with the requirements of AAMA/NWWDA 101/I.S.2.

LIMITATIONS

Design pressures:

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressures (psf)
1	36	74	± 35
2	36	74	± 50
3	108	73 ⁷ / ₈	± 30

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 is required.

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:

Systems 1 and 2: The wall framing members shall be minimum Spruce-Pine-Fir lumber. The window shall be mounted to the wood wall framing members using the integral nailing fin of the window with minimum No. 6 screws. The fasteners shall be located approximately 2 inches from each corner and approximately 12 inches on center along the perimeter of the window frame. The fasteners shall be long enough to penetrate a minimum of 1 ½" into the wall framing members.

System 3: The wall framing members shall be minimum Spruce-Pine-Fir lumber. The window shall be mounted to the wood wall framing members using the integral nailing flange of the window with minimum No. 6 screws. The fasteners shall be located approximately 2 inches from each corner and approximately 9 inches on center along the perimeter of the window frame. At each end of the mullions at the head and the sill, two (2) No. 6 screws with washers are required through the nailing flange, spaced 6 inches on center. The fasteners shall be long enough to penetrate a minimum of 1 ½" into the wall framing members.

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.