PRODUCT APPROVAL SUPPORTING CALCULATIONS

Series/Model: Auraline Composite Awning 2 Wide x 3 High CHS

REPORT NO.: 27604.01-107-16

RENDERED TO: Jeld-Wen Windows & Doors
3737 Lakeport Blvd
Klamath Falls, Oregon

PREPARED BY: Michael D. Stremmel, P.E.

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DATE: 11/30/2023

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No. 65868
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2023.11.30 09:35:40 -05'00'

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

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Michael D. Stremmel, P.E.
Senior Project Engineer
FL PE 65868
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SCOPE:
Molimo, LLC was contracted by Jeld-Wen Windows & Doors to evaluate alternate installation methods for their Auraline Composite Awning 2 Wide x 3 High CHS. The evaluation is based on physical testing and product certifications.

Reference standards utilized in this project include:

Florida Building Code. International Code Council.

ANSI/AWC *National Design Specification (NDS) for Wood Construction*. American Wood Council.

AISI S100 *North American Specification for the Design of Cold-Formed Steel Structural Members*. American Iron and Steel Institute.

ICC-ES Report ESR-1976 ITW Buildex TEKS Self-Drilling Fasteners. ICC Evaluation Service.

NOA 21-0201.06 *Tapcon Concrete and Masonry Anchors with Advanced Threadform Technology*. Miami-Dade County Product Control Section.

The anchorage analysis presented herein does not address the water resistance, water penetration, or air infiltration performance of the installation method or the installed product. In addition, the analyses rely on the assumption that the building substrate is capable of withstanding the incurred loads.

Certification of Independence

In accordance with Rule 61G20-3 Florida Administrative Code, Molimo, LLC hereby certifies the following:

- 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.
- Molimo LLC s is not owned, operated or controlled by any company manufacturing or distributing products it tests or labels.
- Michael 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.
- Michael 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.

ANALYSES:

Summary of Test Results

Table 1 summarizes the various Auraline Composite Awning 2 Wide x 3 High CHS products and their corresponding performance levels which have been established by testing or product certification.

Table 1: Summary of Test Results

Series/Model	Test Report Number	Size (W x H)	Performance
Jeld-Wen "Auraline" Composite Awning CHS Window (2 Wide x 3 High)	Intertek Report No. Q2626.01-301-47-R0 (10/25/2023)	96" x 108"	+35 / -40 psf (Non-Impact)

Testing documented in Table 1 was conducted by Interetek of Fresno, California (Florida Department of Business & Professional Regulation Test Lab No. TST2609). The testing documented above is certified by NAMI under certification number NI014630.07 (Expires 10/31/2030).

As-Tested Installation Analysis

For air/water/structural testing, the test specimen was secured to a Douglas-Fir wood test buck with #8 wood screws (1-1/2" min. embedment) at the head, sill, and jambs through the nail fin into the wood buck. A second specimen was tested using a masonry strap. The 20 ga steel masonry strap was secured to the window frame with one #8 x 1/2" PPH and secured to the test buck with one #8 wood screw (1-1/2" min. embedment) at the head, sill, and jambs. The as tested installation method is evaluated on Pages 5 and 6. These capacities will be used to prove acceptable anchors and substrates for the product.

Alternate Anchorages

Calculations on Pages 7 through 13 determine the design capacity of alternate installation anchorages for the product.

Anchorages Requirements

As-tested spacing must be maintained. It must be determined that the anchorages are not overloaded for the approved product size and design pressures. Calculations presented on Page 14 show the alternate anchorages are acceptable for the established product performance.

Anchorage requirements established by this report are accurately presented in Drawing D1000383.

As-Tested Installation – Nail Fin to Wood

Anchor: #8 x 1-1/4" Wood Screw

Details: Composite Nail Fin (0.062" thick)
No shim space was utilized

Substrate: Douglas-Fir wood test buck (G = 0.46)

Wood Screw Capacity (Tension)

W = 1.6 (1-1/4" – 0.062")(82 lb/in) (NDS Table 12.2B)

W = 156 lb

Allowable Pull-over of Nail Fin

Validated by Testing

As Tested:	8" on center
Window Width	48" (jamb to vertical mullion)
Design Pressure:	40 psf
Anchor Load:	F = (40 psf / 144)(8")(48" / 2) = 53 lb
As tested anchor head size:	0.314"

Design Capacity of the Connection = 53 lb

As-Tested Installation – Masonry Strap

Anchors: (1) #8 x 1-1/2" Pan head screws securing the strap to the substrate
1/4" max shim space

Details: 20 gauge (0.033" thick) 33 KSI steel strap anchor w/ two #8 screws securing the strap to the frame
0.062" thick composite window frame

Substrate: Douglas-Fir 2x Wood Substrate (G = 0.46 min.)

