

## Product Evaluation

CWSF53 | 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 1-800-248-6032.

**Evaluation ID:** CWSF-53

**Effective Date:** December 1, 2021

**Re-evaluation Date:** December 2025

**Product Name:** YHS 50 FI Aluminum Store Front System - Outside Glazed, Impact Resistant

**Manufacturer:** YKK AP America, Inc.  
1229 Hwy 441 Bypass  
Dublin, GA 31021  
(678) 838-6044

### General Description:

The YHS 50 FI is an aluminum frame store front system that is outside glazed. The store front system is used for commercial installations. This evaluation report includes the following store front assemblies:

- Single-Span Store Front

**Doors:** Doors referenced in this product evaluation report are YKK AP America, Inc. door products. The YKK AP America, Inc. doors used with these assemblies must be listed in separate TDI product evaluation reports.

**Product Identification:****Assemblies with Glazing for Large and Small Missile Impact**

A YKK AP America, Inc. label will be affixed to the storefront assembly. The label includes the manufacturer's name (YKK AP America, Inc.); the product name (YHS 50 FI OG Aluminum Store Front System); that the Allowable Dimensions and Design Pressures are as specified in drawing YKK283; the test standards: TAS 201-94, TAS 202-94, TAS 203-94, ASTM E 330-14, ASTM E 1886-13a, ASTM E 1996-14a; and the missile rating (Large and Small Missile Impact Rated, Missile Level D; Missile Level A).

**Assemblies with Glazing for Small Missile Impact Only:**

A YKK AP America, Inc. label will be affixed to the storefront assembly. The label includes the manufacturer's name (YKK AP America, Inc.); the product name (YHS 50 FI OG Aluminum Store Front System); that the Allowable Dimensions and Design Pressures are as specified in drawing YKK283; the test standards: TAS 201-94, TAS 202-94, TAS 203-94, ASTM E 330-14, ASTM E 1886-13a, ASTM E 1996-14a; and the missile rating (Small Missile Impact Rated, Missile Level A).

**Assemblies with Glazing for Large Missile Impact (Missile Level E)**

A YKK AP America, Inc. label will be affixed to the storefront assembly. The label includes the manufacturer's name (YKK AP America, Inc.); the product name (YHS 50 FI OG Aluminum Store Front System); that the Allowable Dimensions and Design Pressures are as specified in drawing YKK283; the test standards: TAS 201-94, TAS 202-94, TAS 203-94, ASTM E 330-14, ASTM E 1886-13a, ASTM E 1996-14a; and the missile rating (Large Missile Impact Rated, Missile Level E).

**Limitations:****Design Drawings:**

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

Drawing No. YKK283, "YHS 50 FI Aluminum Storefront System-Outside Glazed (Impact)," Sheets 1 thru 23 of 23, dated September 20, 2021, signed and sealed by Hermes F. Norero, P.E on October 29, 2021. This evaluation report refers to the stated drawings as the approved drawings.

**Fabrication and Assembly:** YKK AP America, Inc. store front systems are fabricated in the factory. The aluminum store front systems 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 maximum allowable design pressure rating for the store front system is +70 / -90 psf. Refer to approved drawing for specific design pressure requirements.

**Impact Resistance:**

The store front system satisfies 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.

Assemblies with glazing for large missile impact resistance passed the large missile impact criteria (Missile Level E 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 be installed on essential facilities at any height.

**Acceptance of Other Assemblies:**

- The approved drawings specify the limitations on overall width.
- Assemblies must not exceed the heights shown on the approved drawings.
- Doors used with these assemblies must be listed in separate TDI product evaluation reports.

**Installation Instructions:**

**General:** Prepare and install the assembly in accordance with the YKK AP America, Inc. installation instructions and the approved drawings specified in this evaluation report. Detailed installation instructions are available from YKK AP America, Inc.

**Installation:**

**Wall Framing Construction:** Secure the store front system to several types of wall framing construction. The types of wall framing construction allowed include:

- concrete (minimum compressive strength: 3,000 psi)
- concrete hollow or grout-filled block (C-90, 2,000 psi minimum.)
- steel (minimum 18 GA.,  $F_y = 36$  ksi)
- aluminum (minimum 1/8" thick, 6063-T5)
- wood (minimum S.G. = 0.42)

**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 available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.