Product Evaluation

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 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.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: WIN-1948

Effective Date: December 1, 2014
Re-evaluation Date: August 2016

Product Name: Series 4000 Aluminum Single Hung Windows, Individual and Twin, LMI, Impact Resistant

Manufacturer: WinDoor Incorporated
7500 Amsterdam Drive
Orlando, FL 32832
(407) 481-8400
www.windoorinc.com

General Description:

System	Description	Label Rating	Design Pressure Rating
1	Series 4000 Aluminum Single Hung Windows; Oriel; SGP; LMI	LC-PG100 53 x 96-Type H; Missile Level D; DP +120/-150	+100 / -150 psf
2	Series 4000 Aluminum Single Hung Windows; SGP; LMI	LC-PG100 53 x 96-Type H; Missile Level D; DP +100/-150	+100 / -150 psf
3	Series 4000 Aluminum Single Hung Windows; Twin; SGP; LMI	LC-PG100 107 x 76-Type H; Missile Level D; DP +100/-150	+100 / -150 psf
4	Series 4000 Aluminum Single Hung Windows; Oriel; PVB; LMI	LC-PG90 53 x 96-Type H; Missile Level D; DP +90/-90	+90 / -90 psf
5	Series 4000 Aluminum Single Hung Windows; PVB; LMI	LC-PG90 53 x 96-Type H; Missile Level D; DP +90/-90	+90 / -90 psf
6	Series 4000 Aluminum Single Hung Windows; Twin; PVB; LMI	LC-PG90 107 x 76-Type H; Missile Level D; DP +90/-90	+90 / -90 psf

Component Dimensions:

System	Overall Window Size	Active Sash Size	Fixed Lite Daylight Opening Size
1	53.00" x 96.00"	51.25" x 33.00"	47.25" x 57.88"
2	53.00" x 96.00"	51.25" x 49.25"	47.25" x 43.88"
3	107.00" x 76.00"	Two (2): 51.25" x 39.00"	Two (2): 47.25" x 32.50"
4	53.00" x 96.00"	51.25" x 33.00"	47.25" x 57.88"
5	53.00" x 96.00"	51.25" x 49.25"	47.25" x 43.88"
6	107.00" x 76.00"	Two (2): 51.25" x 39.00"	Two (2): 47.25" x 32.50"

Product Identification (Certification Agency Label on Window):

System		
1	Certification Agency	Keystone
	Manufacturer's Name or Code Name	CAR 167-548; CAR 167-1039
	Product Name	4000 Al Impact EL/FL Oriel Single Hung
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08; ASTM E 1886-02/04/05; ASTM E 1996-02/04/06/09; Missile Level D; Wind Zone 4
2	Certification Agency	Keystone
	Manufacturer's Name or Code Name	CAR 167-547; CAR 167-1038
	Product Name	4000 Al Impact EL/FL Single Hung
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08; ASTM E 1886-02/04/05; ASTM E 1996-02/04/06/09; Missile Level D; Wind Zone 4
3	Certification Agency	Keystone
	Manufacturer's Name or Code Name	CAR 167-549; CAR 167-1040
	Product Name	4000 Al Impact EL/FL Twin Single Hung
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08; ASTM E 1886-02/04/05; ASTM E 1996-02/04/06/09; Missile Level D; Wind Zone 4
4	Certification Agency	Keystone
	Manufacturer's Name or Code Name	CAR 167-522; CAR 167-786
	Product Name	4000 Al Impact EL/FL Oriel Single Hung
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08; ASTM E 1886-02/04/05; ASTM E 1996-02/04/06/09; Missile Level D; Wind Zone 4
5	Certification Agency	Keystone
	Manufacturer's Name or Code Name	CAR 167-521; CAR 167-785
	Product Name	4000 Al Impact EL/FL Single Hung
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08; ASTM E 1886-02/04/05; ASTM E 1996-02/04/06/09; Missile Level D; Wind Zone 4

Product Identification (Certification Agency Label on Window) (Continued):

System		
6	Certification Agency	Keystone
	Manufacturer's Name or Code Name	CAR 167-523; CAR 167-787
	Product Name	4000 Al Impact EL/FL Twin Single Hung
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-08; ASTM E 1886-02/04/05; ASTM E 1996-02/04/06/09; Missile Level D; Wind Zone 4

Impact Resistance:

System	Impact Resistant	Requirement
1, 2, 3, 4, 5, 6	Yes	These products satisfy TDI's criteria for protection from windborne debris in the **Inland I** and **Seaward zone**. Install the assemblies more than 30' above grade on the structure as long as it does not exceed the design pressure rating for the assemblies.

Installation:

Design Drawings:

- **Systems 1, 2, 3:** Install the windows in accordance with Drawing No. 08-02210, titled "4000 Aluminum Single Hung Window SGP Equal Leg and Flange – LMI & SMI," sheets 1 through 10 of 10, dated August 23, 2013, signed and sealed by Luis R. Lomas., P.E on August 23, 2013. This evaluation report refers to the stated drawings as the approved drawings.
- **Systems 4, 5, 6:** Install the windows in accordance with Drawing No. 08-02209, titled "4000 Aluminum Single Hung Window PVB Equal Leg and Flange – LMI & SMI," sheets 1 through 10 of 10, dated August 22, 2013, signed and sealed by Luis R. Lomas., P.E on August 22, 2013. This evaluation report refers to the stated drawings as the approved drawings.

Wall Framing Construction: Mount the windows 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 (16 gauge, 33 ksi)
- Aluminum (6063-T5 , minimum 0.125")

Installation Details:

- Refer to Sheets 1 of 10 through 3 of 10 of the approved drawings for the anchor layout and notes.
- Refer to Sheets 5 of 10 through and 10 of 10 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 must be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the IRC, the IBC, and the Texas Revisions.