Wood Screw Capacity (#8 x 1-1/2" Wood Screw - Shear)

Z' = 135 lb (See Following Page)

Bearing Capacity (of #8 screw on frame)

F_p = 10,000 psi

$P_b = F_p\,D\,t$ = (10,000 psi)(0.164")(0.125") = 205 lb

Bearing Capacity (of strap anchor)

$P_b = 2.7\,D\,t\,F_{tu}$ = 2.7(0.164")(0.033")(45,000 psi) = 657 lb

P_{allow} = 657 lb / 3.0 = 219 lb

Bending of #8 x 1-1/2" flat head screw

L = 1/4" (maximum shim space)

$S = \pi\,d^3 / 32 = \pi\,(0.131")^3 / 32 = 0.000221\ in^3$

$F_b = (1.3)(0.6\,F_y)$ = (1.3)(0.6)(90,000 psi) = 70,200 psi (1.3 for weak axis bending)

$F_b = M / S = (V)\,(L/2) / S$ (L/2 for guided bending)

$V = 2\,S\,F_b / L$ = (2)(0.000221 in3)(70,200 psi) / 1/4"

V = 124 lb

Design Capacity of the Connection = 124 lb

Lateral Design Strength of Wood Connections

Project: Auraline Awning
Comments: As-Tested - Masonry Strap
1-1/2" min embedment

Data

Fastener

Fastener	=	#8 Wood Screw	
Shank Dia	=	0.164	in.
Root Dia.	=	0.131	in.
F_{yb}	=	90,000	psi
Fastener length	=	1.500	in.

Main Member

Material	=	Douglas Fir (South)	
G	=	0.46	
θ	=	90	
F_e	=	4,000	psi
Thickness	=	1.500	in.

Side Member

Material	=	ASTM A 36 Steel	
G	=	N/A	
θ	=	90	
F_{es}	=	87,000	psi
Thickness	=	0.033	in.

Calculations

Lateral Bearing Factors

D	=	0.131	in.	k_1	=	0.7427	
ℓ_m	=	1.303	in.	k_2	=	0.5025	
K_θ	=	1.25		k_3	=	22.00	
K_D	=	2.20		R_d	=	2.20	(Mode I_m, I_s)
R_e	=	0.046		R_d	=	2.20	(Mode II)
R_t	=	39.48		R_d	=	2.20	(Mode III_m, III_s, IV)

Lateral Design Values, Z

Mode I_m	=	310	lbf	
Mode I_s	=	171	lbf	
Mode II	=	127	lbf	
Mode III_m	=	143	lbf	
Mode III_s	=	85	lbf	<== Minimum Value
Mode IV	=	118	lbf	

Adjustment Factors

C_D	=	1.6	C_Δ	=	1.0
Wet Service Factor			Is fastener installed in end grain?		No
Fabrication/In-Service		Dry/Dry	C_{eg}	=	1.00
C_M	=	1.0	Is fastener part of a diaphragm?		No
In service temperature		T≤100°F	C_{di}	=	1.0
C_t	=	1.0	Is fastener toe-nailed?		No
C_g	=	1.0	C_{tn}	=	1.00

Adjusted Design Value, Z

Z' = **135** **lbf**

Alternate Installation – Nail Fin to Wood w/ Nail

Anchor: 6d x 2" nail (minimum 1-1/2" penetration to wood)

Details: Composite Nail Fin (0.062" thick)
No shim space

Substrate: Spruce-Pine-Fir Wood (G = 0.42)

Wood Nail Capacity (Tension)

W = 1.6 (2")(18 lb/in) (NDS Table 12.2C)

W = 58 lb

Design Capacity of the Connection = 58 lb

Alternate Installation – Nail Fin to Steel Stud

Anchor: #10-16 TEKS Screw

Details: Composite Nail Fin (0.062" thick)
No shim space

Substrate: 18 ga, 33 KSI Steel stud

#10-16 TEKS Screw Capacity (Tension)

