

## Product Evaluation

DR822 | 1221

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-822

**Effective Date:** December 1, 2021

**Re-evaluation Date:** December 2025

**Product Name:** Series 35H, 50H Aluminum Outswing Entrance Side Hinged Doors, Impact Resistant

**Manufacturer:** YKK AP America Inc.  
1229 Hwy 441 Bypass  
Dublin, GA 31021  
(678) 838-6066

**General Description:** The Series 35H and 50H aluminum entrance doors are used for commercial installations. This evaluation report includes the following assemblies:

- Outswing Single Doors
- Outswing Double Doors
- Outswing Single Doors with Transom
- Outswing Double Doors with Transom

### Product Identification:

**35H Doors:** A YKK AP America label will be affixed to the door assembly. The label includes the manufacturer's name (YKK AP America Inc.); the product name (Model 35H Entrance); the size/glazing/design pressure complies with Dwg YKK284; Design Pressure up to 90 PSF; the

test standards (ASTM E330, ASTM E1886, ASTM E1996); and the Missile Level (Large and Small Missiles D and A).

**50H Doors:** A YKK AP America label will be affixed to the door assembly. The label includes the manufacturer's name (YKK AP America Inc.); the product name (Model 50H Entrance); the Size/Glazing/Design pressure complies with Dwg YKK285; Design Pressure up to 90 PSF; the test standards (ASTM E330, ASTM E1886, ASTM E1996); and the Missile Level (Large and Small Missiles D and A).

**Compliance:** The door assemblies passed test criteria equivalent to ASTM E330-14, ASTM E1886-13a, and ASTM E1996-14a.

**Limitations:**

**Design Drawings:** The door assemblies must comply with and be installed in accordance with the following design drawings:

- Drawing No. YKK284, titled "Series 35H Aluminum Outswing Entrance Door (IMPACT);" Sheets 1 thru 20; dated October 21, 2021; signed and sealed by Hermes F. Norero, P.E. on November 11, 2021. This evaluation report refers to the stated drawing as the approved drawing.
- Drawing No. YKK285, titled "Series 50H Aluminum Outswing Entrance Door (IMPACT);" Sheets 1 thru 20; dated October 21, 2021; signed and sealed by Hermes F. Norero, P.E. on November 11, 2021. This evaluation report refers to the stated drawing as the approved drawing.

**Fabrication and Assembly:** YKK AP America door systems are fabricated in the factory. The aluminum door systems are assembled and glazed at the jobsite. The approved drawings referenced in this evaluation report indicate the options for the glazing construction.

**Hardware:** Requirements for door hardware are specified on the approved drawings.

**Design Pressure (DP):** The aluminum door systems have a maximum design pressure rating of +90 / -90 psf. Refer to the approved drawing for specific design pressure requirements.

**Impact Resistance:**

The door assemblies satisfy TDI's criteria for protection from windborne debris.

Assemblies with glazing for large and small missile impact resistance passed the large missile impact criteria (Missile Level D specified in ASTM E 1996-14a). Install these assemblies at any height on the structure that does not exceed the assembly's design pressure rating. These assemblies may not be installed on essential facilities below 30 feet from grade in Wind Zone 3 as defined in ASTM E 1996-14a.

Assemblies with glazing for small missile impact resistance only passed the small missile impact criteria (Missile Level A specified in ASTM E 1996-14a). Install these assemblies at a minimum height of 30 feet above grade on the structure that does not exceed the assembly's design pressure rating. These assemblies may not be installed on essential facilities as defined in ASTM E 1996-14a.

**Installation Instructions:**

**General:** Prepare and install the assembly in accordance with YKK AP America's installation instructions and the approved drawing specified in this report. Detailed installation instructions are available from YKK AP America.

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

- Concrete (minimum compressive strength: 3,000 psi)
- CMU (conforms to ASTM C90, minimum compressive strength, 2,000 psi)
- Wood (minimum specific gravity, SG=0.42)
- Metal stud (minimum 18 gauge, 33 ksi)
- Aluminum (minimum 1/16" thick, 6063-T5)

Refer to the appropriate design drawing for specific wall construction requirements.

**Fastener Requirements:**

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

**Note:** Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.