Engineering Evaluation Report # 4120-081125-01

Prepared by:
A. Lynn Miller, P.E.
3400 Precision Dr.
N. Venice, FL 34275
(941) 480-1600
Florida Registration: #29296

Manufacturer:
PGT industries, LLC
3400 Precision Cr
N Venice, FL 34275

Product Description:
PW4120A Series Impact-resistant Aluminum Fixed Window, (LM & SM), FL-29700

Compliance:
The above-mentioned product has been evaluated for compliance with the requirements of the Florida Department of Business and Professional Regulation for Statewide Acceptance per Rule 61 G20-3.005 method 1(d). The product listed herein complies with requirements of the current Florida Building Code.

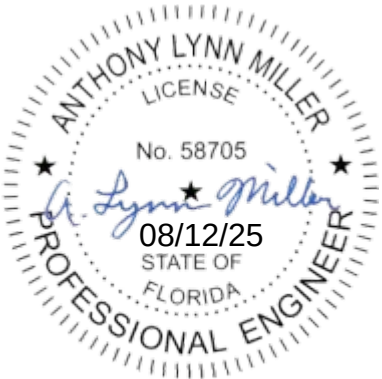
This product has been evaluated and is in compliance with the current Florida Building Code, including the “High Velocity Hurricane Zone” (HVHZ).

Supporting Technical Documentation:
1. Approval document: drawing number PW4120FPA, signed and sealed by A. Lynn Miller, P.E.

2. Test Report(s) No. 17-7586, 18-8368 & 20-2108.1-5, signed and sealed by Idalmis Ortega, P.E.
Fenestration Testing Laboratories, Medley, FL 33166
TAS 201-94 Large Missile Impact Test
TAS 202-94 Uniform Static Air Pressure Test
TAS 203-94 Cyclic Pressure Loading Test

3. Anchor calculations, signed and sealed by A. Lynn Miller, P.E., dated 9/25/18 & 9/1/20

Limitations and Conditions of use:
• Units must be glazed per ASTM E1300-09, refer to approval document for glazing details.
• This product is rated to be used in the HVHZ.
• This product is impact resistant and does not require impact protection in wind borne debris regions.
• Frame and sash material to be extruded Aluminum.
• Units must be installed in accordance with approval document, PW4120FLPA.



FLORIDA PRODUCT APPROVAL #29700

DESIGN PRESSURE RATING	WATER PRESSURE RATING	IMPACT RATING
VARIES, SEE SHEETS 4 & 5	15% OF THE (+) DESIGN PRESSURE UNLESS NOTED OTHERWISE	RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANCE

SERIES PW4120A IMPACT RESISTANT FIXED WINDOW

1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

2) SHUTTERS ARE NOT REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS.

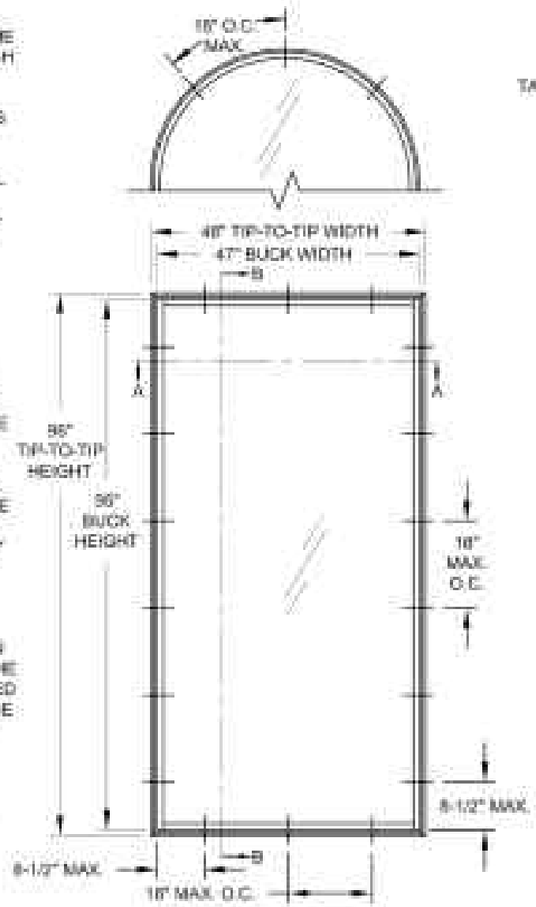
3) MASONRY ANCHORS MAY BE USED INTO WOOD AS PER TABLE 2. ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.

4) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT LENGTH. OVERALL SEALING/FLASHING STRATEGY FOR WATER RESISTANCE OF INSTALLATION SHALL BE DONE BY OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.

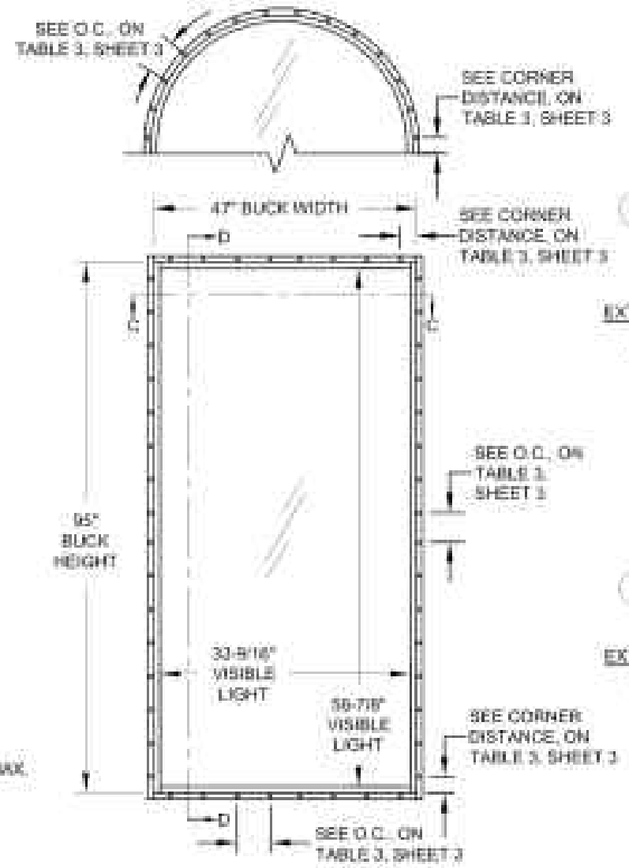
5) SHIMS ARE REQUIRED AT EACH FLANGE ANCHOR LOCATION WHERE THE PRODUCT IS NOT FLUSH TO THE SUBSTRATE. USE SHIMS CAPABLE OF TRANSFERRING APPLIED LOADS. WOOD BUCKS, BY OTHERS, MUST BE SUFFICIENTLY ANCHORED TO RESIST LOADS IMPOSED ON THEM BY THE WINDOW. MAXIMUM SHIM SPACING TO BE 16" WHEN INSTALLING THROUGH THE INTEGRAL FIN.

6) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WIND LOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. THE 33-1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF ANCHORS INTO WOOD. ANCHORS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FOR CORROSION RESISTANCE.

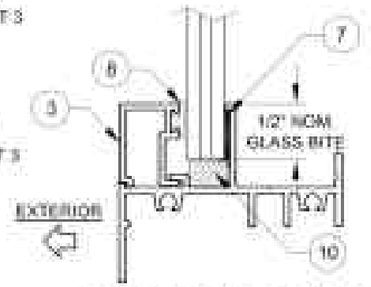
7) DESIGN LOADS ARE BASED ON ALLOWABLE STRESS DESIGN, ASD.



