

TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / 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

DR-482

Effective Date: May 1, 2012

Reevaluation Date: **June 2014**

*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.

Series 9050 Aluminum Inswing and Outswing Terrace Doors, Impact Resistant, manufactured by:

WinDoor Incorporated
7500 Amsterdam Drive
Orlando, Florida 32832
Telephone: (407) 481-8400
www.windowinc.com

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions, this product evaluation report, and design drawings that are referenced in this product evaluation report.

PRODUCT DESCRIPTION

The Series 9050 terrace door is an aluminum side hinged glass door. The aluminum terrace doors evaluated in this report are thermally broken, impact resistant doors. This evaluation report includes both inswing and outswing doors. This product evaluation report is for aluminum terrace doors based on the following tested constructions:

General Description:

System	Description	Label Rating
1	Series 9050 Aluminum Terrace Doors; Inswing; Standard Sill; X	SHD-HC100 46 x 120; Neg DP=120 Missile Level D
2	Series 9050 Aluminum Terrace Doors; Outswing; Standard Sill; X	SHD-HC100 46 x 120; Neg DP=120 Missile Level D
3	Series 9050 Aluminum Terrace Doors; Inswing; ADA Sill; X	SHD-HC80 46 x 120; Neg DP=110 Missile Level D
4	Series 9050 Aluminum Terrace Doors; Outswing; ADA Sill; X	SHD-HC100 46 x 120; Neg DP=110 Missile Level D

Component Dimensions:

System	Overall Door Size	Maximum Panel Size	Maximum Panel Daylight Opening Size
1	46" x 120"	42" x 118 ½"	31 1/16" x 108 ¼"
2	46" x 120"	42" x 118 ½"	31 1/16" x 108 ¼"
3	46" x 120"	42" x 118 ½"	31 1/16" x 104 1/16"
4	46" x 120"	42" x 118 ½"	31 1/16" x 104 ¼"

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1	IG-1 or IG-2	GM-1
2	IG-1 or IG-2	GM-1
3	IG-1 or IG-2	GM-1
4	IG-1 or 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 door panels contain a sealed insulating glass unit. The insulating glass unit is comprised of a 3/16" fully tempered glass lite and a laminated glass unit separated by a desiccant-filled aluminum spacer system. The laminated glass unit is comprised of two 3/16" heat strengthened glass lites with a 0.060" SGP interlayer by DuPont. The glass thickness in the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

IG-2: The door panels contain a sealed insulating glass unit. The insulating glass unit is comprised of a 3/16" fully tempered glass lite, a desiccant-filled aluminum spacer system, a 3/16" fully tempered glass lite, a desiccant-filled aluminum spacer system, and a laminated glass unit. The laminated glass unit is comprised of two 3/16" heat strengthened glass lites with a 0.060" SGP interlayer by DuPont. The glass thickness 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 glazed with structural silicone sealant. Aluminum extruded glazing beads secure the insulating glass units in place.

Frame Construction:

Systems 1 and 2: The frame members are manufactured from extruded aluminum. The frame members are thermally broken. The frame head, sill, and side jambs consist of two extrusions joined with a Technoform I-strut separator. An EPDM strut cover is inserted into the head and sill, interlocking with the head and sill components to provide a protective cover to the Technoform I-strut separators. The frame side jambs are secured to the frame head and to the frame sill with screws.

Systems 3 and 4: The frame members are manufactured from extruded aluminum. The frame members are thermally broken. The frame head and side jambs consist of two extrusions joined with a Technoform I-strut separator. An EPDM strut cover is inserted into the head and sill, interlocking with the head and sill components to provide a protective cover to the Technoform I-strut separators. The frame side jambs are secured to the frame head and to the frame ADA sill with screws.

Panel Construction:

Systems 1 and 2: The panel members are manufactured from extruded aluminum. The panel stiles and rails consist of two extrusions joined with a Technoform I-strut separator. The panel bottom rail and top rail are secured to the panel stiles with screws.

