

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION DR-185

Effective October 1, 2007
Revised February 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 **March 2011**.*

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 5400 Vinyl Sliding Glass Doors, Impact Resistant, manufactured by

Showcase Custom Vinyl Windows and Doors
A product of ENLIGHT Industries, LLC
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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 5400 is a vinyl sliding glass door. The vinyl sliding glass doors evaluated in this report are impact resistant doors. This product evaluation report is for vinyl sliding glass doors based on the following tested constructions:

General Description:

System	Description	Label Rating
1	Series 5400; Vinyl Sliding Glass Door (OXO)	SGD-R50 145 x 95 (INS LAM GL)

Component Dimensions:

System	Overall Door Size	Operable Panel Size	Fixed / Dead Panel Size
1	145" x 96"	48 $\frac{3}{16}$ " x 92 $\frac{3}{4}$ "	48 $\frac{3}{16}$ " x 92 $\frac{3}{4}$ "

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1	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: The panels contain a sealed insulating glass unit. The sealed insulating glass units are comprised of a laminated glass unit and a double strength ($\frac{1}{8}$ ") fully tempered glass lite separated by a Truseal Swiggle strip spacer system. The laminated glass unit is comprised of two double strength ($\frac{1}{8}$ ") annealed glass lites with a 0.090 inch Solutia PVB interlayer. The glass thickness and type used in the insulating glass units of the tested assembly and in smaller assemblies shall comply with ASTM E 1300-04.

Glazing Method Key:

GM-1: The insulating glass units are set from the exterior with Sikaflex structural silicone backbedding at the interior, and the exterior heel of the glass, full perimeter. A rigid snap-in glazing bead secures the insulating glass units from the exterior.

Frame and Panel Construction: The frame members are manufactured from extruded vinyl (PVC). The frame corners are mitered and welded construction. The dead panel is attached to the frame and astragal with No. 10 x $1\frac{1}{2}$ " long pan head screws located 2 inches from each end and spaced 11 inches on center. at the stiles and 2 inches from each end and midspan of the panel top rail. The fasteners are shot through the interior side of the panel frame and astragal center leg into the dead panel stiles and rail. The astragal is attached to the dead lite with $\frac{5}{16}$ " x 3" hex head screws located 9 inches from each end and spaced 20 inches on center. The frame sill is constructed of a snap-in roller track with a stainless steel track cover. Vinyl (PVC) pocket fillers are inserted vertically and horizontally into all uncovered pockets. The snap-in pocket fillers are located 6 inches from each end and the midspan of the fixed and dead panel top rails, and snap-in pocket fillers are located 6 inches from each end and spaced at quarter points of the fixed and dead panel stiles. The dead panel fillers are snapped into the pocket of the astragal. The setting chair support is inserted into the frame pocket prior to the fixed and dead panel installation.

Sill Extender: The sill extender is made of the jamb filler and adds an additional 1" to the sill height.

Hardware:

- Builders Hardware single-point lock; One (1) required; Located 36 inches from the operable panel bottom rail.
- Keeper; One (1) required; Located at the center astragal; Attached with four (4) screws.
- Metallic tandem rollers; Two (2) required; Located at each end of the door bottom rail.

Reinforcement:

Operable Panel: Extruded aluminum located in the top and bottom rail, the lock stile, and the interlock. The reinforcement extends the length of the members.

Fixed Panel: Extruded aluminum located in the jamb stile and the interlock. The reinforcement extends the length of the members.

Dead Panel: Extruded aluminum located in the panel members. The reinforcement extends the length of the members.

Astragal: Extruded aluminum located in the panel members. The reinforcement extends the length of the members. Reinforcement fasteners installed through the screen retaining leg extender into the reinforcement spaced 2 inches from each end and 5 inches on center.

Product Identification: A certification program label (AAMA) will be affixed to the door. The certification program label includes the manufacturer's code name (SHO-1); product name: **Series 5400 SGD**; performance characteristics; the approved inspection agency (AAMA); and the following applicable standards: ANSI/AAMA/NWDA 101/I.S.2-97 and either AAMA 506-2000 or AAMA 506-06.

LIMITATIONS

Design pressures (DP):

System	Overall Width (in.)	Overall Height (in.)	Design Pressure (psf)
1	145	95	± 50

Impact Resistance: These door assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in both the **Inland I zone** and the **Seaward zone**. The door assemblies passed Missile Level D specified in ASTM E 1996-03. 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.

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. Detailed drawings and installation instructions are available from the manufacturer.

Installation: One of the following installation methods shall be used:

Frame Installation: The wood wall framing members shall be minimum Southern Yellow Pine lumber. The door is secured to the wall framing through the frame with minimum No. 10 screws. The fasteners are spaced approximately 4 inches from each end in each panel pocket and staggered approximately 6 inches on center. The fasteners at the sill are pre-drilled into the floor framing with silicone sealant shot into the pre-drilled hole prior to fastener insertion, and the fastener head is cap-sealed with silicone sealant. The fasteners shall be long enough to penetrate a minimum of $1\frac{1}{2}$ inches into the wall framing members. For concrete/masonry wall construction, minimum $\frac{3}{16}$ " diameter concrete anchors shall be used. The concrete anchors shall embed a minimum of $1\frac{1}{4}$ inches into the masonry/concrete.

Nailing Fin Installation: The wood wall framing members shall be minimum Southern Yellow Pine lumber. The door is secured to the wall framing through the nailing fin with minimum $2\frac{3}{8}$ " x 0.120" smooth shank nails. The fasteners are spaced approximately 4 inches from each end and approximately 12 inches on center along the perimeter of the window. The fasteners shall be long enough to penetrate a minimum of $1\frac{7}{8}$ inches into the wall framing members. For concrete/masonry wall construction, minimum $\frac{3}{16}$ " diameter concrete anchors shall be used. The concrete anchors shall embed a minimum of $1\frac{1}{4}$ inches into the masonry/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.