



Product Evaluation

MU37 | 0317

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-37 **Effective Date:** March 1, 2017
Re-evaluation Date: March 2021

Product Name: Muller Window Assemblies Using 1500 Beveled Frame and Brickmould Frame Mullions for 1500 Series Vinyl Windows, Non-Impact Resistant and Impact Resistant

Manufacturer: Ply Gem Window Group
433 North Main Street
Rocky Mount, VA 24151
(800) 999-8400

General Description:

- This evaluation report is for muller windows using extruded steel mullions manufactured by Ply Gem Window Group.
- Mull the windows together using vertical or horizontal steel mullions.
- The muller window assemblies evaluated in this report are for impact and non-impact resistant 1500 Series windows manufactured by Ply Gem Window Group and are currently listed in TDI product evaluation reports.
- Windows muller together are either beveled frame or brickmould frame.

Mullion Components:

- **Mullion:** Manufactured from HSLA 50 galvanized steel. The dimensions are shown on the approved drawings.
- **Vinyl Anchor Clips:** Either beveled or brickmould. The dimensions are shown on the approved drawings.
- **Gusset Plates:** Manufactured from galvanized steel. The dimensions are shown on the approved drawings.

Fabrication and Assembly: The muller assembly is muller together at the distributor.

Design Drawings:

- Install the mulled assembly in accordance with the following design drawings based on the configuration of the mulled assembly:
 - Drawing No. PGW195, sheets 1 through 7 of 7, titled “Ply Gem Windows 1500 Brickmould Frame Mullion,” dated December 6, 2012; Rev A dated August 30, 2016 for sheet 2 of 7; Rev B dated December 20, 2016 for sheets 1, 3, and 5 of 7; signed and sealed by Hermes F. Norero, P.E. on February 13, 2017.
 - Drawing No. PGW196, sheets 1 through 6 of 6, titled “Ply Gem Windows 1500 Beveled Frame Mullion,” dated December 13, 2012; Rev A dated August 30, 2016 for sheets 2, 3, and 4 of 6; Rev B dated December 20, 2016 for sheets 1 and 5 of 6; signed and sealed by Hermes F. Norero, P.E. on February 13, 2017.
- 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 mulled assembly must 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 individual windows in the mulled assembly, and the design pressure rating for the individual windows in the mulled assembly.
- For vertical mullions, the maximum tributary width must not exceed 54" and the maximum mullion span must not exceed 95-1/2".
- For horizontal mullions, the maximum tributary width must not exceed 54" and the maximum mullion span must not exceed 95-1/2".
- Refer to the approved drawings to determine the mullion load rating for the mulled assembly based on the configuration of the mulled assembly.

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

1. Determine the tributary width and the mullion span for the mulled assembly. Refer to the mullion configuration sketches on the approved drawings for the mullion span and the tributary 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 column with the mullion span. Locate the row with the tributary width. Read the mullion load rating (psf) at the intersection of these rows.
3. Review the design pressure rating on the certification program label and in the TDI product evaluation report for each individual window of the mulled assembly.
4. If the design pressure rating for each individual window of the mulled assembly is greater than the design pressure rating for the mullions determined from the approved drawings, then the design pressure rating of the mulled 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 mulled assembly must be the design pressure rating of the lowest rated individual window in the assembly.

Impact Resistance:

- Use the mullions with impact resistant or non-impact resistant windows.
- If using mullions with impact resistant windows, then the mulled window assemblies will not require protection with an impact protective system.
- If using mullions with non-impact resistant windows, then the mulled window assemblies will require protection with an impact protective system. When installed in areas where windborne debris protection is required.
- 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 (example Inland I zone only or Inland I and Seaward zones).

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:** The window frames are secured together with vinyl mullion clips. The mullion reinforcement is located in the cavity between the two windows that form the mullion. Fasteners are not required to secure the window frames to the mullion reinforcement. Refer to the approved drawings for a detail of the mullion construction.
- **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 either vinyl anchor clips or steel gusset plates. The anchor clips and the gusset plates are shown on the approved drawings. Refer to the approved drawings for the attachment of the anchor clips and the gusset plates to the window assembly and to the wall framing.
- **Attachment of Vertical Mullions to Horizontal Mullions:** Secure the vertical mullions to horizontal mullions using the mullion anchor bracket as shown on the approved drawings. Refer to the approved drawings for securing the mullions together.

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