

Product Evaluation

CWSF54 | 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-54

Effective Date: December 1, 2021

Re-evaluation Date: December 2025

Product Name: YHC 300 OG Aluminum Frame Curtain Wall System, Impact Resistant

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

General Description:

The YHC 300 OG is an aluminum frame curtain wall system that is used for commercial installations. This evaluation report includes the following curtain wall assemblies:

- Twin Span Curtain Wall System
- Single Span Curtain Wall System

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 (YHC 300 OG Aluminum Curtain Wall System); that the Allowable Dimensions and Design Pressures are as specified in drawing YKK280; 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 (YHC 300 OG Aluminum Curtain Wall System); that the Allowable Dimensions and Design Pressures are as specified in drawing YKK280; 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 (YHC 300 OG Aluminum Curtain Wall System); that the Allowable Dimensions and Design Pressures are as specified in drawing YKK280; 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:**

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

Drawing No. YKK280, "YHC 300 OG Aluminum Curtain Wall Systems," Sheets 1 thru 72 of 72, dated August 24, 2021, signed and sealed by Hermes F. Norero, P.E on November 12, 2021. This evaluation report refers to the stated drawings as the approved drawings.

Fabrication and Assembly: YKK AP America, Inc. curtain wall systems are fabricated in the factory. The aluminum curtain wall 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 curtain wall system is +130 / -130 psf. Refer to approved drawing for specific design pressure requirements.

Impact Resistance:

The curtain wall 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 curtain wall system to several types of wall framing construction. The types of wall framing construction allowed include:

- concrete (minimum compressive strength: 3,000 psi)
- steel (minimum 16 GA., $F_y = 33$ ksi)
- wood (minimum S.G. = 0.42)

Refer to the approved drawings for specific substrate requirements.

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.