

## Product Evaluation

CWSF72 | 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:** CWSF-72

**Effective Date:** December 1, 2021

**Re-evaluation Date:** December 2025

**Product Name:** 1600 Aluminum Curtain Wall System, System 1 (Captured) and System 2 (SSG), 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 1600 aluminum curtain wall system. The system is used for commercial installations. This evaluation report includes the following curtain wall systems:

- System 1 (Captured)
- System 2 (SSG)
- System 1 (Captured), 3", Missile Level E
- System 1 (Captured), 2-1/2", Missile Level E

**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:

**1600 Wall Curtain Wall System, System 1 (Captured):** The label includes the manufacturer's name (Kawneer); the product name (1600 Wall System 2 Curtain Wall (7-13/16")); that the design pressures and assembly size are per TDI drawing 1600-IR-TDI; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Small and Large Missile Impact Rated-Zone 4, Level A, D).

**1600 Wall Curtain Wall System, System 1 (Captured):** The label includes the manufacturer's name (Kawneer); the product name (1600 Wall System 2 Curtain Wall (10-13/16")); that the design pressures and assembly size are per TDI drawing 1600-IR-TDI; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Small and Large Missile Impact Rated-Zone 4, Level A, D).

**1600 Wall Curtain Wall System, System 2 (SSG):** The label includes the manufacturer's name (Kawneer); the product name (1600 Wall System 2 Curtain Wall (7-13/16")); that the design pressures and assembly size are per TDI drawing 1600-IR-TDI; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Small and Large Missile Impact Rated-Zone 4, Level A, D).

**1600 Wall Curtain Wall System, System 2 (SSG):** The label includes the manufacturer's name (Kawneer); the product name (1600 Wall System 2 Curtain Wall (10-13/16")); that the design pressures and assembly size are per TDI drawing 1600-IR-TDI; the test standards (ASTM E 330, ASTM E 1886, ASTM E 1996, TAS 201, TAS 202, TAS 203); and the Missile Level (Small and Large Missile Impact Rated-Zone 4, Level A, D).

**1600 Wall System 1 3" x 6-1/2" Curtain Wall System, Level E Impact Resistant:**

The label includes the manufacturer's name (Kawneer); the product name (1600 Wall System 1 Curtain Wall); that the design pressures and assembly size are per TDI drawing 1600-3IR-LVLE; 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).

**1600 Wall System 1 2-1/2" x 7-13/16" Curtain Wall System, Level E Impact Resistant:**

The label includes the manufacturer's name (Kawneer); the product name (1600 Wall System 1 Curtain Wall); that the design pressures and assembly size are per TDI drawing 1600-IR-LVLE; 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 curtain wall 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 drawings:

- Drawing No. 1600-IR-TDI; "Kawneer 1600 Wall Curtainwall System, System 1 (Captured) and System 2 (SSG), Large and Small Missile Impact Resistant;" Sheets 1 thru 42; dated July 1, 2021, 2021; signed and sealed by Lucas A. Turner, P.E on October 27, 2021. This evaluation report refers to the stated drawings as the approved drawings.
- Drawing No. 1600-3IR-LVLE; "Kawneer 1600 Wall System 1, 3" x 6-1/2" Curtainwall System, Level E Impact Resistant;" Sheets 1 thru 8; dated July 26, 2021; signed and sealed by Lucas A. Turner, P.E on September 10, 2021. This evaluation report refers to the stated drawings as the approved drawings.
- Drawing No. 1600-IR-LVLE; "Kawneer 1600 Wall System 1, 2-1/2" x 7-13/16" Curtainwall System, Level E Impact Resistant;" Sheets 1 thru 10; dated July 26, 2021; signed and sealed by Lucas A. Turner, P.E on September 10, 2021. This evaluation report refers to the stated drawings as the approved drawings.

**Fabrication and Assembly:** The Kawneer 1600 aluminum 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):**

**1600 Wall Curtain Wall System, System 1 (Captured) and System 2 (SSG):** Refer to the approved drawing for specific design pressure requirements.

**1600 Wall System 1 3" x 6-1/2" Curtain Wall System, Level E Impact Resistant:** Refer to the approved drawing for specific design pressure requirements.

**1600 Wall System 1 2-1/2" x 7-13/16" Curtain Wall System, Level E Impact Resistant:** Refer to 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:**

**1600 Wall Curtain Wall System, System 1 (Captured) and System 2 (SSG):** 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. 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 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 ASTM E 1996-14a.

**1600 Wall System 1 Curtain Wall System, Level E:** The curtain wall 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 ASTM E 1996-14a.

**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 curtain wall systems may be mounted to several types of wall framing construction. The types of wall framing construction allowed include:

- concrete (minimum compressive strength specified on drawings)
- steel (minimum 1/8" thick,  $F_y=36$  ksi)
- metal stud (minimum 16 gauge, 45 ksi)
- 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 following documents:

**1600 Wall System 1:** "1600 Wall System 1 Curtain Wall Installation Instructions" document 162970, dated April 21, 2017, published by Kawneer.

**1600 Wall System 2:** "1600 Wall System 2 Curtain Wall Installation Instructions" document 162971, dated April 21, 2017, 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.