P_{ss}/Ω = 885 lb (ESR-1976)

Pull-out of #10-16 TEKS Screwn

$P_{not} = 0.85\ D\ t\ F_{tu} / \Omega$ = 0.85(0.190")(0.0428")(45,000 psi) / 3.0 = 104 lb

Allowable Pull-over of Nail Fin

Head Diameter = 0.400" > 0.314" (as tested) **OK**

Design Capacity of the Connection = 104 lb

Alternate Installation – Through-Frame to Wood

Anchor: #8 Pan Head Wood Screw (1-1/2" penetration to wood)
(1/4" max shim space)

Details: Through the Composite Frame (0.062" thick)

Substrate: Spruce-Pine Fir Wood (G = 0.42)

Anchor Capacity (Shear of #8 Wood Screw)

Z' = 113 lb (Reference following page)

Bearing Capacity (of #8 Wood Screw screw on frame)

F_p = 10,000 psi

$P_b = F_p D t$ = (10,000 psi)(0.164")(0.125") = 205 lb

Bending Capacity (of #8 Wood Screw)

L = 1/4" (maximum shim space)

$S = \pi d^3 / 32 = \pi (0.131")^3 / 32 = 0.000221\ in^3$

$F_b = (1.3)(0.6\ F_y) = (1.3)(0.6)(90{,}000\ psi) = 70{,}200\ psi$ (1.3 for weak axis bending)

$F_b = M / S = (V)(L/2) / S$ (L/2 for guided bending)

$V = 2\ S\ F_b / L$ = (2)(0.000221 in3)(70,200 psi) / 1/4"

V = 124 lb

Design Capacity of the Connection = 113 lb

Lateral Design Strength of Wood Connections

Project: Auraline Awning
Comments: Alt - Through-Frame
1-1/2" min embedment

Data

Fastener

Fastener	=	#8 Wood Screw	
Shank Dia	=	0.164	in.
Root Dia.	=	0.131	in.
F_{yb}	=	90,000	psi
Fastener length	=	1.500	in.

Main Member

Material	=	SPF	
G	=	0.42	
θ	=	90	
F_e	=	3,350	psi
Thickness	=	1.500	in.

Side Member

Material	=	Vinyl (PVC)	
G	=	N/A	
θ	=	90	
F_{es}	=	13,750	psi
Thickness	=	0.125	in.

Calculations

Lateral Bearing Factors

D	=	0.131	in.	k_1	=	0.9161	
ℓ_m	=	1.211	in.	k_2	=	0.6730	
K_θ	=	1.25		k_3	=	6.37	
K_D	=	2.20		R_d	=	2.20	(Mode I_m, I_s)
R_e	=	0.244		R_d	=	2.20	(Mode II)
R_t	=	9.69		R_d	=	2.20	(Mode III_m, III_s, IV)

Lateral Design Values, Z

Mode I_m	=	242	lbf	
Mode I_s	=	102	lbf	
Mode II	=	94	lbf	
Mode III_m	=	109	lbf	
Mode III_s	=	71	lbf	<== Minimum Value
Mode IV	=	99	lbf	

Adjustment Factors

C_D	=	1.6	C_Δ	=	1.0
Wet Service Factor			Is fastener installed in end grain?		No
Fabrication/In-Service		Dry/Dry	C_{eg}	=	1.00
C_M	=	1.0	Is fastener part of a diaphragm?		No
In service temperature		T≤100°F	C_{di}	=	1.0
C_t	=	1.0	Is fastener toe-nailed?		No
C_g	=	1.0	C_{tn}	=	1.00

Adjusted Design Value, Z

Z' = 113 lbf

Alternate Installation – Through-Frame to Steel Stud

Anchor: #10-16 TEKS Screw
(1/4" max shim space)

Details: Through the Composite Frame (0.062" thick)

Substrate: 18 ga, 33 KSI Steel stud

Anchor Capacity (Shear of #10-16 TEKS Screw)

P_{ss} / Ω = 573 lb (ESR-1976)

Bearing Capacity (of #10-16 TEKS screw on frame)

F_p = 10,000 psi

$P_b = F_p\, D\, t$ = (10,000 psi)(0.190")(0.125") = 238 lb

Bearing Capacity (of #10-16 TEKS screw on steel stud)

