FLORIDA PRODUCT APPROVAL #16242

SERIES 238 ALUMINUM AWNING WINDOWS - LARGE MISSILE

NOTES:

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

2). 1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT LOADS TO THE BUILDING STRUCTURE.

3). ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS AND INSTALLED PER MANUF'S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

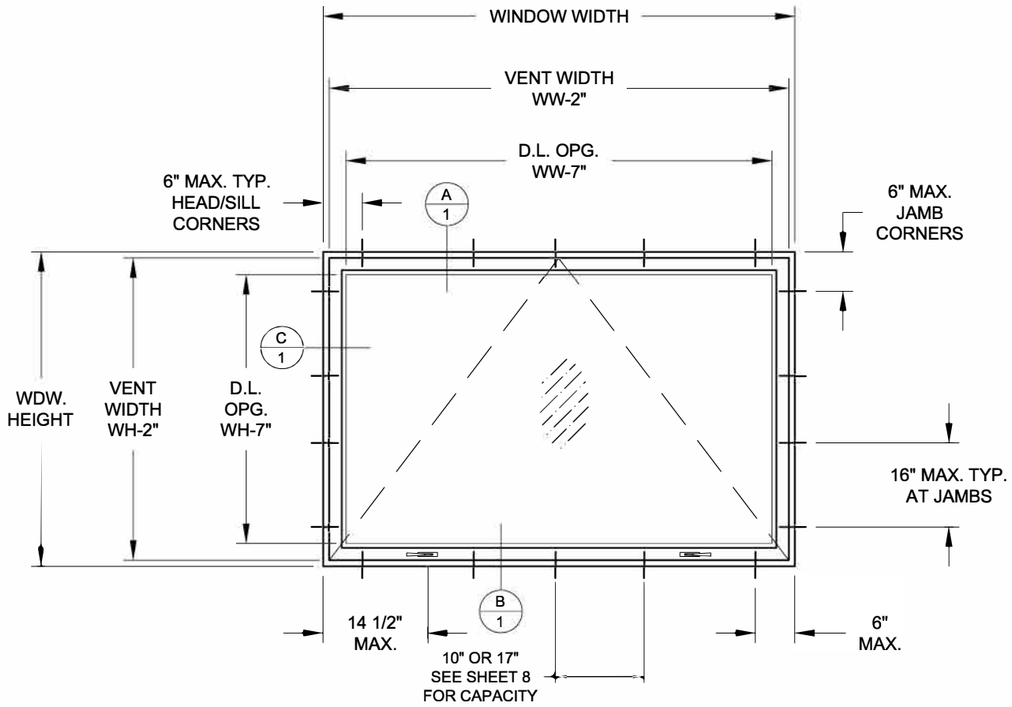
4). A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

5). ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

6). MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BLDG. CODE & ADOPTED STANDARDS.

7). THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR THE SITE SPECIFIC PROJECT, i.e. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND THE SEALING AROUND THE OPENING FOR WATER INFILTRATION RESISTANCE ETC.

8).CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL.



TYPICAL ELEVATION
(FLANGE FRAME)

INSTRUCTIONS: USE CHARTS AS FOLLOWS.

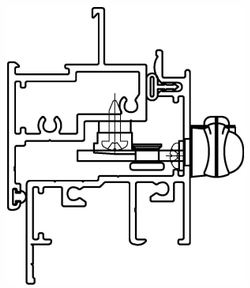
STEP 1 DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.

STEP 2 SEE CHARTS ON SHEETS 4 AND 5 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE/TYPE.

STEP 3 USING CHART ON SHEET 8 SELECT ANCHOR OPTION WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.

STEP 4 IF ALUMINUM BUCK SYSTEM IS USED USE CHART ON SHEET 9 TO DETERMINE CAPACITY.

STEP 5 THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.



MAXIM MULTI POINT LOCK
BY 'TRUTH'
ALT. TO CAM LOCKS

MAX. WDW. WIDTH	LOCK POINTS
42"	2
63"	3
84"	4

Rev. | Date | By:
A | 1/30/23 | LMY
NO CHANGES THIS SHEET | 9/28/23 | LMY

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

REGISTRATION #29296

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WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD
N VENICE, FL 34275
(833) 554-5432

Title: SERIES "238" ALUM. AWNING WINDOW (LMI)
Desc.: ELEVATION & GENERAL NOTES
Series: AW238
Sheet: 1 OF 10
DWG No.: AW238LMI-FPA
Rev.#: A
Drawn By: A. MORLESIN
Date: 1/30/23

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/29/23
A. LYNN MILLER, P.E.
P.E.# 58705

