

Product Evaluation

CWSF23 | 0521

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: CWSF-23

Effective Date:

May 1, 2021

Re-evaluation Date:

May 2025

Product Name: Reliance™ StormMax® Curtain Wall Systems, Impact Resistant

Manufacturer: Oldcastle BuildingEnvelope
803 Airport Rd.
Terrell, TX 75160
(972) 551-6100

General Description:

The Reliance™ StormMax® curtain wall system is an aluminum frame system used for commercial installations. This evaluation report includes the following curtain wall assemblies:

- Twin Spans
- Single Spans
- 90 Degree Corner

Doors: Oldcastle BuildingEnvelope doors used with these assemblies must be listed in a separate TDI product evaluation report.

Product Identification: An Oldcastle BuildingEnvelope label will be affixed to the window wall assembly. The label includes the following information:

Reliance™ StormMax® Dry Glazed Aluminum Curtain Wall System: The label includes the manufacturer's name (Oldcastle BuildingEnvelope); the product name (Reliance™ StormMax® Dry Glazed Aluminum Curtain Wall System); that the design pressures and dimensions are per drawing 20-30425.1; the test standards (ASTM E 330-14, ASTM E 1886-13a, ASTM E 1996-14a); and the Missile Level (Missile Level D).

Reliance™ StormMax® High Performance Curtain Wall System: The label includes the manufacturer's name (Oldcastle BuildingEnvelope); the product name (Reliance™ StormMax® High Performance Curtain Wall System); that the design pressures and dimensions are per drawing 20-30425.2; the test standards (ASTM E 330-14, ASTM E 1886-13a, ASTM E 1996-14a); and the Missile Levels (Missile Level D and E).

Reliance™ StormMax® SSG Aluminum Curtain Wall System: The label includes the manufacturer's name (Oldcastle BuildingEnvelope); the product name (Reliance™ StormMax® SSG Aluminum Curtain Wall System); that the design pressures and dimensions are per drawing 20-30425.3; the test standards (ASTM E 330-14, ASTM E 1886-13a, ASTM E 1996-14a); and the Missile Levels (Missile Level A and D).

Reliance™ StormMax® Wet Glazed Aluminum Curtain Wall System: The label includes the manufacturer's name (Oldcastle BuildingEnvelope); the product name (Reliance™ StormMax® Wet Glazed Aluminum Curtain Wall System); that the design pressures and dimensions are per drawing 20-30425.4; the test standards (ASTM E 330-14, ASTM E 1886-13a, ASTM E 1996-14a); and the Missile Level (Missile Level A and D).

Limitations:

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

- Drawing No. 20-30425.1; "Reliance™ StormMax® Dry Glazed Aluminum Curtain Wall System (Large Missile Impact);" Sheets 1 thru 41 of 41; dated August 21, 2020; revised March 17 2021; signed and sealed by Frank Bennardo, P.E on April 29, 2021. This evaluation report refers to the stated drawings as the approved drawings.
- Drawing No. 20-30425.2; "Reliance™ StormMax® High Performance Curtain Wall System (Large Missile Impact – Level D & E);" Sheets 1 thru 37 of 37; dated August 21, 2020; revised March 17, 2021; signed and sealed by Frank Bennardo, P.E on April 2, 2021. This evaluation report refers to the stated drawings as the approved drawings.
- Drawing No. 20-30425.3; "Reliance™ StormMax® SSG Aluminum Curtain Wall System (Large and Small Missile Impact);" Sheets 1 thru 44 of 44; dated August 21, 2020; revised March 17,

2021; signed and sealed by Frank Bennardo, P.E on April 2, 2021. This evaluation report refers to the stated drawings as the approved drawings.

- Drawing No. 20-30425.4; "Reliance™ StormMax® Wet Glazed Aluminum Curtain Wall System (Large and Small Missile Impact);" Sheets 1 thru 42 of 42; dated August 21, 2020; revised March 17, 2021; signed and sealed by Frank Bennardo, P.E on April 2, 2021. This evaluation report refers to the stated drawings as the approved drawings.

Fabrication and Assembly: Oldcastle BuildingEnvelope Reliance™ StormMax® 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):

Reliance™ StormMax® Dry Glazed Aluminum Curtain Wall System: The curtain wall system has a maximum design pressure rating of +70 psf / -70 psf. Refer to the approved drawing for specific design pressure requirements.

Reliance™ StormMax® High Performance Curtain Wall System: The curtain wall system has a maximum design pressure rating of +92 psf / -92 psf. Refer to the approved drawing for specific design pressure requirements.

Reliance™ StormMax® SSG Aluminum Curtain Wall System: The curtain wall system has a maximum design pressure rating of +90 psf / -90 psf. Refer to approved drawing for specific design pressure requirements.

Reliance™ StormMax® Wet Glazed Aluminum Curtain Wall System: The curtain wall system has a maximum design pressure rating of +100 psf / -100 psf. Refer to the approved drawing for specific design pressure requirements.

If the curtain wall system is used with doors, then the design pressure rating of the complete assembly will be the lesser of the allowable design pressure rating for the doors and the curtain wall system in this evaluation report.

Impact Resistance:

Reliance™ StormMax® Dry Glazed Aluminum Curtain Wall System: The curtain wall system satisfies TDI's criteria for protection from windborne debris. These assemblies passed 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. The assembly may not be installed on essential facilities as defined in ASCE 7-16.

Reliance™ StormMax® High Performance Curtain Wall System: The curtain wall system satisfies TDI's criteria for protection from windborne debris. These assemblies passed Missile Level D and 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. Assemblies passing Missile Level D may not be installed on essential facilities as defined in ASCE 7-16. Assemblies passing Missile Level E may be installed on essential facilities as defined in ASCE 7-16

Reliance™ StormMax® SSG Aluminum Curtain Wall System: The curtain wall system satisfies TDI's criteria for protection from windborne debris. These assemblies passed Missile Level D and Missile Level A specified in ASTM E 1996-14a. Assemblies passing Missile Level D may be installed at any height on the structure that does not exceed the assembly's design pressure rating. Assemblies passing Missile Level A may be installed at heights greater than 30 feet above ground level that does not exceed the assembly's design pressure rating. The assembly may not be installed on essential facilities as defined in ASCE 7-16.

Reliance™ StormMax® Wet Glazed Aluminum Curtain Wall System: The curtain wall system satisfies TDI's criteria for protection from windborne debris. These assemblies passed Missile Level D and Missile Level A specified in ASTM E 1996-14a. Assemblies passing Missile Level D may be installed at any height on the structure that does not exceed the assembly's design pressure rating. Assemblies passing Missile Level A may be installed at heights greater than 30 feet above ground level that does not exceed the assembly's design pressure rating. The assembly may not be installed on essential facilities as defined in ASCE 7-16.

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 Oldcastle BuildingEnvelope installation instructions and the approved drawings specified in this evaluation report. Detailed installation instructions are available from Oldcastle BuildingEnvelope.

Installation:

Wall Framing Construction: The aluminum curtain wall system 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)
- steel (minimum 1/4" thick, Fy=36 ksi)
- wood (minimum specific gravity, SG=0.55)

Refer to the appropriate design drawing for the allowed wall framing construction.

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.