

Product Evaluation

MU25 | 1019

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-25

Effective Date: October 1, 2019

Re-evaluation Date: October 2023

Product Name: Series 350 Vinyl Window 1" Structural Mullion System, Non-impact Resistant and Impact Resistant

Manufacturer: Pella Corporation
102 Main Street
Pella, IA 50219
(641) 621-1000

General Description:

This evaluation report is for mulled window assemblies using a 1" aluminum structural mullion for Series 350 vinyl windows manufactured by Pella Corporation. The mullions may be reinforced or non-reinforced. The mulled window assemblies evaluated in this report are for impact resistant and non-impact resistant windows.

Mullion: The 1" aluminum mullion is part No. V982357. The mullion is 4.300" in length and is 0.900" in width. The mullion is manufactured of 6063-T6 aluminum. The mullion may be reinforced with stainless steel reinforcement or non-reinforced.

Windows: This evaluation report is for mulled window assemblies using individual Series 350 vinyl windows manufactured by Pella Corporation that are currently listed in Texas Department of Insurance (TDI) product evaluation reports. The applicable window products include single hung, double hung, fixed, horizontal sliding, casement, and awning.

Window Frame Configurations: Window frames may be either nailing fin frame, nailing fin frame with J-channel, flange frame, or block frame.

Mulled Window Configurations: The mulled assembly consists of individual window units that are secured to the mullions described in this evaluation report. The mullions can be installed vertically (for side by side units), horizontally (for stacked units), or a combination of horizontal and vertical mullions. Refer to the approved drawings in this evaluation report for allowable mulled window configurations.

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.

Substrates: The mullion is secured directly to the rough opening of the window and can be attached to the following substrates:

- Wood – minimum Spruce-Pine-Fir dimension lumber
- Concrete – minimum 2,000 psi compressive strength
- Masonry – Conforms to ASTM C-90
- Light Gauge Steel – minimum 20-gauge, 33 ksi
- Structural Steel – minimum 0.125" thick, A36 steel
- Aluminum – minimum 0.125" thick, 6063-T5

Refer to the approved drawings for specific information regarding substrates for the mullions.

Note: The windows must be installed to the allowable substrates that are specified in the TDI evaluation reports for the windows. The substrate used for the mullions will be limited by the allowable substrates for the windows that are a part of the mulled assembly.

Limitations:

Design Drawings: The mulled window assembly must be constructed and installed in accordance with the following design drawing:

Drawing No. PELL0036; sheets 1 through 26 of 26; titled "Series 350 Vinyl Window 1" Structural Mullion-Impact;" dated January 28, 2014; signed and sealed by Robert James Amoruso, PE on April 18, 2014. The stated drawings will be referred to as "Approved Drawings" in this evaluation report. A copy of the approved drawings must be available at the job site.

Maximum Window Sizes: The height and width of each individual window in the mulled window 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 window assembly must be as specified on the approved drawings.

Determination of Mullion Load Rating: The mullion load rating varies as a function of the mulled window configuration, window frame (either block frame or fin frame), type of mullion (reinforced or non-reinforced) mullion span, and load width. The mullion load rating (in psf) must

be determined as specified on the approved drawings. Once the mullion load rating has been determined, the following must be considered:

Design Pressure Rating: The design pressure rating for the mullied window assembly is a function of the mullion load rating and the design pressure rating for the individual windows in the mullied assembly. Once the mullion load rating has been determined, the design pressure rating for the mullied assembly must be determined as follows:

1. 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.
2. If the design pressure rating for each individual window of the mullied assembly is greater than the mullion load rating determined from the approved drawing, then the design pressure rating of the mullied assembly is the design pressure rating determined from the approved drawing.
3. If the design pressure rating for any of the individual windows is less than the mullion load rating determined from the approved drawing, then the design pressure rating of the mullied assembly shall be the design pressure rating of the lowest rated individual window in the mullied assembly.

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

If the mullions are used with non-impact resistant windows, then the mullied window 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, then the mullied window assemblies will not need to be protected with an impact protective system. Refer to the TDI evaluation reports for each of the windows in the mullied assembly to determine the locations where the mullied window assemblies can be used (ex. Inland I zone only or Inland I and Seaward zones).

Product Identification: A certification program label (WDMA) will be affixed to each individual window of the mullied window assembly. Refer to the TDI evaluation report for each individual window in the mullied window assembly for the information that must be specified on the certification program label. These certification program labels are for the performance characteristics of the individual windows in the mullied window assembly. The design pressure rating for the mullied window assembly is based upon the lowest common design pressure amongst the windows and mullions that are a part of the mullied window assembly.

Installation:

General: The mulled window assembly must be installed 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 must be secured to the aluminum mullions with mullion end caps. Refer to the approved drawings for illustrations of the mullion end caps depending on the type of windows that are used.

Attachment of Vertical Mullions to Horizontal Mullions: Vertical mullions are not secured to the horizontal 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 individual windows and as specified on the approved drawings. The mulled window 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 individual windows. As a point of reference for locating fasteners at window corners, where a window unit joins with a mullion must be considered a corner location for a window.

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