



Product Evaluation

DR731 | 0815

Engineering Services Program

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.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: DR-731 **Effective Date:** August 1, 2015
Re-evaluation Date: August 2019

Product Name: ForceFront Hurricane Standard Aluminum Side Hinged Outswing Glazed Doors, Impact Resistant

Manufacturer: Tubelite, Inc.
3056 Walker Ridge Drive NW
Walker, MI 49544
(800) 866-2227

General Description:

The ForceFront Hurricane Standard Doors are aluminum frame glazed side hinged outswing doors used for commercial curtain wall and storefront installations. This evaluation report includes the following door assemblies:

- Double Door Assembly (XX)
- Single Door Assembly (X)

Acceptance of Combined Assemblies: If the doors are used with curtain wall or storefront framing, then the curtain wall or storefront system must be listed in separate TDI evaluation reports.

Product Identification: A Tubelite, Inc. label will be affixed to the door assembly.

Products Installed in Accordance with Drawing No. TDI-STND: The label includes the manufacturer's name (Tubelite, Inc.); the product name (ForceFront Hurricane Series Standard Doors); that the design pressure and size are per drawing TDI-STND; and that the product complies with ASTM E 330, ASTM E 1886, ASTM E 1996, Large Missile Impact, Zone 4-Missile Level D.

Limitations:**Design Drawings:**

Door assemblies must comply and be installed in accordance with the following design drawing:

Drawing No. TDI-STND, "Tubelite ForceFront Hurricane Series Standard Doors," Sheets 1 thru 5 of 5, dated July 10, 2015, signed and sealed by Lucas A. Turner, P.E on July 11, 2015. This evaluation report refers to the stated drawings as the approved drawings.

Fabrication and Assembly: Tubelite, Inc. ForceFront Hurricane Standard Doors are fabricated in the factory. The doors are assembled and glazed at the jobsite. The approved drawings referenced in this evaluation report indicate the options for the glazing construction.

Design Pressure (DP):

- The door assemblies have a maximum design pressure rating of +50 psf / -50 psf. Refer to approved drawing for specific design pressure requirements.
- If the doors are used with curtain wall or storefront framing, then the design pressure rating of the complete assembly will be the lesser of the allowable design pressure rating for the curtain wall or storefront framing and the doors in this evaluation report.

Hardware: Hardware requirements are specified on the approved drawings.

Hagar Hinges: Secured to the door panel stile with four minimum No. 12-24 x 1/2" Phillips flat head screws. Secured to the butt hinge reinforcement with four minimum No. 10-24 x 1/2" Phillips flat head screws.

Rixon Offset Pivot Hinges:

- Top Door Offset Pivot Hinge; Secured to the head channel using four 1/4-20 x 1/2" Phillips flat head screws
- Top Frame Offset Pivot Hinge; Secured to the top hinge reinforcement with using four 14-20 x 1/2" Phillips flat head screws
- Top Hinge Reinforcement; Secured to door header using four 1/4-20 x 5/8" Phillips flat head screws
- Bottom Door Offset Pivot Hinge; Secured to the sill channel using four No. 12-24 x 1/2" Phillips flat head screws
- Intermediate Offset Pivot Hinge; Secured to each intermediate pivot reinforcement using four 1/4-20 x 1/2" Phillips flat head screws
- Intermediate Pivot Reinforcement; Secured to the stile and open back door jamb using four 1/4-20 x 5/8" Phillips flat head screws

Select Continuous Hinge: Secured to the stile and open back door jamb using 42 No. 12-24 x 7/8" flat head self tapping screws

Impact Resistance:

The door assemblies satisfy TDI's criteria for protection from windborne debris in both the **Inland I** and **Seaward** zones. These assemblies passed an impact criteria of Missile Level D specified in ASTM E 1996. Install these assemblies at any height on the structure that does not exceed the assembly's design pressure rating. These assemblies do not require protection with an impact protective system when installed in areas that require windborne debris protection.

Installation Instructions:

General: Prepare and install the assembly in accordance with the Tubelite Door and Frame Installation Instructions and the approved drawings specified in this evaluation report. Detailed installation instructions are available from Tubelite, Inc.

Installation:

Wall Framing Construction: The door assemblies may be mounted to several types of wall framing construction. The types of wall framing construction allowed include:

- concrete (minimum compressive strength: 2,000 psi)
- steel stud (minimum 16-gauge, $F_y = 33$ ksi)
- steel ((minimum 1/8", $F_y = 33$ ksi)
- Aluminum (minimum 1/8" thick, 6063-T5)
- Wood (southern yellow pine, minimum S.G. = 0.55)

Fastener Requirements:

- Refer to the approved drawings for the anchor layout and notes.
- Refer to the approved drawings for the minimum embedment depths for the fasteners and the minimum edge distances (minimum distance fastener must be from the edge of the substrate material) for the fasteners.

Note: Keep the manufacturer's installation instructions and the approved drawings available at the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.