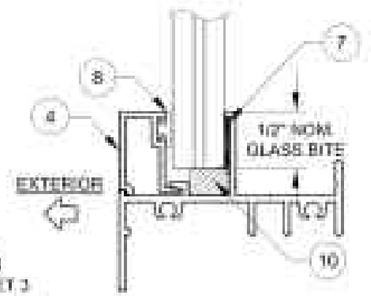
TYP. FLANGE FRAME ANCHOR LOCATIONS @ MAX. SIZE



TYP. FIN FRAME ANCHOR LOCATIONS @ MAX. SIZE



5/16" GLAZING DETAIL



7/16" GLAZING DETAIL

ALL WINDOW SHAPES QUALIFIED, COMMON EXAMPLES SHOWN BELOW

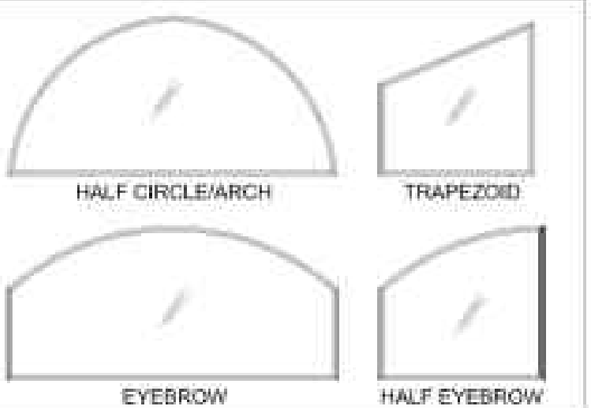


TABLE 1:

Laminated Glass Types	
1	1/8" Annealed, 0.090" PVB, 1/8" Annealed
2	1/8" Heat Strengthened, 0.090" PVB, 1/8" Heat Strengthened
3	3/16" Annealed, 0.090" PVB, 3/16" Annealed
4	3/16" Heat Strengthened, 0.090" PVB, 3/16" Heat Strengthened

INTERLAYER MAY BE SAFLEX PVB OR TROSIFOL PVB
SEE SHEETS 4 & 5 FOR GLASS DETAILS

ALL TEMPERED AND/OR LAMINATED GLASS OPTIONS IN THIS APPROVAL HAVE BEEN CERTIFIED BY THE SGCC FOR COMPLIANCE TO ANSI Z97.1, CLASS A AND CPSC 16 CFR 1201, CATEGORY II. THIS INCLUDES LAMINATED GLASS THAT IS MANUFACTURED WITH ANNEALED GLASS PLIES. FOR APPLICATIONS WHERE THE WINDOW IS BEING USED AS A GUARD, HEAT STRENGTHENED OR TEMPERED LAMINATED GLASS MUST BE USED.

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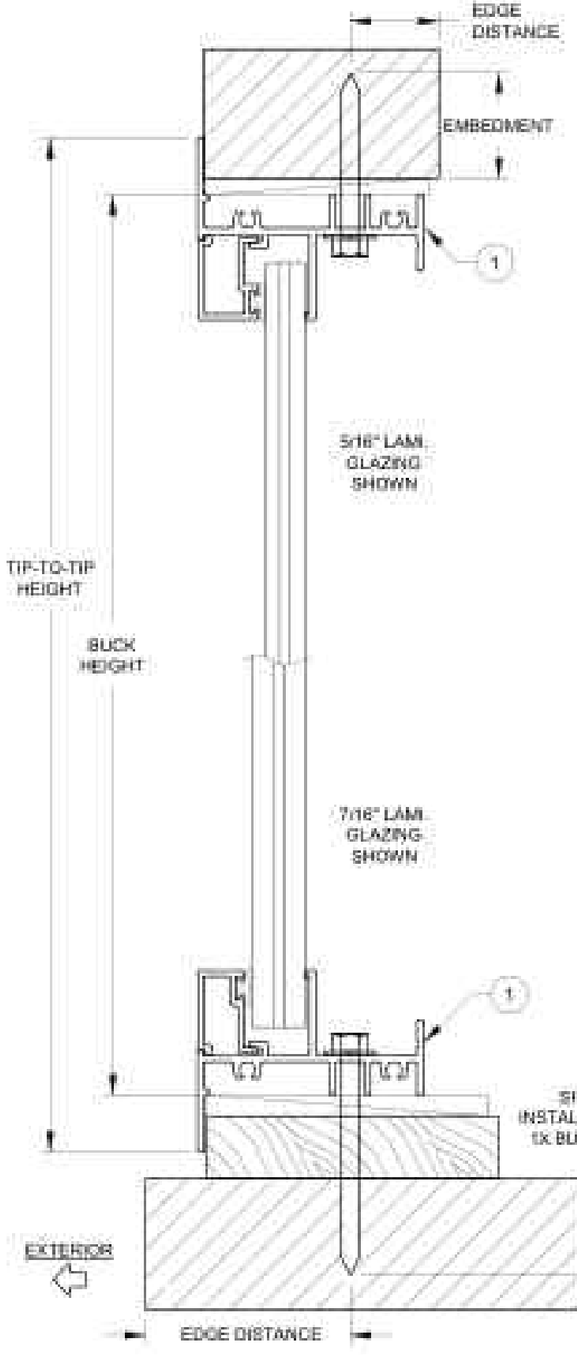
DRAWN BY: A. MORLESIN
DATE: 08/12/25
SCALE: NTS
DWG #: PW4120FPA
SHEET #: 1 OF 5
REVISION #: PW4120A

