

Product Evaluation

CWSF33 | 0721

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-33

Effective Date: July 1, 2021

Re-evaluation Date: July 2025

Product Name: IR 501T and IR 501UT Aluminum Storefront Systems, Impact Resistant

Manufacturer: Kawneer Company, Inc.
Technology Park / Atlanta
555 Guthridge Court
Norcross, GA 30096-3503
(770) 734-1560

General Description:

This evaluation report is for the IR 501T / IR 501UT aluminum storefront system. The system is used for commercial installations. This evaluation report includes the following storefront assemblies:

- Multiple Fixed Panel Storefront Assembly
- Storefront Assembly with Project-Out Windows
- Multiple Fixed Panel Storefront Assembly with 90 Degree and/or 135 Degree Corners

Doors: Kawneer doors used with these assemblies must be listed in separate TDI product evaluation reports.

Product Identification: A Kawneer label will be affixed to the window wall assembly. The label includes the following information:

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Wet Glazing: The label includes the manufacturer's name (Kawneer); the product name (IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out)); that the design pressures and assembly size are per TDI drawing 1758T; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Large Missile Impact Rated-Zone 4, Level D).

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Dry Glazing: The label includes the manufacturer's name (Kawneer); the product name (IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out)); that the design pressures and assembly size are per TDI drawing 1760T; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Large Missile Impact Rated-Zone 4, Level D).

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Wet and Dry Glazing-SMI: The label includes the manufacturer's name (Kawneer); the product name (IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out)); that the design pressures and assembly size are per TDI drawing 1759T; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Small Missile Impact Rated-Zone 4, Level A).

IR 501T/501UT Framing – Wet Glazing-Level E: The label includes the manufacturer's name (Kawneer); the product name (IR 501T/501UT Framing); that the design pressures and assembly size are per TDI drawing 1981T; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Large Missile Impact Rated-Zone 4, Level E).

Compliance: The store front assemblies passed test criteria equivalent to ASTM E 330-14, ASTM E 1996-13a, and ASTM E 1996-14a.

Limitations:

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

- Drawing No. 1758T; "IR501T & IR501UT Aluminum Large Missile Impact Store Front System (Wet Glazed);" Sheets 1 thru 10 of 10; dated February 10, 2021; signed and sealed by Warren W. Schaefer, P.E on February 1, 2021. This evaluation report refers to the stated drawings as the approved drawings.

- Drawing No. 1760T; "IR501T & IR501UT Aluminum Large Missile Impact Store Front System (Dry Glazed);" Sheets 1 thru 10 of 10; dated February 10, 2021; signed and sealed by Warren W. Schaefer, P.E on February 1, 2021. This evaluation report refers to the stated drawings as the approved drawings.
- Drawing No. 1759T; "IR501T & IR501UT Aluminum Small Missile Impact Store Front System (Dry Glazed);" Sheets 1 thru 10 of 10; dated February 10, 2021; signed and sealed by Warren W. Schaefer, P.E on February 1, 2021. This evaluation report refers to the stated drawings as the approved drawings.
- Drawing No. 1981T; "IR501T & IR501UT Aluminum Level "E" Large Missile Impact Store Front System;" Sheets 1 thru 5 of 5; dated February 10, 2021; signed and sealed by Warren W. Schaefer, P.E on February 1, 2021. This evaluation report refers to the stated drawings as the approved drawings.

Fabrication and Assembly: The Kawneer IR 501T and IR 501UT Aluminum Storefront 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):

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Wet Glazing: The store front system has a maximum design pressure rating of +70 psf / -70 psf. Refer to the approved drawing for specific design pressure requirements.

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Dry Glazing: The store front system has a maximum design pressure rating of +70 psf / -70 psf. Refer to the approved drawing for specific design pressure requirements.

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Wet and Dry Glazing-SMI: The store front system has a maximum design pressure rating of +70 psf / -70 psf. Refer to approved drawing for specific design pressure requirements.

IR 501T/501UT Framing – Wet Glazing-Level E: The store front system has a maximum design pressure rating of +60 psf / -60 psf. Refer to the approved drawing for specific design pressure requirements.

If the store front 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 store front system in this evaluation report.

Impact Resistance:

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Wet Glazing: The store front system satisfies TDI's criteria for protection from windborne debris.

These assemblies passed the equivalent of 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 below a height of 30 feet on essential facilities as defined in ASCE 7-16.

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Dry Glazing: The store front system satisfies TDI's criteria for protection from windborne debris. These assemblies passed the equivalent of 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 below a height of 30 feet on essential facilities as defined in ASCE 7-16.

IR 501T/501UT Framing System with GLASSvent UT® Windows (Project-out) – Wet and Dry Glazing-SMI: The store front system satisfies TDI's criteria for protection from windborne debris. These assemblies passed the equivalent of Missile Level A specified in ASTM E 1996-14a. The assemblies must 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.

IR 501T/501UT Framing – Wet Glazing-Level E: The store front system satisfies TDI's criteria for protection from windborne debris. These assemblies passed the Equivalent of Missile Level E specified in ASTM E 1996-14a. The assemblies may be installed at any height on the structure that does not exceed the assembly's design pressure rating. The assembly may be installed at any height 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 Kawneer's installation instructions and the approved drawings specified in this evaluation report. Detailed installation instructions are available from Kawneer.

Installation:

Wall Framing Construction: The aluminum store front 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)
- CMU (concrete-filled)
- steel (minimum 1/8" thick, Fy=36 ksi)
- metal stud (minimum 16 gauge, 50 ksi)
- aluminum (minimum 0.100" thick, 6063-T6)
- wood (minimum specific gravity, SG=0.55)

Refer to the appropriate design drawing for specific wall construction 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.

Installation Instructions: General installation instructions are specified in the “IR501T/501UT Framing Installation Instructions” document 575UT970EN, dated March 2021, published by Kawneer.

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.