

# 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 DR-211

Effective March 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 **February 2014**.*

*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.*

**6'-8" Opaque Premium Fiberglass Doors, Inswing / Outswing, Impact Resistant Door Panels, Singles & Doubles, With and Without Non-Impact Resistant Sidelites, manufactured by:**

**Trinity Glass International**  
**4621 192<sup>nd</sup> Street**  
**East Tacoma, WA 98446**  
**Telephone: (253) 875-7300**

and distributed by

**McCoy's Building Supply**  
**1200 I.H. 35 North**  
**San Marcos, TX 78667**  
**Telephone: (512) 395-6644**

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 the design drawings referenced in this evaluation report.

## PRODUCT DESCRIPTION

This product consists of opaque fiberglass side hinged doors, with and without sidelites, single and double configurations, hung in wood frames. This product evaluation report is for door assemblies based on tested constructions to provide the following assemblies:

### General Description:

Assembly	Description	Label Rating	Design Drawing
1	3'0" x 6'8" Opaque Premium Fiberglass Single Door, Inswing / Outswing; (X)	Inswing $\pm$ 75 PSF Outswing $\pm$ 75 PSF  NOTE: If the Schlage "Maximum Security" Deadbolt and Passage Lock are used, the DP rating shall be +60/-60 psf.  NOTE: If the Kwikset Combo 660 Deadbolt and Lockset are used, the DP rating shall be +65/-65 psf	TX-584 (Revision #2, dated July 27, 2009, Sheets 1-7 of 7)

**General Description (continued):**

Assembly	Description	Label Rating	Design Drawing
2	6'0" x 6'8" Opaque Premium Fiberglass Single Door, Inswing / Outswing; (XX)	Inswing +55 / -55 with Endura Astragal Outswing +55 / -55 with Endura Astragal Inswing +55 / -55 with TRC Astragal Outswing +55 / -55 with TRC Astragal Inswing +43 / -47 with PVC Astragal Outswing +43 / -43 with PVC Astragal Inswing: +55 / -55 (with Columbia Astragal) Outswing +55 / -55 with Columbia Astragal	TX-585 (Revision #2, dated July 27, 2009, Sheets 1-11 of 11)
3	3'0" x 6'8" Opaque Premium Fiberglass Single Door, Inswing / Outswing with Boxed Sidelites, Combination Mullion (OX, XO)	Inswing ± 55 PSF Outswing ± 55 PSF	TX-586 (Revision #2, dated July 27, 2009, Sheets 1-9 of 9)
4	3'0" x 6'8" Opaque Premium Fiberglass Single Door, Inswing / Outswing Boxed Sidelite, Combination Mullion, (OXO)	Inswing ± 55 PSF Outswing ± 55 PSF	TX-587 (Revision #2, dated July 27, 2009, Sheets 1-9 of 9)
5	6'0" x 6'8" Opaque Premium Fiberglass Double Door, Inswing / Outswing with Boxed Sidelite, Combination Mullion, (OXXO)	Inswing +55 / -55 with Endura Astragal Outswing +55 / -55 with Endura Astragal Inswing +55 / -55 with TRC Astragal Outswing +55 / -55 with TRC Astragal Inswing +43 / -47 with PVC Astragal Outswing +43 / -43 with PVC Astragal Inswing: +55 / -55 (with Columbia Astragal) Outswing +55 / -55 with Columbia Astragal	TX-588 (Revision #2, dated July 27, 2009, Sheets 1-13 of 13)
6	3'0" x 6'8" Opaque Premium Fiberglass Single Door, Inswing / Outswing with Sidelite, Integral Mullion, CHS (OX, XO)	Inswing +60 / -70 PSF Outswing ± 60 PSF  NOTE: If the Schlage "Maximum Security" Deadbolt and Passage Lock are used, the DP rating shall be +60/-60 psf.	TX-589 (Revision #2, dated July 27, 2009, Sheets 1-9 of 9)
7	3'0" x 6'8" Opaque Premium Fiberglass Single Door, Inswing / Outswing with Sidelite, Integral Mullion, CHS (OX, XO)	Inswing +60 / -70 PSF Outswing ± 60 PSF  NOTE: If the Schlage "Maximum Security" Deadbolt and Passage Lock are used, the DP rating shall be +60/-60 psf.	TX-590 (Revision #2, dated July 27, 2009, Sheets 1-9 of 9)

**Product Dimensions:**

Assembly	Overall Frame Assembly Size	Fixed/Operable Panel Sizes	Daylight Opening Size
1	Inswing: 37 1/2" x 81 7/8" Outswing: 37 1/2" x 80 3/4"	Door: 35 3/4" x 79 1/4"	N/A