ALUMINUM FIXED WINDOW (LM)

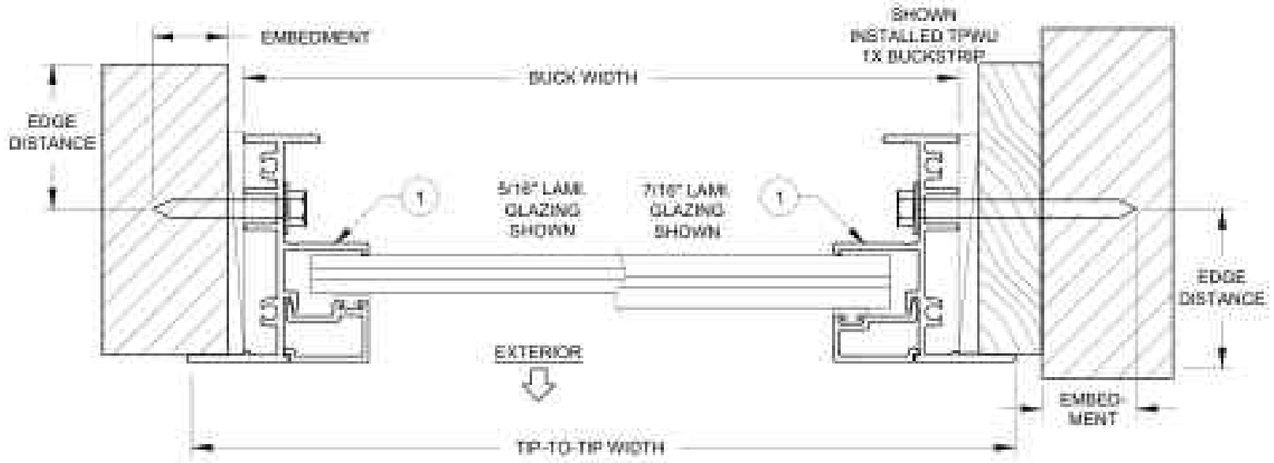
ELEVATION & GENERAL NOTES

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VERTICAL SECTION B-B



HORIZONTAL SECTION A-A

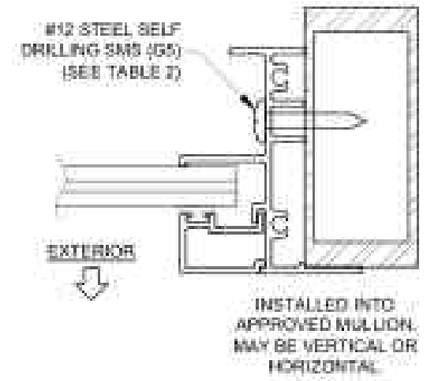


TABLE 2: THRU FRAME ANCHORS

Anchor	Substrate	Minimum Edge Distance	Minimum Embedment
#12 Steel, 18-8 SS or 410 SS Screw	Southern Pine (SG = .55)	9/16"	1-3/8"
	Aluminum, 6063-T5 min.	3/8"	0.062"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (20 Ga)
	A36 Steel	3/8"	0.050"
1/4" Steel Ultracon+	Southern Pine (SG = .55)	1"	1-3/8"
	Concrete (min. 3.0 ksi)	1"	1-3/8"
	Ungrouted CMU, (ASTM C-90)	1"	1-1/4"
1/4" 410 SS CreteFlex	Southern Pine (SG = .55)	1"	1-3/8"
	Concrete (min. 3.35 ksi)	1"	1-3/4"
	Concrete (min. 3.35 ksi)	2-1/2"	1"
	Ungrouted CMU, (ASTM C-90)	1-3/4"	1-1/4"