$P_b = 2.7\, D\, t\, F_{tu} / \Omega$ = 2.7(0.190")(0.0428")(45,000 psi) / 3.0 = 329 lb

Tilting Capacity (of #10-16 TEKS screw on steel stud)

$P_b = 4.2\, (t^3 D)^{1/2}\, F_{tu} / \Omega = 4.2[(0.0428")^3(0.190")]^{1/2}$(45,000 psi) / 3.0 = 243 lb

Bending Capacity (of #10-16 TEKS anchor)

L = 1/4" (maximum shim space)

$S = \pi\, d^3 / 32 = \pi\, (0.135")^3 / 32 = 0.000242\ in^3$

$F_b = (1.3)(0.6\, F_y)$ = (1.3)(0.6)(92,000 psi) = 71,760 psi (1.3 for weak axis bending)

F_b = M / S = (V) (L/2) / S (L/2 for guided bending)

V = 2 S F_b / L = (2)(0.000242 in3)(71,760 psi) / 1/4"

V = 139 lb

Design Capacity of the Connection = 139 lb

Alternate Installation – Through-Frame to Concrete

Anchor: 3/16" Tapcon Anchor
- 1-1/4" min embedment
- 2-1/2" min edge distance
- 4" min anchor spacing
- 1/4" max shim space

Details: Through the Composite Frame (0.062" thick)

Substrate: 3,000 psi Concrete

Anchor Capacity (Shear of 3/16" Tapcon)

P_{ss} / Ω = 181 lb (NOA-No. 16-1222.06)

Bearing Capacity (of 3/16" Tapcon screw on frame)

F_p = 10,000 psi

$P_b = F_p D t$ = (10,000 psi)(0.170")(0.125") = 213 lb

Bending Capacity (of 3/16" Tapcon)

L = 1/4" (maximum shim space)

$S = \pi d^3 / 32 = \pi (0.170")^3 / 32 = 0.000482 \text{ in}^3$

$F_b = (1.3)(0.6 F_y)$ = (1.3)(0.6)(137,000 psi) = 106,860 psi (1.3 for weak axis bending)

$F_b = M / S = (V) (L/2) / S$ (L/2 for guided bending)

$V = 2 S F_b / L$ = (2)(0.000482 in3)(106,860 psi) / 1/4"

V = 412 lb

Design Capacity of the Connection = 181 lb

Qualifies 1/4" Tapcon if longer length anchor is required to achieve minimum embedment

Alternate Installation – Through-Frame to CMU Block

Anchor: 3/16" Tapcon Anchor
- 1-1/4" min embedment
- 2-1/2" min edge distance
- 4" min anchor spacing
- 1/4" max shim space

Details: Through the Composite Frame (0.062" thick)

Substrate: CMU Block

Anchor Capacity (Shear of 3/16" Tapcon)

$P_{ss} / \Omega = \underline{\underline{135 \text{ lb}}}$ (NOA-No. 16-1222.06)

Bearing Capacity (of 3/16" Tapcon screw on frame)

$F_p = 10{,}000$ psi

$P_b = F_p\, D\, t = (10{,}000 \text{ psi})(0.170")(0.125") = \underline{\underline{213 \text{ lb}}}$

Bending Capacity (of 3/16" Tapcon)

L = 1/4" (maximum shim space)

$S = \pi d^3 / 32 = \pi (0.170")^3 / 32 = 0.000482 \text{ in}^3$

$F_b = (1.3)(0.6\, F_y) = (1.3)(0.6)(137{,}000 \text{ psi}) = 106{,}860$ psi (1.3 for weak axis bending)

$F_b = M / S = (V)(L/2) / S$ (L/2 for guided bending)

$V = 2\, S\, F_b / L = (2)(0.000482 \text{ in3})(106{,}860 \text{ psi}) / 1/4"$

$V = \underline{\underline{412 \text{ lb}}}$

Design Capacity of the Connection = 135 lb

Qualifies 1/4" Tapcon if longer length anchor is required to achieve minimum embedment

Alternate Installation – Masonry Strap to Wood (w/ nails)

Anchors: (2) 6D x 2" nails securing the strap to the substrate
1/4" max shim space

Details: 20 gauge (0.033" thick) 33 KSI steel strap anchor w/ two #8 screws securing the strap to the frame
0.062" thick composite window frame

Substrate: Spruce-Pine-Fir Wood (G = 0.42)