**Product Dimensions (Continued):**

Assembly	Overall Frame Assembly Size	Fixed/Operable Panel Sizes	Daylight Opening Size
2	Inswing: 74" x 81 $\frac{7}{8}$ " Outswing: 74" x 80 $\frac{3}{4}$ "	Door: 35 $\frac{3}{4}$ " x 79 $\frac{1}{4}$ "	N/A
3	Inswing: 53" x 81 $\frac{7}{8}$ " Outswing: 53" x 80 $\frac{3}{4}$ "	Door: 35 $\frac{3}{4}$ " x 79 $\frac{1}{4}$ " Sidelite: 13 $\frac{7}{8}$ " x 79 $\frac{1}{4}$ "	Sidelite: 6.84" x 63"
4	Inswing: 68 $\frac{1}{2}$ " x 81 $\frac{7}{8}$ " Outswing: 68 $\frac{1}{2}$ " x 80 $\frac{3}{4}$ "	Door: 35 $\frac{3}{4}$ " x 79 $\frac{1}{4}$ " Sidelite: 13 $\frac{7}{8}$ " x 79 $\frac{1}{4}$ "	Sidelite: 6.84" x 63"
5	Inswing: 105" x 81 $\frac{7}{8}$ " Outswing: 105" x 80 $\frac{3}{4}$ "	Door: 35 $\frac{3}{4}$ " x 79 $\frac{1}{4}$ " Sidelite: 13 $\frac{7}{8}$ " x 79 $\frac{1}{4}$ "	Sidelite: 6.84" x 63"
6	Inswing: 52 $\frac{1}{2}$ " x 81 $\frac{7}{8}$ " Outswing: 52 $\frac{1}{2}$ " x 80 $\frac{3}{4}$ "	Door: 35 $\frac{3}{4}$ " x 79 $\frac{1}{4}$ " Sidelite: 13 $\frac{7}{8}$ " x 79 $\frac{1}{4}$ "	Sidelite: 6.84" x 63"
7	Inswing: 67 $\frac{1}{2}$ " x 81 $\frac{7}{8}$ " Outswing: 67 $\frac{1}{2}$ " x 80 $\frac{3}{4}$ "	Door: 35 $\frac{3}{4}$ " x 79 $\frac{1}{4}$ " Sidelite: 13 $\frac{7}{8}$ " x 79 $\frac{1}{4}$ "	Sidelite: 6.84" x 63"

**Glazing Description:**

Assembly	Glass Construction <sup>1</sup>	Glazing Method <sup>2</sup>
3	IG-1	GM-1
4	IG-1	GM-1
5	IG-1	GM-1
6	IG-1	GM-1
7	IG-1	GM-1

Note: <sup>1</sup> See the "Glass Construction Key" for the glazing construction.

<sup>2</sup> See the "Glazing Method Key" for the glazing method description.

**Glass Construction Key:**

IG-1: Sealed insulating glass unit. The sealed insulating glass unit is comprised of two (2) double strength ( $\frac{1}{8}$ " ) fully tempered glass lites separated by a Swiggle Seal spacer system. The glass thickness in the insulating glass unit of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

**Glazing Method Key:**

GM-1: The insulating glass unit is set from the interior against hotmelt glazing compound backbedding. Plastic lite frame is screwed together with self-threading fasteners.

**Frame Construction:** The frame head, sill, and jambs consist of fingerjoint pine wood members. The frame corners are rabbet-cut and fastened together with four (4)  $\frac{1}{2}$ " crown, 2" long 16 gauge staples per corner at the head and square-cut and kerfed at the bottom to receive a molded plastic sill key. The sill key is fastened to the bottom of the frame with two (2) No. 6 x 1  $\frac{1}{4}$ " fine thread drywall screws. The bottom of the jamb / sill key assembly is fastened to the sill with three (3) No. 6 x 1  $\frac{1}{4}$ " fine thread drywall screws.

**Panel Construction:** The panel members consist of 0.079" minimum thickness fiberglass skins with LVL and PVC stiles and rails. The door panel is filled with polyurethane foam, 2.5 lbs/ft<sup>3</sup> minimum density.

**Astragal:** Refer to the approved drawings for the astragal installation details.

**Integral Mullion:** The integral mullion consists of a fingerjoint pine wood member fastened to the frame head with two (2) No. 9 x 2 ¼" wood screws. The bottom connection of the integral mullion to the sill is accomplished by either direct mating of the mullion to the sill or by use of a molded mullion base kit. If direct mating is used, the mullion is fastened to the sill using two (2) No. 9 x 2 ½" wood screws. If the molded plastic mullion base kit is used, the base kit is fastened to the bottom of the mullion using three (3) No. 6 x 1 ¼" fine thread drywall screws and the mullion base kit is fastened to the sill using two (2) No. 9 x 2 ¼" wood screws.

**Reinforcement:** None.

**Hardware:**

- Kwikset Series 780 Deadbolt or Kwikset Series 660 Series Combo Deadbolt or Schlage "Maximum Security" Deadbolt; One (1) required; Located 40 ½ inches from the top of the active panel.
- Deadbolt plate; One (1) required; Secured to either the door side jamb, astragal, or mullion with two (2) No. 8 x 2 ½" screws.
- Kwikset Series 740 Entry Lock or Kwikset Series 660 Series Combo Passage Lock or Schlage "Maximum Security" Series Passage Lock; One (1) required; Located 46 inches from the top of the active panel
- Deadbolt plate; One (1) required; Secured to either the door side jamb, astragal, or mullion with two (2) No. 8 x 2 ½" screws.
- Endura "Ultimate" or Columbia Astragal or Trinity "TRC" or Trinity "PVC" Astragal
- Three (3) 4" Steel Butt Hinges; Located 8 ¾ inches from the top of the active panel to the centerline of the top hinge and a maximum 26 inches centerline to centerline. Each hinge is secured to the door panel with four (4) No. 9 x 1" screws. The top hinge is secured to the door side jamb with two (2) No. 9 x 5/8" screws and two (2) No. 9 x 2" screws. The bottom two hinges are secured to the door side jamb with three (3) No. 9 x 5/8" screws and one (1) No. 9 x 2" screw.