1) ANCHOR MUST EXTEND A MIMIMUM OF 3 THREADS BEYOND ANY METAL SUBSTRATE.
2) "UNGROUTED CMU" VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.
3) ALL ANCHOR HEAD TYPES ARE APPLICABLE.

NOTES:

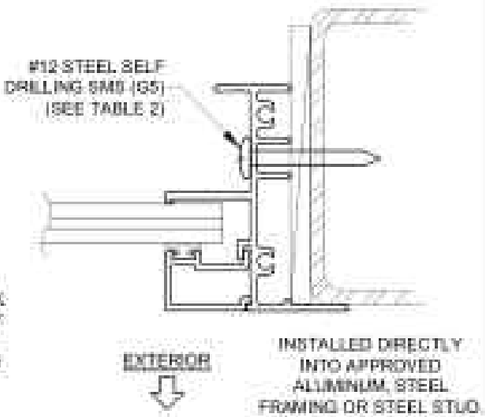
1) USE ONLY SUBSTRATE APPROPRIATE ANCHORS LISTED IN TABLE 2. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY SIDE OF THE WINDOW.

2) MASONRY ANCHORS MAY BE USED INTO WOOD AS PER TABLE 2. ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.

3) SEE SHEET 1 FOR SPACING REQUIREMENTS.

4) MAX. SHIM THICKNESS TO BE 1/4".

5) GLASS SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER TO MEET DESIGN REQUIREMENTS.



