

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION DR-164

Effective May 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 Hinged Outswing Patio Doors, 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 side-hinged patio door 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	9'-1" x 8'-0" glazed double door, Outswing; (O/X/OO/OX/XO/XX/OXX/OOO/OOX/OXO)	HGD-LC50 (110" x 96") Outswing +50 / -50 PSF

Product Dimensions:

Assembly	Overall Frame Assembly Size	Fixed/Operable Panel Sizes
1	109" wide x 95.5" high	Door 35 ³ / ₄ " x 93 ⁵ / ₁₆ "

Frame Construction: The frame head and hinge jambs are foam PVC members. The header and jambs are mortised butted and joined using four (4) #10 x 2.5" screws. Each hinge jamb has four (4) hinge mortises located at 6 ⁷/₈" , 32 ³/₈" , 57 ⁷/₈" , and 83 ⁷/₁₆" from the top of the frame. The Nan Ya Plastics threshold is foam PVC with an aluminum sill that is coped and butted to the side jambs and secured with three (3) #10 x 2 ¹/₂" screws at each end.

Panel Construction: The panel members, top rail, and bottom rail consist of 0.095" thick fiberglass skins filled with PU foam. The hinge and lock stiles are constructed of wood and PVC, with a 1 ¹⁷/₃₂" wide x ¹/₈" thick steel reinforcement. The "T" astragal for the operable and fixed panels is constructed of rigid PVC secured by snap-in aluminum reinforcement. The "T" astragal is secured to the operable and fixed

PRODUCT DESCRIPTION (continued)

panels through the lock stile with seven (7) #9 x 1 1/2" screws located at 1 1/2", 16 1/2", 31 1/2", 46 1/2", 61 1/2", and 76 1/2" from the top, and 1 1/2" from the bottom.

Mullion: One (1) mullion located between the fixed and operable panels at the hinge stile. The mullion consists of a stainless steel mullion cover with two (2) wood reinforced inserts.

Day Lite Opening: The maximum day lite opening for the operable and fixed panels is 21" wide x 79" high.

Glazing: 1.00" nominal laminated insulated glass unit by Cardinal Glass, consisting of a 1/8" LoE2 Series 172 tempered outboard lite, a 1/2" stainless steel spacer, and a 1/8" annealed, 0.090 PVB, 1/8" annealed laminated glass lite with a rigid PVC snap-in glazing bead around the interior perimeter. The door panels and sidelite sashes are flush glazed into the fiberglass lite frame exterior, the lite frame is captured in the sash skin, the interior flush glazing bead is friction fitted into the frame, and the door panels and sidelite sashes are sandwich glazed into the fiberglass panels.

Reinforcement: A one piece steel flat bar, 1 17/32" wide x 1/8" thick x 84" long, in each door panel lock and hinge stile is attached to the wood stile with six (6) nylon screws located 2" from each end and 16" o.c.

Hardware:

Description

Location

Nan Ya Royal or Tiffany multi-point handle set, one (1) each active and passive panel

Inserted into wood lock box of lock stile, secured with three (3) #12 x 2 1/2" machine screws

Nan Ya multi-point (3-point) locking system

One (1) multi-point lock keeper, two (2) bar keepers, and two (2) hook keepers secured with two (2) #9 x 1 1/8" screws each

Nan Ya Royal or Tiffany standard handle set with (1) deadbolt and one (1) latch, one (1) on active panel

Inserted into wood lock box of lock stile, secured with three (3) #12 x 2 1/2" machine screws; two (2) strike plates fastened with two (2) #8 x 1" screws each to the panel and two (2) keepers fastened with two (2) #10 x 2 1/2" screws each to the frame

(4) 4" Stainless steel butt hinges

Hinge stile of each operable and fixed panel, secured to the fixed stile with four (4) #9 x 2" screws and to the frame jamb with two (2) #9 x 3" and two (2) #9 x 7/8" screws

Product Identification: A National Accreditation and Management Institute, Inc. (NAMI) label indicating compliance with ANSI/AAMA/NWDA 101/I.S.2-97 (HGD-LC50) and ASTM E 1886-02/ASTM E 1996-02 (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	9'-1"	8'-0"	Outswing +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 1996-02. 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: Outswing Patio door; OXX

Wall Framing: Southern Yellow Pine (SYP).

Fasteners: Nineteen (19) #10 x 3" screws and nine (9) #10 x 2 1/2" screws fasten the door frame to the wood wall framing members as follows:

Attachment:

Jamb: Five (5) #10 x 3" screws, one (1) at 4" from the head, and four (4) at 22" o.c. from the frame head to the frame sill.

Head: Nine (9) #10 x 3" screws, one (1) at 4" from each jamb, one (1) at 4" on each side of the mullion, one (1) at 4" on each side of the astragal, and one (1) each at the centerline of the stationary, active and stationary panels.

Sill: Nine (9) #10 x 2 1/2" screws, one (1) at 5" from each jamb, one (1) at 5" on each side of the mullion, one (1) at 5" on each side of the astragal, and one (1) each at the centerline of the stationary, active, and passive panels.

Stationary Door (Sidelite): The stationary door is attached to the head with three (3) #10 x 3" screws, one (1) at 4 1/2" from the jamb, one (1) at 4 1/2" from the mullion, and one at mid-span from the jamb to the mullion. The stationary door is attached to the jamb with five (5) #10 x 3" screws, one (1) at 4 1/2" from the head, one (1) at 4 1/2" from the sill, and three (3) spaced 21 5/8" o.c. along the jamb.

Mullion: Secured to the hinge stile of the stationary door with seventeen (17) #10 x 3" screws located 1" from each end and spaced 6" o.c. along its length. The mullion is secured to the head frame and sill with three (3) #10 x 3" screws at each end.

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.