**Product Identification:** A label will be affixed to the assembly. The label includes the manufacturer's name, the product name, the door configuration, the door description, the design pressure rating, and the drawing number.

### LIMITATIONS

**Design Drawings:** The door and sidelite assemblies shall be installed in accordance with the design drawings referenced in this evaluation report. Each sheet is signed, sealed, and dated January 6, 2010, by Lyndon F. Schmidt, P.E. The stated drawings will be referred to as approved drawings in this report. A copy of the approved drawings shall be available at the job site.

**Design pressures (DP):**

Assembly	Overall Width (in.)	Overall Height (in.)	Design Pressure (psf)
1	37 ½"	Inswing: 81 ⅞" Outswing: 80 ¾"	Inswing +75 / -75 Outswing +75 / -75  NOTE: If the Schlage "Maximum Security" Deadbolt and Passage Lock are used, the DP rating shall be +60/-60 psf.  NOTE: If the Kwikset Combo 660 Deadbolt and Lockset are used, the DP rating shall be +65/-65 psf
2	74"	Inswing: 81 ⅞" Outswing: 80 ¾"	Inswing +55 / -55 (with Endura Astragal) Outswing +55 / -55 (with Endura Astragal) Inswing +55 / -55 (with TRC Astragal) Outswing +55 / -55 (with TRC Astragal) Inswing: +43 / -47 (with PVC Astragal) Outswing: +43 / -43 (with PVC Astragal) Inswing: +55 / -55 (with Columbia Astragal) Outswing: +55 / -55 (with Columbia Astragal)
3	53"	Inswing: 81 ⅞" Outswing: 80 ¾"	Inswing +55 / -55 Outswing +55 / -55
4	68 ½"	Inswing: 81 ⅞" Outswing: 80 ¾"	Inswing +55 / -55 Outswing +55 / -55
5	105"	Inswing: 81 ⅞" Outswing: 80 ¾"	Inswing +55 / -55 (with Endura Astragal) Outswing +55 / -55 (with Endura Astragal) Inswing +55 / -55 (with TRC Astragal) Outswing +55 / -55 (with TRC Astragal) Inswing: +43 / -47 (with PVC Astragal) Outswing: +43 / -43 (with PVC Astragal) Inswing: +55 / -55 (with Columbia Astragal) Outswing +55 / -55 (with Columbia Astragal)
6	52 ½"	Inswing: 81 ⅞" Outswing: 80 ¾"	Inswing +60 / -70 Outswing +60 / -60  NOTE: If the Schlage "Maximum Security" Deadbolt and Passage Lock are used, the DP rating shall be +60/-60 psf.
7	67 ½"	Inswing: 81 ⅞" Outswing: 80 ¾"	Inswing +60 / -70 Outswing +60 / -60  NOTE: If the Schlage "Maximum Security" Deadbolt and Passage Lock are used, the DP rating shall be +60/-60 psf.

**Impact Resistance:** The sidelites do not satisfy the Texas Department of Insurance's criteria for protection from windborne debris. The sidelites will need to be protected with an impact protective system when used in areas where windborne debris protection is required.

The opaque door panels satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Seaward zone**. The opaque door panel passed Missile Level D specified in ASTM E 1996-02. The door panels may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded. The door panels will not need to be protected with an impact protective system but the sidelite will require an impact protective system as noted above.

**Acceptance of Smaller Assemblies:** Door and Sidelite assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

**Sidelites:** Sidelites shall only be used in combination with doors. Sidelites shall not be installed separately.

### INSTALLATION INSTRUCTIONS

**Design Drawing:**

Assembly	Design Drawing
1	TX-584
2	TX-585
3	TX-586
4	TX-587
5	TX-588
6	TX-589
7	TX-590

**General Requirements:**

**Wall Framing:** Minimum Spruce-Pine-Fir dimension lumber.

**Fasteners:** Head, sill and side jambs: Minimum No. 10 x 3" long PFH wood screws.

**Attachment:** Install in accordance with the approved drawings. The doors shall be mounted to the wood framing members. The fasteners shall penetrate through the door frame and into the wood framing members a minimum of  $1\frac{1}{2}$  inches. If the sill is secured to a concrete foundation, then minimum  $\frac{3}{16}$ " diameter concrete anchors shall be used. The concrete anchors shall embed a minimum of  $1\frac{3}{4}$  inches into the concrete. The concrete anchors shall be located a minimum distance from the edge of the concrete as specified on the design drawings.

**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.