

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION DR-302

Effective Date: January 1, 2014  
Reevaluation Date: **November 2016**

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 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.

**Wood Thoro-Hung Ovolo Outswing Single and Double Hinged Doors, Impact Resistant,**  
manufactured by

**Buffelen Wood Working Company**  
1901 Taylor Way  
Tacoma, Washington 98421  
Telephone: (253) 627-1191

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 Wood Thoro-Hung Ovolo arch doors are wood outswing single and double hinged doors. The wood outswing hinged doors may be opaque or glazed. The wood outswing hinged doors evaluated in this report are impact resistant doors. This product evaluation report is for wood outswing hinged doors based on the following tested construction:

### General Description:

System	Description	Label Rating
1	Wood Thoro-Hung Ovolo Glazed Wood Outswing Doors (X)	DP ±50 Maximum Size Tested: 4'-1" x 10'-1"
2	Wood Thoro-Hung Ovolo Opaque Wood Outswing Doors (XX)	DP ±50 Maximum Size Tested: 7'-2" x 10'-1"

### Product Dimensions:

#### Doors

System	Overall Size	Active Leaf Size	Inactive Leaf Size
1	49 $\frac{3}{8}$ " x 120 $\frac{7}{8}$ "	47 $\frac{3}{4}$ " x 119"	NA
2	86" x 120 $\frac{7}{8}$ "	41 $\frac{3}{4}$ " x 119"	42 $\frac{1}{2}$ " x 119"

**Daylight Opening**

System	Active Full Lite	Active Top Lite	Active Bottom Lite	Inactive Full Lite
1	NA	37" x 54"	NA	NA
2	NA	NA	NA	NA

**Glazing Description:**

System	Glass Construction <sup>1</sup>	Glazing Method <sup>2</sup>
1	IG-1	GM-1
2	NA	NA

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: The door contains a laminated glass unit. The laminated glass unit is comprised of two  $\frac{3}{16}$ " thick annealed glass lites with a 0.090" thick PVB interlayer by DuPont.

**Glazing Method Key:**

GM-1: The doors are interior glazed into the panel with Dow 995 sealant and a wooden glass stop. The glass stop is secured to the door panel with screws.

**Frame Construction:** The frame head and side jambs consist one of the following: Mahogany-African, Sapele, Cherry, White Oak, Red Oak, Douglas Fir, Cypress, Alder, Walnut, Teak, or Spanish Cedar. The frame corners are coped and butted. The frame head is secured to each frame side jamb with three screws per corner. The Endura ZA05815F threshold is secured to each frame side jamb with four screws per corner.

**Panel Construction:** The door panel hinge and lock stiles are constructed with one of the following: Mahogany-African, Sapele, Cherry, White Oak, Red Oak, Douglas Fir, Cypress, Alder, Walnut, Teak, or Spanish Cedar LVL. The top rail, the bottom rail, and the lock rail are constructed of one of the following: Mahogany-African, Sapele, Cherry, White Oak, Red Oak, Douglas Fir, Cypress, Alder, Walnut, Teak, or Spanish Cedar LVL. The door panels are marine plywood AB core face glued with matching wood faces.

**Hardware:**

**System 1:**

- Lockset: Schlage B360N dead bolt and Schlage F51 passage lock.
- Butt hinges: Four (4) required per door; Four (4) No. 9 x  $\frac{3}{4}$ " screws secure the hinges to the leaf. Four No. 9 x 2  $\frac{1}{4}$ " screws secure the hinges to the jamb.
- Surface bolt: 12" Rockwood 580-12 located at each end of the lock stiles.

**System 2:**

- Lockset: W&F Manufacturing five point locking system; Located on both the active and inactive panels.
- Butt hinges: Five (5) required per door; Four (4) No. 9 x  $\frac{3}{4}$ " screws secure the hinges to the leaf. Four No. 9 x 2  $\frac{1}{4}$ " screws secure the hinges to the jamb.
- Surface bolt: 12" Rockwood 580-12 located at each end of the astragal and lock stiles.

**Product Identification:** A certification program label (NAMI) will be affixed to the door. The certification program label includes the manufacturer's name: (Buffelen Woodworking Company); product name: **Wood Thoro-Hung Ovolo Arch High Impact Opaque or Glazed Outswing Single and Double Door**; design pressure rating; the approved inspection agency (NAMI); and the following applicable standards: ASTM E 330-02, ASTM E 1886-99, ASTM E 1996-02.

### LIMITATIONS

**Design pressures (DP):**

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressure (psf)
1	49 $\frac{3}{8}$ "	120 $\frac{7}{8}$ "	±50
2	86	119	±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 1996-02. 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 installation instructions and drawings are available from the manufacturer.

**Installation:** The door shall be fastened to minimum Southern Pine dimension lumber. The door frame head and side jambs shall be secured to the wall framing with minimum No. 9 x 2  $\frac{1}{4}$ " long flat head screws. All fasteners shall be long enough to penetrate a minimum of 1  $\frac{1}{2}$  inches into the wall and floor framing members.

**System 1:**

**Head:** Seven (7) fasteners located 6 inches off the springline, then equally spaced over the arch.

**Sill:** Four (4) fasteners located 6 inches from each end and spaced 12  $\frac{1}{2}$  inches on center thereafter.

**Jambs:** Six (6) located in 6 inches off the springline and spaced 16 inches on center thereafter from the head to the sill.

**System 2:**

**Head:** Eleven (11) fasteners located 6 inches from each end and spaced 7  $\frac{1}{2}$  inches on center thereafter.

**Sill:** Six (6) fasteners located 6 inches from each end and spaced 14  $\frac{3}{4}$  inches on center thereafter.

**Jambs:** Seven (7) located in 6 inches from each end and spaced 16 inches on center thereafter.

**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.