Wood Screw Capacity (6D x 2" Nail - Shear)

Z' = 89 lb per anchor (Reference Following Page)

Bearing Capacity (of #8 screw on frame)

$P_b = F_p D t$ = (10,000 psi)(0.164")(0.125") = 205 lb

Bearing Capacity (of #8 screw on strap anchor)

$P_b = 2.7 D t F_{tu}$ = 2.7(0.164")(0.033")(45,000 psi) = 657 lb

P_{allow} = 657 lb / 3.0 = 219 lb

Bearing Capacity (of 6D nail on strap anchor)

$P_b = 2.7 D t F_{tu}$ = 2.7(0.113")(0.033")(45,000 psi) = 453 lb

P_{allow} = 453 lb / 3.0 = 151 lb

Bending of 6D nail

L = 1/4" (maximum shim space)

$S = \pi d^3 / 32 = \pi (0.113")^3 / 32 = 0.000142 \text{ in}^3$

$F_b = (1.3)(0.6 F_y)$ = (1.3)(0.6)(100,000 psi) = 78,000 psi (1.3 for weak axis bending)

$F_b = M / S = (V) (L/2) / S$ (L/2 for guided bending)

$V = 2 S F_b / L$ = (2)(0.000142 in3)(78,000 psi) / 1/4"

V = 89 lb

Design Capacity of the Connection = 89 lb x 2 = 178 lb

Alternate Installation – Masonry Strap to Steel Stud

Anchor: #10-16 TEKS Screw
(1/4" max shim space)

Details: 20 gauge (0.033" thick) 33 KSI steel strap anchor w/ two #8 screws securing the strap to the frame
0.062" thick composite window frame

Substrate: 18 ga, 33 KSI Steel stud

Anchor Capacity (Shear of #10-16 TEKS Screw)

P_{ss} / Ω = 573 lb (ESR-1976)

Bearing Capacity (of #8 screw on frame)

$P_b = F_p\, D\, t$ = (10,000 psi)(0.164")(0.125") = 205 lb

Bearing Capacity (of #8 screw on strap anchor)

$P_b = 2.7\, D\, t\, F_{tu}$ = 2.7(0.164")(0.033")(45,000 psi) = 657 lb

P_{allow} = 657 lb / 3.0 = 219 lb

Bearing Capacity (of #10-16 TEKS screw on steel stud)

$P_b = 2.7\, D\, t\, F_{tu} / \Omega$ = 2.7(0.190")(0.0428")(45,000 psi) / 3.0 = 329 lb

Tilting Capacity (of #10-16 TEKS screw on steel stud)

$P_b = 4.2\, (t^3\, D)^{1/2}\, F_{tu} / \Omega = 4.2[(0.0428")^3(0.190")]^{1/2}$(45,000 psi) / 3.0 = 243 lb

Bending Capacity (of #10-16 TEKS anchor)

L = 1/4" (maximum shim space)

$S = \pi\, d^3 / 32 = \pi\, (0.135")^3 / 32 = 0.000242\ in^3$

$F_b = (1.3)(0.6\, F_y)$ = (1.3)(0.6)(92,000 psi) = 71,760 psi (1.3 for weak axis bending)

F_b = M / S = (V) (L/2) / S (L/2 for guided bending)

V = 2 S F_b / L = (2)(0.000242 in3)(71,760 psi) / 1/4"

V = 139 lb

Design Capacity of the Connection = 139 lb

Alternate Installation – Masonry Strap to Concrete

Anchor: 3/16" Tapcon Anchor
- 1-1/4" min embedment
- 2-1/2" min edge distance
- 4" min anchor spacing
- 1/4" max shim space

Details: 20 gauge (0.033" thick) 33 KSI steel strap anchor w/ two #8 screws securing the strap to the frame

0.062" thick composite window frame

Substrate: 3,000 psi Concrete

Anchor Capacity (Shear of 3/16" Tapcon)

P_{ss} / Ω = 181 lb (NOA-No. 16-1222.06)

Bearing Capacity (of #8 screw on frame)

$P_b = F_p D t$ = (10,000 psi)(0.164")(0.125") = 205 lb

Bearing Capacity (of #8 screw on strap anchor)

$P_b = 2.7 D t F_{tu}$ = 2.7(0.164")(0.033")(45,000 psi) = 657 lb

P_{allow} = 657 lb / 3.0 = 219 lb

Bearing Capacity (of 3/16" Tapcon on strap anchor)