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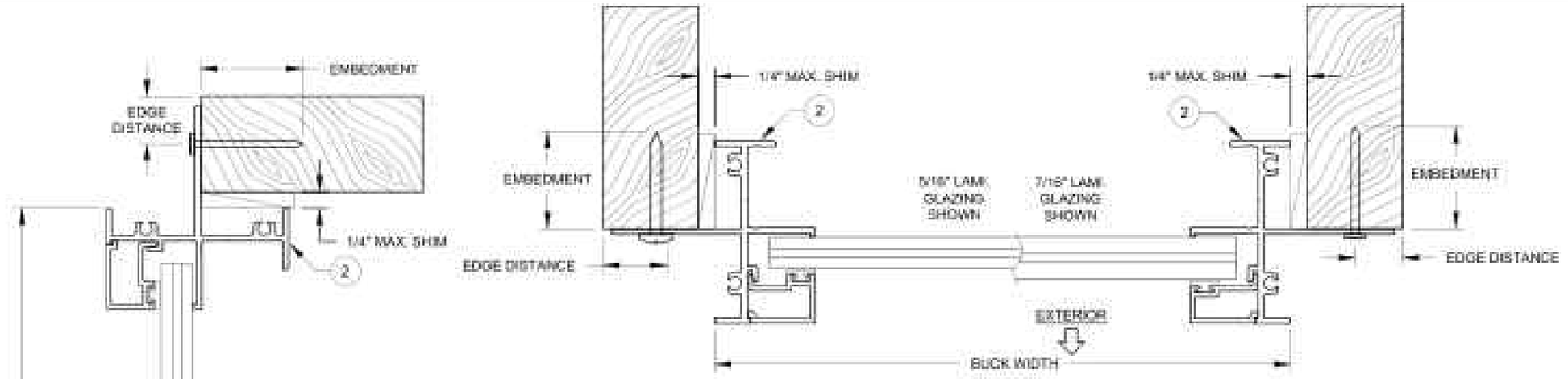
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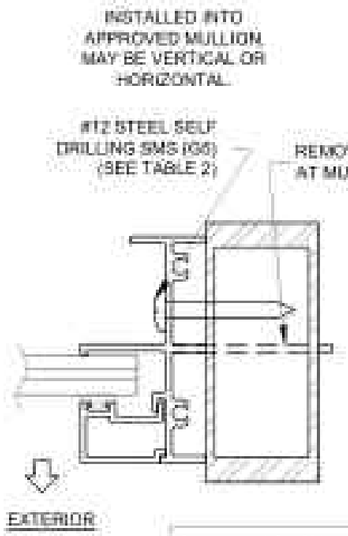
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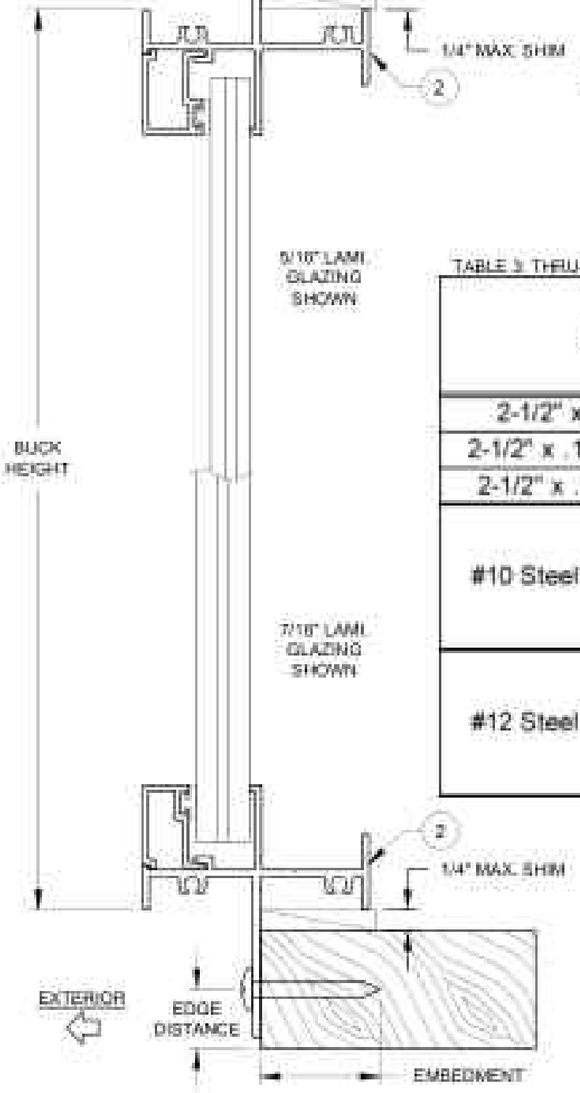
ALUMINUM FIXED WINDOW (LM1)
ANCHOR INFORMATION, CROSS SECTION
PW4120A
2 OF 5
08/12/25
A. MORLESIN
PW4120FPA

ANTHONY LYNN MILLER
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HORIZONTAL SECTION C-C





VERTICAL SECTION D-D

TABLE 3: THRU-FIN ANCHORS

Anchor	Substrate	Min. Embedment or Metal Tickness	Min. Edge Distance	Max. On-center, Distance, OC	Max. Corner Distance
2-1/2" x .113" Box Nail	Southern Pine (SG = .55)	-	3/8"	6"	2-7/8"
2-1/2" x .131" Common Nail	Southern Pine (SG = .55)	-	3/8"		
2-1/2" x .145" Roofing Nail	Southern Pine (SG = .55)	-	3/8"		
#10 Steel SMS Screw (G5)	Southern Pine (SG = .55)	1-3/8"	1/2"	16-9/16"	8-1/2"
	Aluminum, 6063-T5 min	0.125"	3/8"		
	Steel Stud, Gr. 33 min.	0.057"	3/8"		
	A36 Steel	0.050"	3/8"		
#12 Steel SMS Screw (G5)	Southern Pine (SG = .55)	1-3/8"	9/16"	26"	8-1/2"
	Aluminum, 6063-T5 min.	0.125"	7/16"		
	Steel Stud, Gr. 33 min.	0.071"	7/16"		
	A36 Steel	0.050"	7/16"		

1) ANCHOR MUST EXTEND A MIMIMUM OF 3 THREADS BEYOND ANY METAL SUBSTRATE.
2) ALL SCREW HEAD TYPES ARE APPLICABLE.

