

TEXAS DEPARTMENT OF INSURANCE

Engineering Services / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
Phone No. (512) 322-2212 Fax No. (512) 463-6693

PRODUCT EVALUATION WIN-747

Effective November 1, 2010

*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 **August 2012**.*

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 150/160/8160 Vinyl Single Hung Windows, Individual and Mulled New and Replacement Construction, Non-impact Resistant, manufactured by

Atrium Windows and Doors
9001 Ambassador Row
Dallas, Texas 75247
(214) 637-2696

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 150/160/8160 window is a vinyl single hung window. The vinyl single hung windows evaluated in this report are non-impact resistant windows. This evaluation report includes individual units as well as mulled units. This product evaluation report is for vinyl single hung windows based on the following tested constructions:

General Description:

System	Description	Label Rating
1	Series 150/160/8160 Vinyl Single Hung Window; Individual; (O/X)	H-R25 48 x 96
2	Series 150/160/8160 Vinyl Single Hung Window; Individual; (O/X)	H-R40 36 x 96
3	Series 150/160/8160 Vinyl Single Hung Window; Individual; (O/X)	H-R50 36 x 74
4	Series 150/160/8160 Vinyl Single Hung Window; Mulled; Continuous Head and Sill; (O/X O/X O/X)	H-R30 108 x 74 (MODIF)(MULL)
5	Series 150/160/8160 Vinyl Single Hung Window; Mulled; Continuous Head and Sill; (O/X O/X O/X)	H-R50 108 x 74 (MODIF)(MULL)
6	Series 150/160/8160 Vinyl Single Hung Window; Mulled; (O/X O/X O/X)	Each Window: H-R50 36 x 74

Product Dimensions:

System	Overall Size	Operable Sash Size	Fixed Daylight Opening Size
1	48" x 96"	45 1/2" x 34 7/8"	43 1/2" x 57"
2	36" x 96"	33 1/2" x 34 7/8"	31 1/4" x 57"
3	36" x 74"	33 1/4" x 36 1/8"	31 1/4" x 33 5/8"
4	108" x 74"	32 7/8" x 36"	30 1/2" x 33 1/2"
5	108" x 74"	32 7/8" x 36"	30 1/2" x 33 1/2"
6	109 1/2" x 74"	33 9/16" x 36 3/8"	31 1/4" x 33 5/8"

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1	IG-1	GM-1
2	IG-1	GM-1
3	IG-1	GM-1
4	IG-2	GM-1
5	IG-2	GM-1
6	IG-2	GM-1

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: The operable sash and the fixed sash contain sealed insulating glass units. The sealed insulating glass units are comprised of two double strength (1/8") annealed glass lites separated by a composite spacer system. The glass thickness and type used in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

IG-2: The operable sash and the fixed sash contain sealed insulating glass units. The sealed insulating glass units are comprised of two single strength (3/32") annealed glass lites separated by an Intercept spacer system. The glass thickness and type used in 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 is exterior glazed against a backbedding compound at the interior with a vinyl snap-on glazing bead at the exterior. The insulating glass unit in the fixed sash is interior glazed against a backbedding compound with a vinyl snap-on glazing bead at the interior.

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 to the frame side jambs using custom shaped plastic blocks. The custom shaped plastic blocks are secured to the frame side jambs and to the fixed interlock with screws.

Mullions (System 4 and 5): The mullion members are manufactured from extruded vinyl (PVC). The mullions are secured to the continuous frame head and frame sill with screws.

Mullion (System 6): The mullion is formed from a custom shaped extruded aluminum member that is secured to each side jamb. The mullion is secured through each side jamb with screws.

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

Reinforcement:

Systems 1, 2, 3, 4, and 6: Custom shaped aluminum reinforcement is utilized in the fixed meeting rail and in all of the sash members. The reinforcement extends the length of the members.

System 5: Custom shaped aluminum reinforcement is utilized in the fixed meeting rail, in all of the sash members, and in the vertical mullion cavity. The reinforcement extends the length of the members.

Hardware (each window):

- Cam locks; Two (2) required per window; Located at each end of the sash top rail.
- Keepers; Two (2) required; Located at each end of the fixed interlock, adjacent to the cam locks.
- Block and tackled balances; Two (2) required per window; One is located in each jamb.
- Tilt latches; Two (2) required; Located at the top rail corners.
- Pivot bar; Two (2) required; Located at the bottom rail corners.

Product Identification:

Systems 1, 2, and 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 150 / 160 / 8160 SH**; performance characteristics; the approved inspection agency (AAMA); and the following applicable standard: AAMA/WDMA/CSA 101/I.S.2/A440-05.

Systems 4 and 5: A certification program label (AAMA) will be affixed to the window. The certification program label includes the manufacturer's code name (ADW-1); **Series 150 / 160 SH**; performance characteristics; the approved inspection agency (AAMA); and the following applicable standard: ANSI/AAMA/NWWDA 101/I.S.2-97.

System 6: A certification program label (AAMA) will be affixed to each window in the mulled assembly. The certification program label includes the manufacturer's code name (ADW-1); **Series 150 / 160 / 8160 SH**; performance characteristics; the approved inspection agency (AAMA); and the following applicable standard: AAMA/WDMA/CSA 101/I.S.2/A440-05.

LIMITATIONS

Design pressures:

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressures (psf)
1	48	96	± 25
2	36	96	± 40
3	36	74	± 50
4	108	74	± 30
5	108	74	± 50
6	109 ½	74	± 50

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, 2, 3, 4, and 5 (New Construction): The wall framing members shall be minimum Spruce-Pine-Fir lumber. The window shall be mounted to the wood wall framing members using the nailing fin of the window with minimum No. 8 screws. The fasteners shall be located approximately 3 inches from each corner and approximately 8 inches on center along the perimeter of the window frame. The fasteners shall be long enough to penetrate a minimum of $1\frac{1}{2}$ inches into the wall framing members.

Systems 3, 4, and 5 (Replacement Construction): The wall framing members shall be minimum Spruce-Pine-Fir lumber. The window shall be mounted to the wood wall framing members using the frame of the window with minimum No. 10 x $2\frac{1}{2}$ " screws. Along the side jambs, the fasteners shall be located approximately 6 inches from each corner and approximately 12 inches on center. Along the head and the sill, the fasteners shall be located approximately $4\frac{1}{2}$ inches from each corner and approximately $4\frac{1}{2}$ inches on either side of the mullions. The fasteners shall be long enough to penetrate a minimum of $1\frac{1}{2}$ inches into the wall framing members.

System 6 (New Construction): The wood wall framing members shall be minimum Spruce-Pine-Fir lumber. The window assemblies shall be secured to the wall framing using the nailing fin with minimum No. 8 screws. The fasteners shall be located approximately 3 inches from each corner and approximately 8 inches on center along the perimeter of the window. An aluminum mullion clip (3.50" x 2.50" x 0.125") is required at each end of each mullion. The mullion clip is inserted into the end of the mullion. Each mullion clip is secured to the wall framing with two (2) No. 8 screws. The fasteners shall be long enough to penetrate a minimum of $1\frac{1}{2}$ 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.