TDI | Texas Department of Insurance

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Product Evaluation

MU21 | 0919 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: MU-21

Effective Date: September 1, 2019
Re-evaluation Date: September 2023

Product Name: Mulled Aluminum Window and Door Assemblies using Aluminum Vertical Mullions, Non-Impact Resistant and Impact Resistant

Manufacturer: WinDoor Incorporated
7500 Amsterdam Drive
Orlando, FL 32832
(407) 481-8400

General Description:
This evaluation report is for mulled window and door assemblies using aluminum vertical mullions manufactured by WinDoor Incorporated. The mulled window and door assemblies evaluated in this report may be either non-impact resistant or impact resistant.

The mulled assembly consists of window and door units mulled together using aluminum vertical mullions. The aluminum vertical mullions may be used as long as the dimensions indicated on the approved drawings of the window and door units are not exceeded. The mullions are secured directly to the rough opening using clips and can be attached to wood, concrete, masonry, steel, or aluminum substrates.

The frames of the window and door units are secured to the extruded aluminum mullion tubes using No. 10 self-drilling screws. Extruded aluminum clips are used to secure the aluminum mullion tubes to the wall framing.

This evaluation report contains mulled assemblies using aluminum window and door units manufactured by WinDoor Incorporated that are currently listed in Texas Department of Insurance (TDI) product evaluation reports.

This evaluation report contains mulled assemblies using individual window and door products manufactured by WinDoor Incorporated that are currently listed in Texas Department of Insurance (TDI) product evaluation reports.

Mullion Components:
Mullion: Manufactured from 6063-T6 aluminum. The following mullion options are available:

- 2″ x 5″ x 0.125″.
- 2″ x 5″ x 0.250″.
- 2″ x 6″ x 0.125″.
- 2″ x 6″ x 0.250″.
- 2″ x 8″ x 0.125″.
- 2″ x 8″ x 0.250″.
- 4″ x 4″ x 0.125″.
- 4″ x 4″ x 0.250″.
- 4″ x 6″ x 0.125″.
- 4″ x 6″ x 0.250″.
- 4″ x 8″ x 0.125″.
- 4″ x 8″ x 0.250″.
- 6″ x 6″ x 0.125″.
- 6″ x 6″ x 0.250″.

Clip: Manufactured from 6105-T5 aluminum. This clip is used to secure the aluminum mullion to the wall framing. The clip dimensions are as follows:

- For 2″ x 5″ mullions (4″ x 4.469″ x 0.125″).
- For 2″ x 6″ mullions (4″ x 5.469″ x 0.125″).
- For 2″ x 8″ mullions (4″ x 7.469″ x 0.125″).
- For 4″ x 4″ mullions (4″ x 3.469″ x 0.125″).
- For 4″ x 6″ mullions (4″ x 5.469″ x 0.125″).
- For 4″ x 8″ mullions (4″ x 7.469″ x 0.125″).
- For 6″ x 6″ mullions (4″ x 5.469″ x 0.125″).

Fabrication and Assembly: The mulled assembly may be mulled together at the factory and shipped as a complete assembly or they may be mulled together at the job site.

Design Drawings:
Construct and install the mulled assembly in accordance with one of the following drawings:

- Drawing No. 08-01684; sheets 1 through 4 of 4; titled ‘2″ x 5″ x 1/8″ Tube Mullion Vertical Impact;’ dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01685; sheets 1 through 4 of 4; titled '2" x 5" x 1/4" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01686; sheets 1 through 4 of 4; titled '2" x 6" x 1/8" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01687; sheets 1 through 4 of 4; titled '2" x 6" x 1/4" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01688; sheets 1 through 4 of 4; titled '2" x 8" x 1/8" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01689; sheets 1 through 4 of 4; titled '2" x 8" x 1/4" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01690; sheets 1 through 4 of 4; titled '4" x 4" x 1/8" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01691; sheets 1 through 4 of 4; titled '4" x 4" x 1/4" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01692; sheets 1 through 4 of 4; titled '4" x 6" x 1/8" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01693; sheets 1 through 4 of 4; titled '4" x 6" x 1/4" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01694; sheets 1 through 4 of 4; titled '4" x 8" x 1/8" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01695; sheets 1 through 4 of 4; titled '4" x 8" x 1/4" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01696; sheets 1 through 4 of 4; titled '6" x 6" x 1/8" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

- Drawing No. 08-01697; sheets 1 through 4 of 4; titled '6" x 6" x 1/4" Tube Mullion Vertical Impact;' dated July 23, 2012; signed and sealed by Luis R. Lomas, P.E. on July 15, 2013.