NOTES:

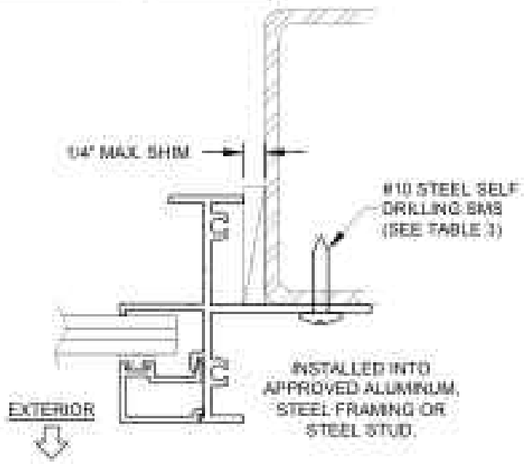
1) USE ONLY SUBSTRATE APPROPRIATE ANCHORS LISTED IN TABLE 3. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY SIDE OF THE WINDOW.

2) 2X WOOD FRAMING OR BUCK, 1-1/2" THICK OR GREATER.

3) SEE SHEET 1 FOR SPACING REQUIREMENTS.

4) MAX. SHIM THICKNESS TO BE 1/4".

5) GLASS SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER TO MEET DESIGN REQUIREMENTS.



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A. MORLESIN

PW4120FPA

ALUMINUM FIXED WINDOW (LM)

ANCHOR INFORMATION, CROSS SECTION

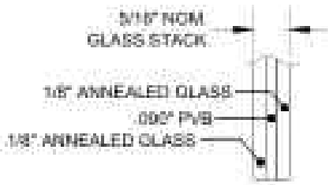
3 OF 5

PW4120A

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08/12/25
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TABLE 4

For Glass Type 1		Window Design Pressure (+/-, psf)													
		Short Side (in)													
		22"	24"	26"	28"	30"	32"	34"	36"	38"	40"	42"	44"	46"	47"
Long Side (in)	56"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-63.1	+55/-61.5	+55/-60.2	+55/-59.5
	60"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-64.7	+55/-62.2	+55/-60.8	+55/-59.3	+54/-57.8		
	64"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-62.4	+55/-60.6	+55/-58.9	+54.7/-57.3	+53.3/-56			
	68"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-62.2	+55/-60.5	+55/-59	+55/-57.4	+55/-55.8					
	72"	+55/-65	+55/-65	+55/-65	+55/-62.2	+55/-58.6	+55/-56.8	+55/-55.2	+/-53.9						
	75"	+55/-65	+55/-65	+55/-65	+55/-60.5	+55/-56.7	+/-53.9	+/-52.3	+/-51.3						
	80"	+55/-65	+55/-65	+55/-62.9	+55/-57.8	+/-53.8	+/-50.7								
	84"	+55/-65	+55/-65	+55/-61.3	+55/-56	+/-51.8	+/-48.8								
	88"	+55/-65	+55/-63.7	+55/-59.3	+/-54.1	+/-50									
	92"	+55/-65	+55/-62.2	+55/-57.6	+/-52.2										
	95"	+55/-65	+55/-62.1	+55/-56.6	+/-51.4										



5/16" LAMI. GLAZING
GLASS TYPE 1

TABLE 5

For Glass Type 2		Window Design Pressure (+/-, psf)										
		Short Side (in)										
		22"	24"	26"	28"	30"	32"	36"	38"	42"	44"	47"
Long Side (in)	56"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	60"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	
	64"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65		
	68"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65			
	72"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65				
	75"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65				
	80"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65					
	84"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65					
	88"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65						
	92"	+55/-65	+55/-65	+55/-65	+55/-65							
	96"	+55/-65	+55/-65	+55/-65	+55/-65							



5/16" LAMI. GLAZING
GLASS TYPE 2

NOTES:

1) RUCK DIMENSIONS SHOWN.

2) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.

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ALUMINUM FIXED WINDOW (LM)

GLAZING INFORMATION &
DESIGN PRESSURES

08/12/25

A. MORLESIN

PW4120FPA

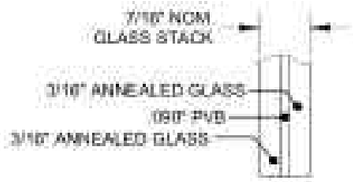
PW4120A

4 OF 5

ANTHONY LYNN MILLER
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08/12/25
A. LYNN MILLER, P.E.
P.E.# 58708

TABLE 6:

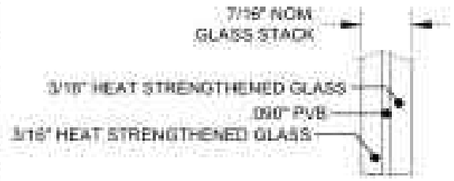
For Glass Type 3		Window Design Pressure (+/-, psf)						
		Short Side (in)						
		36"	38"	40"	42"	44"	46"	47"
Long Side (in)	72"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	78"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	80"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	84"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	88"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	92"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-64.4	+55/-63.4
	95"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-64	+55/-61.9	+55/-60.9



7/16" LAMI. GLAZING
GLASS TYPE 3

TABLE 7:

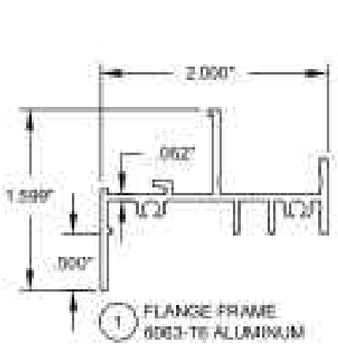
For Glass Type 4		Window Design Pressure (+/-, psf)						
		Short Side (in)						
		36"	38"	40"	42"	44"	46"	47"
Long Side (in)	72"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	78"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	80"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	84"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	88"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	92"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65
	95"	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65	+55/-65



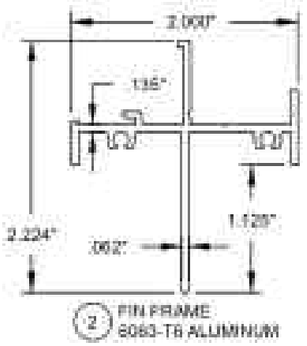
7/16" LAMI. GLAZING
GLASS TYPE 4

TABLE 8:

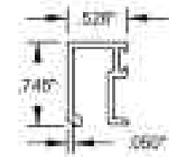
Item #	Description
1	Flange Frame
2	Integral Fin Frame
3	Glazing Bead, 5/16" Lami & 3/16" Mono
4	Glazing Bead, 7/16" Lami
7	Dow 791, 899, 983 or RGS-7700 Silicone
8	Vinyl Bulb Glazing Gasket
10	Setting Block, 3/16" x 5/16" x 1-1/2"
12	#8 X 1" Panhead SMS (Assembly Screw)



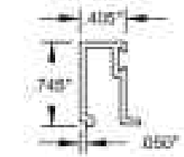
1 FLANGE FRAME
6063-T6 ALUMINUM



2 FIN FRAME
6063-T5 ALUMINUM



3 GLAZING BEAD, 3/16
6063-T5 ALUMINUM



4 GLAZING BEAD, 7/16"
6063-T5 ALUMINUM

NOTES:

1) RUCK DIMENSIONS SHOWN.

2) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.

PREPARED BY: A. LYNN MILLER
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RESISTRATION #20256

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ALUMINUM FIXED WINDOW (LM1) | 09/12/25 | A. MORLESIN

EXTRUSIONS, GLAZING & DESIGN PRESSURE | PW4120A | 5 OF 5

PW4120FPA

ANTHONY LYNN MILLER
LICENSE
No. 58708
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/25
A. LYNN MILLER, P.E.
P.E.# 58708