

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION

Effective February 1, 2012

WIN-1527

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 **January 2015**.

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 V101 Vinyl Tilt and Turn Windows, Non-impact Resistant, manufactured by

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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 V101 window is a vinyl tilt and turn window. The vinyl tilt and turn windows evaluated in this report are non-impact resistant windows. This product evaluation report is for vinyl tilt and turn windows based on the following tested constructions:

General Description:

System	Description	Label Rating
1	Series V101 Vinyl Tilt and Turn Windows; (X)	DAW-C70 48 x 78; Neg DP=100
2	Series V101 Vinyl Tilt and Turn Windows; (XX)	DAW-C70 84 x 78; Neg DP=80
3	Series V101 Vinyl Hopper Over Tilt and Turn Combo Assembly; (X/X)	DAW-C70 48 x 108
4	Series V101 Vinyl Tilt and Turn Windows; (X)	DAW-C70 42 x 72; Neg DP=100

Product Dimensions:

System	Overall Size	Sash Size	Daylight Opening Size
1	48" x 78"	One: 44" x 74"	37 $\frac{1}{16}$ " x 67 $\frac{1}{16}$ "
2	84" x 78"	Two: 38" x 74"	31 $\frac{1}{16}$ " x 67 $\frac{1}{16}$ "
3	48" x 108"	Tilt Turn: 44" x 74" Hopper: 44" x 26"	Tilt and Turn: 37 $\frac{1}{16}$ " x 67 $\frac{1}{16}$ " Hopper: 37 $\frac{1}{16}$ " x 19 $\frac{1}{16}$ "
4	42" x 72"	One: 38" x 68"	31 $\frac{1}{16}$ " x 61 $\frac{1}{16}$ "

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1-3	IG-1	GM-1
4	IG-2	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 window contains an insulating glass unit. The insulating glass unit is comprised of two double strength ($\frac{1}{8}$ ") fully tempered glass lites separated by a desiccant filled spacer system. The glass thickness used in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

IG-2: The window contains an insulating glass unit. The insulating glass unit is comprised of two double strength ($\frac{1}{8}$ ") annealed glass lites separated by a desiccant filled spacer system. The glass thickness used in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

Glazing Method Key:

GM-1: The insulating glass units are exterior glazed. The insulating glass units are secured in place with a glazing bead.

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

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

Reinforcement: Steel reinforcement is utilized in all the sash members, the frame members, and the T-mullion. 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
		Label with AAMA/WDMA/CSA 101/I.S.2/A440-05
1	V101 uPVC Tilt Turn	167-708
2	V101 uPVC Twin Tilt Turn	167-709
3	V101 uPVC Hopper Over Tilt Turn	167-710
4	V101 uPVC Tilt Turn	167-711

LIMITATIONS

Design pressures:

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressures (psf)
1	48	78	+70/-100
2	84	78	+70/-80
3	48	108	± 70
4	42	72	+70/-100

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: 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.

Design Drawings:

System 1: The window shall be installed in accordance with Drawing No. 08-01306, titled "V101 uPVC Tilt and Turn 48 x 78," sheets 1 through 4 of 4, dated July 20, 2011, signed and sealed by Luis R. Lomas., P.E on July 25, 2011. The stated drawings will be referred to as the approved drawings in this evaluation report.

System 2: The window shall be installed in accordance with Drawing No. 08-01307, titled "V101 uPVC Twin Tilt and Turn 84 x 78," sheets 1 through 4 of 4, dated July 20, 2011, signed and sealed by Luis R. Lomas., P.E on July 25, 2011. The stated drawings will be referred to as the approved drawings in this evaluation report.

System 3: The window shall be installed in accordance with Drawing No. 08-01308, titled "V101 uPVC Hopper Over Tilt and Turn Combo Assembly 48 x 108," sheets 1 through 4 of 4, dated July 20, 2011, signed and sealed by Luis R. Lomas., P.E on July 25, 2011. The stated drawings will be referred to as the approved drawings in this evaluation report.

System 4: The window shall be installed in accordance with Drawing No. 08-01309, titled "V101 uPVC Tilt and Turn – Clip Installation 42 x 72," sheets 1 through 4 of 4, dated July 20, 2011, signed and sealed by Luis R. Lomas., P.E on July 25, 2011. The stated drawings will be referred to as the approved drawings in this evaluation report.

Wall Framing Construction: The windows may be mounted to several types of wall framing construction. The types of wall framing construction allowed include:

- Concrete (minimum compressive strength: 3,192 psi)
- Hollow concrete block (ASTM C-90, Grade N, Type 1 or greater)
- Wood dimension lumber (minimum Spruce-Pine-Fir)
- Steel (minimum 18 gauge, 0.048" thick)
- Aluminum (6063-T5, $\frac{1}{8}$ " thick)

Installation:

- Refer to Sheet 1 of 4 of the approved drawings for the anchoring layout and notes.
- Refer to Sheets 2 of 4 and 3 of 4 of the approved drawings for installation details.
- The approved drawings indicate the minimum embedment depths for the fasteners and the minimum edge distances (minimum distance fastener must be from the edge of the substrate material) for the fasteners.

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.