

Product Evaluation

MU54 | 0220

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-54

Effective Date: February 1, 2020

Re-evaluation Date: February 2024

Product Name: Mullions for Vinyl Windows Using Large and Medium Vinyl Mullions with Aluminum Reinforcement, Impact Resistant and Non-impact Resistant

Manufacturer: Simonton/Ply Gem Windows & Doors
A Division of Cornerstone Building Brands
5020 Weston Parkway
Suite 300
Cary, NC 27513
(614) 532-3596

General Description:

This evaluation report is for mullioned windows using the following mullions manufactured by Simonton Building Products:

Mullions for Impact Resistant Windows

- Medium Mullions, VPI-436 with Aluminum Reinforcement, 20634
- Large Mullions, VPI-354 with Aluminum Reinforcement, 16991

Mullions for Non-Impact Resistant Windows

- Medium Mullions, VPI-346A with Aluminum Reinforcement, 16990
- Medium Mullions, VPI-436/MP0347 with Aluminum Reinforcement, 20634
- Large Mullions, VPI-560/VPI-354/VPI-354A with Aluminum Reinforcement, 16991
- Large Mullions, VPI-573 with Aluminum Reinforcement, CM0146

The mullions are to be used horizontally or vertically for joining windows together side by side.

The mulled window assemblies evaluated in this report are for impact resistant and non-impact resistant windows manufactured by Simonton Windows and currently listed in TDI product evaluation reports.

Mullion Components:

- **Mullion Covers:** Manufactured from rigid PVC. The parts and dimensions are shown on the approved drawings.
- **Mullion Reinforcement:** Manufactured from 6063-T6 aluminum. The parts and dimensions are shown on the approved drawings.
- **L-Bracket:** Manufactured from stainless steel. The dimensions are shown on the approved drawings. The L-Bracket is secured to the mullion Cover with either two (2) 0.25" rivets or two (2) No. 10 barrel nuts. The L-Bracket couples to the Base Plate utilizing a raised fin on the Base Plate
- **Base Plate:** Manufactured from stainless steel. The dimensions are shown on the approved drawings. The Base Plate is used to secure the mullion assembly to the wall opening.

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 design drawings based on the configuration of the mulled assembly:

- Drawing No. RM0052, Rev 6; sheets 1 through 6 of 6; titled "Extruded Impact Vinyl Mullions with Aluminum Reinforcement – For Impact Resistant Assemblies;" revised November 26, 2019; signed and sealed by Lucas A. Turner, P.E. on December 30, 2019.
- Drawing No. RM0015B, Rev 7; sheets 1 through 8 of 8, titled "Extruded Non-Impact Vinyl Mullions with Aluminum Reinforcement All Non-Impact Window Series;" revised December 2, 2019; signed and sealed by Lucas A. Turner, P.E. on December 30, 2019.

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

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

Maximum Window Sizes:

The height and width of each individual window in the mulled assembly must not exceed the maximum allowable height and width specified on the certification program labels for the individual windows.

The maximum allowable dimensions for windows in the mullied assembly must be as specified on the approved drawings.

Design Pressure Rating:

The design pressure rating for the mullied assembly is dependent on the mullion load rating based on the mullion span and the dimensions of the individual windows in the mullied assembly, and the design pressure rating for the individual windows in the mullied assembly.

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

Use the following procedure to determine the design pressure rating for the mullied window assembly:

1. Determine the individual unit width or height and the mullion length for the mullied assembly. Refer to the mullion configuration sketches on the approved drawings for the mullion length and the individual unit width. **NOTE:** The maximum allowable dimensions of the individual windows must not exceed the dimensions in the approved drawings as specified on the certification program labels and in the TDI product evaluation reports.
2. Using the approved drawings, locate the row with the mullion length. Locate the column with the individual unit width or height. Read the mullion load rating (psf) at the intersection of the row and column.
3. Review the design pressure rating on the certification program label and in the TDI product evaluation report for each individual window of the mullied assembly.
4. If the design pressure rating for each individual window of the mullied assembly is greater than the design pressure rating for the mullions determined from the approved drawings, then the design pressure rating of the mullied assembly is the design pressure capacity determined from the table in the approved drawings.
5. If the design pressure rating for any of the individual windows is less than the design pressure rating determined from the approved drawings, then the design pressure rating of the mullied assembly must be the design pressure rating of the lowest rated individual window in the assembly.

Impact Resistance:

Use the mullions with either non-impact resistant or impact resistant windows. Refer to the approved drawings for the appropriate mullion construction.

If using mullions with non-impact resistant windows, then protect the mullied window assemblies with an impact protective system when installing the product in areas that require windborne debris protection.

If using mullions with impact resistant windows, then the mulled window assemblies will not require protection with an impact protective system.

Refer to the TDI evaluation reports for each of the windows in the mulled assembly to determine the locations where the mulled window assemblies can be used.

Product Identification:

Each individual window of the mulled assembly will have an attached certification program label.

Refer to each individual window's TDI evaluation report for the information the certification program label should include.

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. Detailed drawings and installation instructions are available from the manufacturer.

Attachment of Window Frames to Mullions: Anchor the window frames to the aluminum mullion with minimum No. 10 self-tapping screws as shown in the approved drawings. The spacing and required penetration into the mullions of the fasteners is as specified on the approved drawings.

Attachment of Mulled Assembly to Wall Framing: Wall framing requirements are as specified on either the TDI product evaluation reports for the windows or the approved drawings. Secure the mulled assembly to the wall framing using the type, size, quantity, and spacing of fasteners as specified in the TDI evaluation reports for the individual windows. Where a window unit joins with a mullion use a point of reference for locating fasteners at window corners.

Attachment of Mullions to Wall Framing: Secure the mullions to the wall framing with the L-Bracket and the Base Plate as shown on the approved drawings. Refer to the approved drawings for the attachment of the mullions to the wall framing.

Note: Keep the manufacturer's installation instructions and the appropriate design drawing on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.