

## PRODUCT EVALUATION

### *Endurance* Twin Single Hung Window

REPORT TO:

**VPI QUALITY WINDOWS  
3420 E. FERRY AVENUE  
SPOKANE, WASHINGTON 99202**

REPORT NUMBER: NCTL-110-25164-2  
REVISION 1 DATE: 10/16/23

This item has been digitally signed and sealed by Michael D. Stremmel, PE on the date adjacent to the seal.

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Micheal D. Stremmel, PE  
FL PE 65868  
FL REG 37122

- Subject:** Endurance Twin Single Hung Window  
VPI Quality Windows  
3420 E. Ferry Avenue  
Spokane, Washington 99202
- Scope:** Product Evaluation per Chapter 61G20-3.005(1)(d) Florida Administrative Code, Evaluation report from a Florida Registered Architect or a Licensed Florida Professional Engineer.
- Building Code Compliance:** This product has demonstrated compliance with the Florida Current Edition of the *Florida Building Code, Building*:  
§1709.5 Exterior window and door assemblies  
§2404 Wind and Dead Loads on Glass
- Performance Standards:** AAMA/WDMA/CSA 101/I.S.2/A440-17  
ASTM E1300-12ae1
- Product Description:** Window Frame Extruded Rigid Poly (Vinyl Chloride) (PVC)  
Miter-cut corners and thermally welded.
- Window Sash Extruded Rigid Poly (Vinyl Chloride) (PVC)  
Miter-cut corners and thermally welded.
- Fixed Rail Extruded Rigid Poly (Vinyl Chloride) (PVC)  
Coped and butted to jamb. Secured with two (2) #10x3-1/2" screws at each end.
- Integral Mullion Extruded Rigid Poly (Vinyl Chloride) (PVC)  
Coped and butted to head and sill. Secured with two (2) #10x3-1/2" screws and two (2) #10x2-1/2" screws at each end.
- Glazing Validate Glazing with ASTM E1300

Glazing Type	Glazing Construction
G1 (Insulating Glass)	1/8" Annealed Glass to Exterior 1/8" Annealed Glass to Interior

Exterior glazed against double-sided adhesive tape and secured with rigid vinyl glazing bead. 1/2" bite.

Anchorage Various anchorages (see *Installation*).

For additional product information see Appendix A.

**Installation: Wood:** Minimum Spruce-Pine-Fir 2x (G = 0.42).  
 #8 Wood Screw (shall conform to ANSI/ASME B18.6.1 and be corrosion resistant) or 6d Nail (shall conform to ASTM F1667 and be corrosion resistant).

**Steel Stud:** Minimum 18 gauge (0.043" thick) 33 KSI steel stud.  
 #10-16 TEKS screw (see ICC ESR 1976).

Installation shall follow manufacturer's instructions, product approvals and the referenced installation drawings.

**Limitations of Use:**

<b>Product</b>	<b>Maximum Design Pressures</b>	<b>Impact Resistance</b>	<b>Maximum Overall Size</b>	<b>Maximum Glazing Size</b>
<i>Endurance Twin Single Hung (Glazing Type G1)</i>	+50/-50 psf	N/A	72" x 60"	33" x 27-1/6"

Products have not been tested for windborne debris resistance and will require protective devices (i.e., shutters) if installed in a windborne debris region.

Products are not approved for use in High Velocity Hurricane Zone (HVHZ).

**Supporting Evidence:** Test Report N3979.01-901-44 (AAMA/WDMA/CSA 101/I.S.2/A440-17)  
Revision -, 03/17/22  
Intertek. Kent, Washington (TST4310)

Calculation Report NCTL-110-25164-1  
Revision 1, 10/16/23  
Micheal D. Stremmel, PE (FL PE 65868)

**Certification of:** In accordance with Rule 61G20-3 Florida Administrative Code,

**Independence:** National Certified Testing Laboratories hereby certifies the following:

1. Molimo, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products tested or labeled by the agency.
2. Molimo, LLC is not owned, operated or controlled by any company manufacturing or distributing products it tests or labels.
3. Micheal D. Stremmel, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the reports are being issued.
4. Micheal D. Stremmel, P.E does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

**Reference Drawings:** *Endurance SH-SH – non-Impact.* Drawing 25164-1-1001. Revision 1, 10/16/23.

### Revision Log

<u>Identification</u>	<u>Date</u>	<u>Page &amp; Revision</u>
Original Issue	05/18/22	Not Applicable
Revision 1	10/16/23	Updated Analysis for 8 <sup>th</sup> Edition of the FBC

## Appendix A – Detailed Product Description

**Glazing Details:** Exterior glazed against double-sided adhesive tape and secured with rigid vinyl glazing bead. 1/2" bite.

<b>Weatherstripping:</b>	0.270" pile weatherstripping.	One row at each sash top rail
	0.270" pile weatherstripping	One row at each sash bottom rail
	0.270" pile weatherstripping	One row at each sash stile

**Frame Construction:** Extruded Rigid Poly (Vinyl Chloride) (PVC). Miter-cut corners and thermally welded.

**Sash Construction:** Extruded Rigid Poly (Vinyl Chloride) (PVC). Miter-cut corners and thermally welded.

**Fixed Rail Construction:** Extruded Rigid Poly (Vinyl Chloride) (PVC). Coped and butted to jamb. Secured at each end with two (2) #10x3-1/2" screws.

**Integral Mullion Construction:** Extruded Rigid Poly (Vinyl Chloride) (PVC). Coped and butted to head and sill. Secured with two (2) #10x3-1/2" screws and two (2) #10x2-1/2" screws at each end.

**Drainage:**

- 1-1/2"x1/4" weep slot with cover; at sill; one each end
- 3/8"x3/16" weep slot; at sill; 1/4" from each interior corner
- 1-1/4" x 3/16" weep slot; at sill; interior pocket; 2-7/8" from each interior corner
- 3/16" dia. weep hole; each sash bottom rail; 4" from each corner

<b>Hardware:</b>	Cam lock and keeper.	Two (2) total	Each lock rail at center
	Spiral tube balance.	Four (4) total	Each sash at jamb and mullion

<b>Reinforcement:</b>	Sill:	Roll formed steel
	Integral Mullion:	Roll formed steel
	Fixed Rail:	Roll formed steel
	Sash Top Rail:	Roll formed steel