



# Product Evaluation

CWSF36 | 0415

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-36

**Effective Date:** April 1, 2015

**Re-evaluation Date:** April 2019

**Product Name:** 1600 System 1 Aluminum Curtain Wall System, Impact Resistant

**Manufacturer:** Kawneer Company, Inc.  
555 Guthridge Court  
Norcross, GA 30092-2503  
(770) 840-6426

## General Description:

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

- Single-Span Reinforced Curtain Wall
- Single-Span Non-Reinforced Curtain Wall

**Doors:** Doors referenced in this product evaluation report are Kawneer door products. The Kawneer doors used with these assemblies must be listed in a separate TDI product evaluation report.

**Product Identification:** A Kawneer label will be affixed to the curtain wall assembly.

**Products Installed in Accordance with Drawing No. 1794T (Large Missile Impact):** The label includes the manufacturer's name (Kawneer); the product name (10-13/16" 1600 Wall System 1 Curtain Wall); that the design pressure and size are per drawing #1794T; and that the product complies with ASTM E 330, ASTM E 1886, ASTM E 1996, Large Missile Impact, Zone 4-Level D.

**Products Installed in Accordance with Drawing No. 1795T (Small Missile Impact):** The label includes the manufacturer's name (Kawneer); the product name (10-13/16" 1600 Wall System 1 Curtain Wall); that the design pressure and size are per drawing #1795T; and that the product complies with ASTM E 330, ASTM E 1886, ASTM E 1996, Small Missile Impact Zone, Level A.

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

Curtain Wall assemblies complying with the requirements for large missile impact must comply and be installed in accordance with the following drawing:

Drawing No. 1794T, titled "10-13/16" Deep 1600 System 1 Curtain Wall (L.M.I.)," Sheets 1 thru 12 of 12, dated March 16, 2013, signed and sealed by Warren W. Schaeffer., P.E on March 20, 2013. This evaluation report refers to the stated drawings as the approved drawings.

Curtain Wall assemblies complying with the requirements for small missile impact. Install and comply and in accordance with the following drawing:

Drawing No. 1795T, titled "10-13/16" Deep 1600 System 1 Curtain Wall (S.M.I.)," Sheets 1 thru 12 of 12, dated March 16, 2013, signed and sealed by Warren W. Schaeffer., P.E on March 20, 2013. The stated drawings will be referred to as the approved drawings in this evaluation report.

**Fabrication and Assembly:** Kawneer 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):**

- The curtain wall assemblies for large missile impact have a design pressure rating ranging from  $\pm 65$  psf to  $\pm 110$  psf. Refer to drawing No. 1794T for specific design pressure requirements.
- The curtain wall assemblies for small missile impact have a design pressure rating ranging from  $\pm 65$  psf to  $\pm 90$  psf. Refer to drawing No. 1795T for specific design pressure requirements.

**Impact Resistance:**

**Products Installed in Accordance with Drawing No. 1794T:** These assemblies satisfy TDI's criteria for protection from windborne debris in both the **Inland I** and **Seaward** zones. These assemblies passed an impact criteria equivalent to Missile Level D specified in ASTM E 1996-04. Install these assemblies at any height on the structure that does not exceed the assembly's design pressure rating. These assemblies do not require protection with an impact protective system when installed in areas that require windborne debris protection.

**Products Installed in Accordance with Drawing No. 1795T:** These assemblies satisfy TDI's criteria for protection from windborne debris in both the **Inland I** and **Seaward** zones. These assemblies have passed an impact criteria equivalent to Missile Level A specified in ASTM E 1996-04. Install these assemblies at a height of 30' or greater on the structure that does not exceed the assemblies' design pressure rating. These assemblies do not require protection with an impact protective system when installed in areas that require windborne debris protection.

**Acceptance of Other Assemblies:**

- The approved drawings must specify the limitations on horizontal stacking and overall width.
- Use either single doors or double doors with the assemblies shown on the approved drawings.

**Installation Instructions:**

**General:** Prepare and install the assembly in accordance with the manufacturers recommended installation instructions. Detailed installation instructions and drawings are available in the following document, 162-950, "Kawneer 1600 Sys 1 Large Missile Impact Instructions," Sheets 1 thru 8, by Kawneer.

**Installation:**

**Wall Framing Construction:** Mount the aluminum 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)
- wood dimension lumber (minimum Southern Yellow Pine)
- steel studs (minimum 16-gauge, 50 ksi), and
- steel (1/8" thick, A36 (minimum Fy = 36 ksi)).

**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 at the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.