This evaluation report will refer to the stated drawings as "Approved Drawings."

Maintain a copy of the approved drawings at the job site.

Maximum Sizes:
The height and width of each individual window and door in the mulled assembly must not exceed the maximum allowable height and width specified on the certification program labels for the individual windows and doors. In addition, the maximum allowable dimensions for windows and doors in the mulled assembly shall be as specified on the approved drawings

Design Pressure Rating:
The design pressure rating for the mulled assembly is dependent on the mullion load rating based on the mullion span and the dimensions of the window and door units in the mulled assembly, and the design pressure rating for the window and door units in the mulled assembly.

Refer to the approved drawings to determine the mullion load rating for the mulled assembly based on the configuration of the mulled assembly.

The following procedure should be used to determine the design pressure rating for the mulled window assembly:

1. Determine the tributary width and the mullion span (height) for the mulled assembly. Refer to the mullion configuration sketches on the approved drawings for the mullion span (height) and the tributary width determination. **NOTE**: In no case must the maximum allowable dimensions of the window and door units, as specified on the certification program labels and in the TDI product evaluation reports, exceed the window and door unit dimensions in the approved drawings.

2. Using the approved drawings, locate the row with the mullion span (height). Locate the column with the tributary width. At the intersection of the row containing the mullion span and the column containing the tributary width, read the mullion load rating (in PSF).

3. Review the design pressure rating on the certification program label and in the TDI product evaluation report for each window and door unit of the mulled assembly.

4. If the design pressure rating for each window and door unit of the mulled assembly is greater than the mullion load rating determined from the table in the approved drawings, then the design pressure rating of the mulled assembly is the design pressure determined from the table in the approved drawings.

5. If the design pressure rating for any of the window and door units is less than the mullion load rating determined from the table in the approved drawings, then the design pressure rating of the mulled assembly shall be the design pressure rating of the lowest rated window and door unit in the assembly.

Impact Resistance:
The mullions can be used with either non-impact resistant or impact resistant windows and doors.

If the mullions are used with non-impact resistant windows and doors, then the mulled assemblies will need to be protected with an impact protective system when installed in areas where windborne debris protection is required.

If the mullions are used with impact resistant windows and doors, then the mulled assemblies will not need to be protected with an impact protective system.

Refer to the TDI evaluation reports for each of the window and door units in the mulled assembly to determine the locations where the mulled assemblies can be used (ex. Inland I zone only or Inland I and Seaward zones).

Product Identification:
A certification program label will be affixed to each individual window and door of the mulled assembly. Refer to the TDI evaluation report for each individual window and door in the mulled assembly for the information that must be specified on the certification program label.

NOTE: The certification program label is for the performance characteristics of the individual windows in the mulled assembly and not for the mulled assembly. The Design Pressure Rating section of this evaluation report specifies how the design pressure rating for the mulled assembly is determined.

Installation Instructions:
General: Install the mulled assembly in accordance with the manufacturer's installation instructions, the approved drawings, and this evaluation report.

Attachment of Window or Door Frames to Mullions: The window and door unit frames must be anchored to the aluminum mullions with minimum No. 10 self-drilling screws. The fasteners must be of sufficient length to penetrate a minimum of three threads beyond the aluminum mullion wall. The fasteners must be located and spaced in accordance with the approved drawings. Refer to the details shown in the approved drawings for the attachment of the window and door units to the mullions.

Attachment of Mulled Assembly to Wall Framing: The requirements for the wall framing must be as specified in the TDI evaluation reports for the window and door units and as specified in the approved drawings. The mulled assembly must be secured to the wall framing using the type, size, quantity, and spacing of fasteners as specified in the TDI evaluation reports for the window and door units. As a point of reference for locating fasteners at window and door unit corners, where a window or door unit joins with a mullion must be considered a corner location.

Attachment of Mullions to Wall Framing: The mullions must be secured to the wall framing using the clip. The clip must be secured to the mullion and to the wall framing as specified in the approved drawings.

Note: Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.