

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-422

Effective September 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 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.

8'-0" Opaque & Glazed Fiberglass Doors, Inswing / Outswing, Non-Impact Resistant Door Panels, Singles & Doubles with and without Non-Impact Resistant Sidelites, manufactured by

MasterGrain
16566 Highway 12
P.O. Box 399
Midland, Ontario, Canada L4R 4L1
(707) 527-2973

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with this product evaluation report and engineering drawings TX-4044 through TX-4047, signed and sealed by Lyndon F. Schmidt, P.E. on 1-5-2010.

PRODUCT DESCRIPTION

This product consists of opaque and glazed 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
1	3'0" x 8'-0" (glazed) with boxed sidelites & integral mullion (X, OX/XO & OXO)	Inswing +40, -45 PSF Outswing ±40 PSF
2	3'0" x 8'-0" (glazed) with boxed sidelites & integral mullion (XX & OXXO)	Inswing ±45 PSF Outswing ±45 PSF
3	3'0" x 8'-0" (opaque) with boxed sidelites & integral mullion (X, OX/XO & OXO)	Inswing +55, -60 PSF Outswing ±55 PSF
4	3'0" x 8'-0" (opaque) with boxed sidelites & integral mullion (XX & OXXO)	Inswing ±45 PSF Outswing ±45 PSF

Product Dimensions:

Assembly	Overall Frame Assembly Size	Fixed/Operable Panel Sizes
1	78.63" x 98.0"	Door 35.75" x 95.25" Sidelite 17.56" x 95.25"
2	115.13" x 98.0"	Door 35.75" x 95.25" Sidelite 17.56" x 95.25"
3	78.63" x 98.0"	Door 35.75" x 95.25" Sidelite 17.56" x 95.25"
4	115.13" x 98.0"	Door 35.75" x 95.25" Sidelite 17.56" x 95.25"

Glazing Description:

Assembly	Glass Construction ¹	Glazing Method ²
1	IG-1	GM-1
2	IG-1	GM-1
3	IG-1	GM-1
4	IG-1	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: 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.

Glazing Method Key:

GM-1: The glass is set from the interior against hot melt glazing compound back-bedding. The plastic glazed lite frame is screwed together with self-threading fasteners with the face of the lite frame flush with the surface of the door skin.

Frame Construction: The frame head, sill, and jambs consist of fingerjoint pine wood members. The frame corners are rabbet-cut and fastened together with (4) $\frac{1}{2}$ " crown, 2" long 16 ga. staples per corner at the head and sill.

Panel Construction: The panel members consist of 0.080" minimum thickness fiberglass skins applied to wood stiles (LSL reinforced) and top / bottom rails of PVC composite. The door panel may be opaque or glazed with IG-1 glazing construction and GM-1 glazing method. The door panel is filled with polyurethane foam, 2.5 lbs/ft³ minimum density.

Astragal: Aluminum astragal by Imperial.

Hardware:

<u>Description</u>	<u>Location</u>
<ul style="list-style-type: none"> • Kwikset Series 690 CP Deadbolt <u>or</u> • Copper Creek DB2410 SC #8003 Deadbolt 	47.5" from top of active panel
<ul style="list-style-type: none"> • Kwikset Series 690 CP Passage <u>or</u> • Copper Creek BK2040 SC #8379 Passage 	59.5" from top of active panel
<ul style="list-style-type: none"> • Imperial Aluminum Astragal 	
<ul style="list-style-type: none"> • (4) 4" Steel Butt Hinges 	6.5" from top of active panel to top of hinge and maximum 26.25" centerline to centerline.

Product Identification: A label will be affixed to the assembly. The label includes the manufacturer's name and performance characteristics to indicate the design pressure rating of the assembly.

LIMITATIONS

Design pressures (DP):

Assembly	Overall Width (in.)	Overall Height (in.)	Design Pressure (psf)
1	78.63	98.0	Inswing +40, -45 Outswing ±40
2	115.13	98.0	Inswing ±45 Outswing ±45
3	78.63	98.0	Inswing +55, -60 Outswing ±55
4	115.13	98.0	Inswing ±45 Outswing ±45

Impact Resistance:

These opaque or glazed doors and sidelites do not satisfy the Texas Department of Insurance's criteria for protection from windborne debris. The assemblies will require an impact protective system.

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.

INSTALLATION INSTRUCTIONS

Assembly No. 1: 3080 Single Door (Glazed) with or without sidelites; X, OX, XO, OXO

Wall Framing: Minimum Spruce-Pine-Fir.

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

Attachment: Install in accordance with engineering drawing TX-4044 (glazed), signed & sealed by Lyndon F. Schmidt, P.E. on January 5, 2010. The doors shall be mounted to the wood framing members. The fasteners shall penetrate through the door frame and into the wood framing members. If the sill is secured to a concrete foundation, then minimum 1/4" diameter concrete anchors shall be used. The concrete anchors shall embed a minimum of 1-1/4" into the concrete.

Assembly No. 2: 6080 Double Door (Glazed) with or without sidelites; XX, OXXO

Wall Framing: Minimum Spruce-Pine-Fir.

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

Attachment: Install in accordance with engineering drawing TX-4045 (glazed), signed & sealed by Lyndon F. Schmidt, P.E. on January 5, 2010. The doors shall be mounted to the wood framing members. The fasteners shall penetrate through the door frame and into the wood framing members. If the sill is secured to a concrete foundation, then minimum 1/4" diameter concrete anchors shall be used. The concrete anchors shall embed a minimum of 1-1/4" into the concrete.

Assembly No. 3: 3080 Single Door (Opaque) with or without sidelites; X, OX, XO, OXO

Wall Framing: Minimum Spruce-Pine-Fir.

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

Attachment: Install in accordance with engineering drawing TX-4046 (opaque), signed & sealed by Lyndon F. Schmidt, P.E. on January 5, 2010. The doors shall be mounted to the wood framing members. The fasteners shall penetrate through the door frame and into the wood framing members. If the sill is secured to a concrete foundation, then minimum 1/4" diameter concrete anchors shall be used. The concrete anchors shall embed a minimum of 1-1/4" into the concrete.

Assembly No. 4: 6080 Double Door (Opaque) with or without sidelites; XX, OXXO

Wall Framing: Minimum Spruce-Pine-Fir.

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

Attachment: Install in accordance with engineering drawing TX-4047 (opaque), signed & sealed by Lyndon F. Schmidt, P.E. on January 5, 2010. The doors shall be mounted to the wood framing members. The fasteners shall penetrate through the door frame and into the wood framing members. If the sill is secured to a concrete foundation, then minimum 1/4" diameter concrete anchors shall be used. The concrete anchors shall embed a minimum of 1-1/4" into the concrete.

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.