Systems 3 and 4: The panel members are manufactured from extruded aluminum. The panel stiles, the ADA bottom rail, and the top rails consist of two extrusions joined with a Technoform I-strut separator. The panel ADA bottom rail and the top rail are secured to the panel stiles with screws.

Hardware:

- Giesse Flash XXL hinges; Three (3) required; Mounted to a retainer clamp located in the Eurogroove of the frame side jamb and the panel stile with three (3) M6 x 12 machine screws. The hinges are secured to the face of the frame side jamb with three (3) No. 10 x 2" screws.
- Snubber (Advantage #1445); Two (2) required; Located approximately 10 inches above and below the hinge located at the panel centerline.
- Giesse #04650 multi-point lock / latch system; One (1) required; Located on the lock stile.
- Locking points; A gear box drives an actuator connected to the multiple locking points with a polyamide rod system located within a Eurogroove. The panel has seven (7) locking points above the gear box and five (5) located below the gear box. Three (3) locking points are located on the head and the sill. Locking points are 'mushroom' style pawls and engage an Advantage #1335-1 keeper located in the frame head, sill, and side jambs. The retainer is secured to the frame side jamb with screws. The keepers are secured to the retainers with screws.

Reinforcement: None.

Product Identification: Two certification program labels (Keystone) will be affixed to the hinged door. The certification program labels include the manufacturer's CAR number; product name; performance characteristics; and the approved inspection agency (Keystone). One label includes the following applicable standard: AAMA/WDMA/CSA 101/I.S.2/A440-05. The second label includes the following applicable standards: ASTM E 1886-05 and ASTM E 1996-05.

Each certification label contains a Certification Authorization Report (CAR) number located on the top right side of the label and a model name for the hinged door. The following CAR numbers and model names are located on each label:

Label Identification:

System	Model	Label with AAMA/WDMA/CSA 101/I.S.2/A440-05	Certification Authorization Report (CAR) number
			Label with ASTM E 1886-05 / ASTM E 1996-05 Missile Level D
1	9050 Inswing Aluminum Impact Door (Std Sill)	167-439	167-252
2	9050 Outswing Aluminum Impact Door (Std Sill)	167-441	167-253
3	9050 Inswing Aluminum Impact Door (ADA Sill)	167-443	167-254
4	9050 Outswing Aluminum Impact Door (ADA Sill)	167-449	167-256

LIMITATIONS

Design pressures:

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressures (psf)
1	46	120	+100/-120
2	46	120	+100/-120
3	46	120	+80/-110
4	46	120	+100/-110

Impact Resistance: These door assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Inland I zone** and the **Seaward zone**. The door assemblies passed Missile Level D specified in ASTM E 1996-04. The door assemblies may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded. These door assemblies will not need to be protected with an impact protective system.

Tested to Higher Negative Design Pressure: The 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: Door assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

INSTALLATION INSTRUCTIONS

General: The door assembly shall be prepared and installed in accordance with the manufacturers recommended installation instructions, the approved drawings referenced below, and this evaluation report. Detailed installation instructions and component drawings are available from the manufacturer.

Design Drawings: The doors shall be installed in accordance with Drawing No. 08-01153, titled "Series 9050 Thermally Broken Aluminum Inswing / Outswing Terrace Door – Impact," sheets 1 through 17 of 17, dated November 10, 2010, signed and sealed by Luis R. Lomas., P.E on November 27, 2010. The stated drawings will be referred to as the approved drawings in this evaluation report.

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

- Concrete (minimum compressive strength: 2,000 psi)
- Hollow concrete block (ASTM C-90, Grade N, Type 1 (or greater))
- Wood dimension lumber (minimum Spruce-Pine-Fir)
- Wood backed (minimum Spruce-Pine-Fir) minimum 20 gauge steel, 0.039" minimum.

Installation:

- Refer to Sheets 1 of 17, 2 of 17 of the approved drawings for the anchor layout and notes.
- Refer to Sheets 6 of 17 thru 13 of 17 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.