

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION DR-165

Effective August 1, 2006

*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 3 years after the effective date.*

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.

Neuma Fiberglass Clad Hinged Inswing French Patio Doors with Sidelites, Impact-resistant, manufactured by:

Nan-Ya Plastics Corporation USA
8989 North Loop East
Houston, TX 77029
(713) 674-7822

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

PRODUCT DESCRIPTION

The Neuma fiberglass clad side-hinged inswing patio door with sidelites is a windborne debris-resistant unit with the door panel and frame constructed of fiberglass skins with the interior cavities filled with polyurethane (PU) foam. This product evaluation report is for the following door assemblies:

General Description:

Assembly	Description	Label Rating
1	12'-1" x 8'-0" Glazed Double Door, Inswing; (OXXO) ASTM E 330-02, ASTM E 1886-04/1996-03	Fiberglass Hinged Inswing Patio Door Maximum Size: (145" x 96")Design Pressure: +50 / -50 psf

Product Dimensions:

Assembly	Overall Frame Assembly Size	Passive/Active Panel Size
1	145 1/4" wide x 95 1/2" high	35 3/4" x 92 3/4"
		Stationary Panel Size
		35 5/8" x 92 3/4"

Frame Construction: The frame head and hinge jambs are foam PVC members. The frame corners are coped and butted, and attached with three (3) #10 x 2 1/2" screws, two (2) through the sill to the jamb and one (1) through the jamb to the sill. Each hinge jamb has four (4) 4" butt hinges located at 8 1/2" and 34" from the panel bottom rail, and 8" and 33 1/4" from the panel top rail. Hinge stile reinforcements are attached to the frame head and sill with two (2) #10 x 2" screws at each end.

PRODUCT DESCRIPTION (continued)

The Nan Ya Plastics threshold is foam PVC with an aluminum sill that is coped and butted to the side jambs.

Panel Construction: The panel members are 0.090" thick fiberglass skins, cored with wood, PVC foam, and steel reinforcement. The hinge and lock stiles are constructed of wood and PVC foam, with a $1\frac{17}{32}$ " wide x $\frac{1}{8}$ " thick steel reinforcement, secured to the wood blocking with $\frac{11}{32}$ " x $\frac{19}{32}$ " nylon screws spaced 2" from each end and 16" on center. Aluminum reinforced astragals are located at the exterior face of the passive panel lock stile, interior face of the active panel lock stile, and the exterior side of the stationary panel hinge stile; and secured with #10 x $1\frac{1}{2}$ " screws spaced $1\frac{1}{2}$ " from each end and approximately 15" on center. The panel members are constructed with the top and bottom rails running the full width of the panel, with the stiles terminating at the rails. The panel corners are fiberglass skin secured with mesh and adhesive bond. The stationary panels are fastened to the frame jambs, head, and sill with #10 x 3" screws penetrating through the frame into the panels. The panel bottom and top rail screws are spaced 5" from each end and mid-span of the head and sill. The panel jamb stile screws are located 4" from each end and 21" on center through the frame jamb into the jamb stile.

Day Lite Opening: The maximum day lite opening for the active, passive, and stationary panels is 21" wide x 79" high.

Glazing: $\frac{7}{8}$ " nominal laminated insulated glass unit by Cardinal Glass, consisting of a $\frac{1}{8}$ " tempered outboard lite, a 13 mm stainless steel spacer, and a $\frac{1}{8}$ " annealed, Solutia 0.090 PVB interlayer, $\frac{1}{8}$ " annealed laminated glass interior lite. The insulated glass unit is interior glazed with Dow Corning 995 structural silicone at the exterior, the heel of the glass and the perimeter of the panel leg. A rigid PVC glazing bead is located around the interior perimeter with a silicone cap bead.

Hardware:

Description

Location

Nan Ya Royal or Tiffany multi-point (2-point) handle set, one (1) per passive panel

Passive panel handle set is inserted into wood lock box of lock stile and secured to panel stile with three (3) #12 x $2\frac{1}{2}$ " screws. Two (2) bar keepers are secured with two (2) #8 x 3" screws each.

Nan Ya Royal or Tiffany multi-point (4-point) locking system, one (1) per active panel

Active panel handle set is inserted into wood lock box of lock stile and secured to panel stile with three (3) #12 x $2\frac{1}{2}$ " screws. One (1) multi-point lock keeper, secured with two (2) #10 x 1" screws, and two (2) hook keepers, secured with two (2) #8 x 1" screws each.

(4) 4" steel butt hinges

Hinge stile of each active and stationary panel. Secured to the stiles with four (4) #10 x $2\frac{5}{8}$ " screws each.

Product Identification: A Nan Ya Neuma Door label indicating compliance with ASTM E 330-02 and ASTM E 1886-04/ASTM E 1996-03 (Design Pressure: +50/-50 psf) will be affixed to the assembly. The label includes the manufacturer's name, impact resistance and performance characteristics, and design pressure rating of the assembly.

LIMITATIONS

Design pressures (DP):

Assembly	Overall Width (in.)	Overall Height (in.)	Design Pressure (psf)
1	12'-1"	8'-0"	Inswing +50 / -50

Impact Resistance: This door assembly satisfies the Texas Department of Insurance's criteria for protection from windborne debris in the Inland I zone and the Seaward zone. The door assembly passed Missile Level D, wind zone 4 (> 140 MPH) as specified in ASTM E 1996-03. The assembly may be installed at any height on the structure as long as the design pressure rating for the assembly is not exceeded. This assembly will not need to be protected with 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 #1: Inswing Patio door; OXXO

Wall Framing: Southern Yellow Pine (SYP).

Fasteners: Thirty-eight (38) #10 x 3" screws fasten the door frame to the wood wall framing members as follows:

Attachment:

Jamb: Five (5) #10 x 3" screws each jamb; one (1) at 3" from the head, and four (4) at 28" o.c. from the frame head to the frame sill penetrating through the frame into the wall framing.

Head: Fourteen (14) #10 x 3" screws; one (1) at 4" from each jamb, one (1) at 4" on each side of the hinge and lock stiles, one (1) each at the centerline of the active, passive, and stationary panels, and two (2) frame head keeper fasteners penetrating through the frame head into the wall framing.

Sill: Twelve (12) #10 x 3" screws; one (1) at 5" from each jamb, one (1) at 5" on each side of the hinge and lock stiles, and one (1) each at the centerline of the active, passive, and stationary panels penetrating through the frame into the wall framing. Also, two (2) additional #10 x 3" sill keeper fasteners penetrate through the sill into the framing. If the sill is set into concrete, $\frac{3}{16}$ " diameter concrete screws with a minimum penetration into the concrete of $1\frac{1}{4}$ " shall be substituted for the #10 x $2\frac{1}{2}$ " screws and #10 x 3" screws specified.

Hinge: The hinges are attached to the door stiles with four (4) #10 x $2\frac{5}{8}$ " screws each.

Stationary Panel: The stationary panels are attached to the frame jamb, head, and sill with #10 x 3" screws through the frame into the stationary panel members. The screws are located along the top and bottom rails at 5" from each end and mid-span of the stationary panels. The screws are located along the jambs at 4" from each end and 21" on center between the head and sill.

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.