

Prepared with Cooperation from:
Window Craftsmen Inc.
6031 Clark Center Avenue
Sarasota, FL 34238

November 23, 2020

**Anchor Calculations and engineering Analysis for Non Impact glass:
Installation of Awning Window
In Wood or Concrete and Masonry Openings**

Window Series: **A101**
Awning insulated window

Reference: Test reports: 94343.01-501-44/W-1891/W-1965 Issued 01/15/19
94343.04-501-44 Issued 01/15/19

Testing Facility: Intertek
1140 Lincoln Avenue
Springdale, Pennsylvania 15144

Test Standards: AAMA/WDMA/CSA 101/I.S. 2/A440-11
AAMA/WDMA/CSA 101/I.S. 2/A440-08
AAMA/WDMA/CSA 101/I.S. 2/A440-05

Other Certification: Nami # NI014326.01, series A101

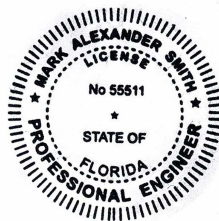
Test Specimen Information

The test specimen was a 48" x 32" Vinyl Awning Window with a vent with dimensions of 46" x 30".

Glazing: 7/8" overall thickness, 1 lite of 1/8" annealed glass, 7/16" silicone foam spacer and 1 lite of laminated glass which included 2 lites of 1/8" annealed glass with a .090 PVB interlayer
7/8" overall thickness,

Design Pressure: +50PSF/-50PSF

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Smith
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A100/A101 Vinyl Awning Window

Tested Installation Anchor Information

Two (2) #8 x 2.5" Pan head screws were used to fasten the jambs into a wooden test buck. Two (2) in each frame jambs located at 4.00" from the head and 5" from the sill in each jamb. The test specimen was sealed to the wood buck with silicone sealant.

Installation anchors:

Based on report:

Anchor Calculations: Installation of Awning Window In Wood or Concrete and Masonry Openings

Window Series: A100/A101 Awning insulated and insulated impact window

Test Results:

Tested as per AAMA/WDMA/CSA 101/I.S. 2/A440, ASTM E1886 and ASTM E1996.
The specimens passed tests to 50.16 PSF

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Window configuration to be qualified:

The window to be qualified is to be identical to the aforementioned window tested with the only difference to be the insulated glass unit. The insulated glass unit is to have 1/8" annealed glass a 5/8" silicone foam spacer and then another 1/8" annealed glass. This glass unit has a load resistance of 75.24 PSF per ASTM E1300.

As per load factor chart in ASTM 1300 Fig 1.3, 1/8" glass 46" x 30" has an NFL of 2 kPa (41.8 PSF). Per table 2, the glass type factors for double glazed glass has a GTF1 of .9 for the front glass and a GTF2 of .9 for the back glass. Per table 5, load share factors for the front glass LS1 is 2.0 and for the back glass LS2 is 2.0.

The equation for load resistance is: $LR1 = NFL1 \times GTF1 \times LS1$, and $LR2 = NFL2 \times GTF2 \times LS2$.

So the Load Resistance of the double glazed unit is $LR1 = 75.24$ PSF and $LR2 = 75.24$ PSF for both panes of glass.

Conclusion:

Tests show that the Vinyl Awning window Vinyl Frame passed the 50 PSF load. ASTM E1300 procedures determine that a double glazed unit with 1/8" glass will resist a load of 75.24 PSF. Because of these facts the A100/A101 Vinyl Awning Window, with a double glazed unit with 1/8" front glass and 1/8" back glass should be acceptable with a design pressure of 50 PSF.

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