$P_b = 2.7 D t F_{tu}$ = 2.7(0.170")(0.033")(45,000 psi) = 681 lb

P_{allow} = 681 lb / 3.0 = 227 lb

Bending Capacity (of 3/16" Tapcon)

L = 1/4" (maximum shim space)

$S = \pi d^3 / 32 = \pi (0.170")^3 / 32 = 0.000482 \text{ in}^3$

$F_b = (1.3)(0.6 F_y)$ = (1.3)(0.6)(137,000 psi) = 106,860 psi (1.3 for weak axis bending)

$F_b = M / S = (V)(L/2) / S$ (L/2 for guided bending)

$V = 2 S F_b / L$ = (2)(0.000482 in3)(106,860 psi) / 1/4"

V = 412 lb

Design Capacity of the Connection = 181 lb (one concrete anchor per strap)

Qualifies 1/4" Tapcon if longer length anchor is required to achieve minimum embedment

Alternate Installation – Masonry Strap to CMU Block

Anchor: 3/16" Tapcon Anchor
- 1-1/4" min embedment
- 2-1/2" min edge distance
- 4" min anchor spacing
- 1/4" max shim space

Details: 20 gauge (0.033" thick) 33 KSI steel strap anchor w/ two #8 screws securing the strap to the frame

0.062" thick composite window frame

Substrate: CMU Block (normal weight)

Anchor Capacity (Shear of 3/16" Tapcon)

P_{ss} / Ω = 135 lb (NOA-No. 16-1222.06)

Bearing Capacity (of #8 screw on frame)

$P_b = F_p$ D t = (10,000 psi)(0.164")(0.125") = 205 lb

Bearing Capacity (of #8 screw on strap anchor)

$P_b = 2.7$ D t F_{tu} = 2.7(0.164")(0.033")(45,000 psi) = 657 lb

P_{allow} = 657 lb / 3.0 = 219 lb

Bearing Capacity (of 3/16" Tapcon on strap anchor)

$P_b = 2.7$ D t F_{tu} = 2.7(0.170")(0.033")(45,000 psi) = 681 lb

P_{allow} = 681 lb / 3.0 = 227 lb

Bending Capacity (of 3/16" Tapcon)

L = 1/4" (maximum shim space)

$S = \pi d^3 / 32 = \pi (0.170")^3 / 32 = 0.000482 \text{ in}^3$

$F_b = (1.3)(0.6 F_y)$ = (1.3)(0.6)(137,000 psi) = 106,860 psi (1.3 for weak axis bending)

F_b = M / S = (V) (L/2) / S (L/2 for guided bending)

V = 2 S F_b / L = (2)(0.000482 in3)(106,860 psi) / 1/4"

V = 412 lb

Design Capacity of the Connection = 135 lb (one anchor per strap)

Qualifies 1/4" Tapcon if longer length anchor is required to achieve minimum embedment

Anchorage Requirements

Series/Model:	Auraline Composite Awning 2 Wide x 3 High CHS
Test Unit Size:	96" x 108"
Design Pressure:	+35.0 / -40.0 psf

Nail Fin Installation Requirements

Window Overall Area:	(96")(108") / 144 = 72 ft^2
Window Overall Wind Load:	(72 ft^2)(40 psf) = 2,880 lb
Installed Anchors:	14 Head + 14 Sill + 2 (19) Jambs = 66 anchors
Minimum Anchor Capacity:	53 lb/anchor (As Tested)
Total Anchor Capacity:	(66 anchors)(53 lb/anchor) = 3,498 lb
	3,498 lb > 2,288 lb **OK**

Use As-Tested anchor spacing for Nail Fin Installations

Thru-Frame and Masonry Strap Installation Requirements

Window Overall Area:	(96")(108") / 144 = 72 ft^2
Window Overall Wind Load:	(72 ft^2)(40 psf) = 2,880 lb
Installed Anchors:	8 Head + 8 Sill + 2 (10) Jambs = 36 anchors
Minimum Anchor Capacity:	113 lb/anchor (Thru-Frame to Wood)
Total Anchor Capacity:	(36 anchors)(113 lb/anchor) = 4,068 lb
	4,068 lb > 2,288 lb **OK**

Spacing Referenced on Drawing D1000269 is validated

Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	11/30/2023	All	Original Report Issue