GENERAL WINDOW SECTIONS

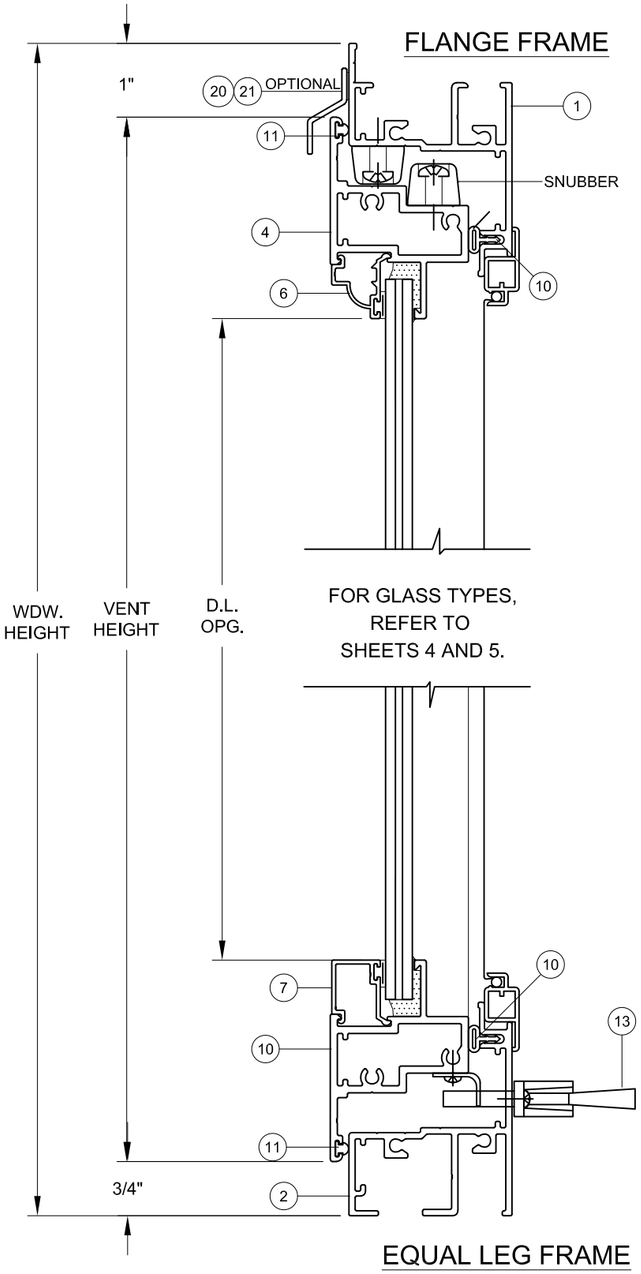
THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

FOR MULLION/ MULTIPLE UNITS, REFER TO SEPARATE WINDOOR MULLION FPA.

FOR MULLION/ MULTIPLE UNITS, REFER TO SEPARATE WINDOOR MULLION FPA.

A

FLANGE FRAME



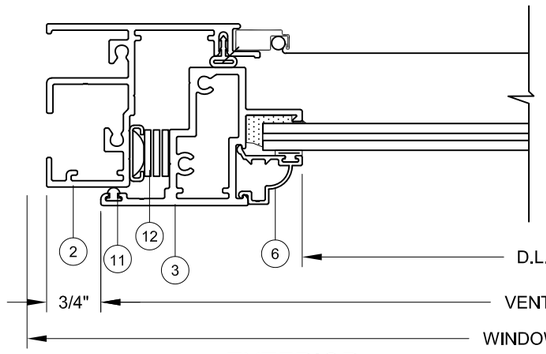
EXTERIOR

B

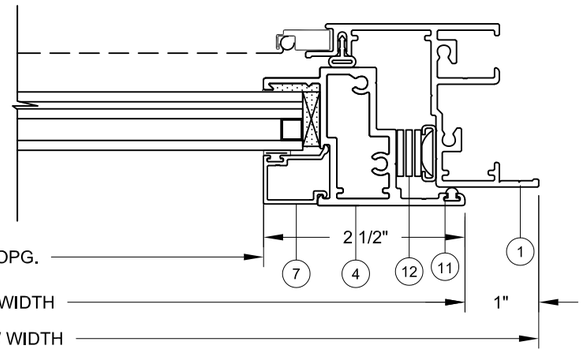
EQUAL LEG FRAME

C

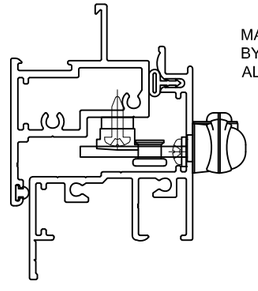
EQUAL LEG FRAME



FLANGE FRAME



EXTERIOR



MAXIM MULTI POINT LOCK
BY 'TRUTH'
ALT. TO CAM LOCKS

MAX. WDW. WIDTH	LOCK POINTS
42"	2
63"	3
84"	4

Rev.	Date	By:
NO CHANGES THIS SHEET	9/28/23	LMY

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

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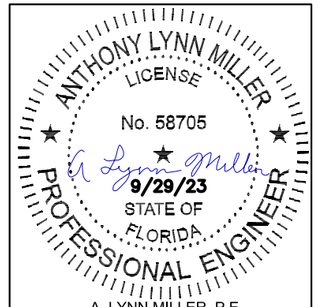
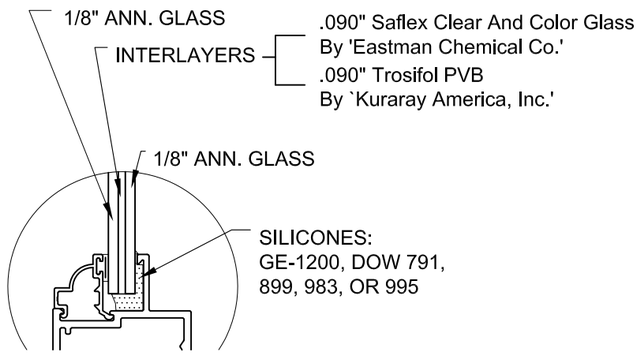
(833) 554-5432

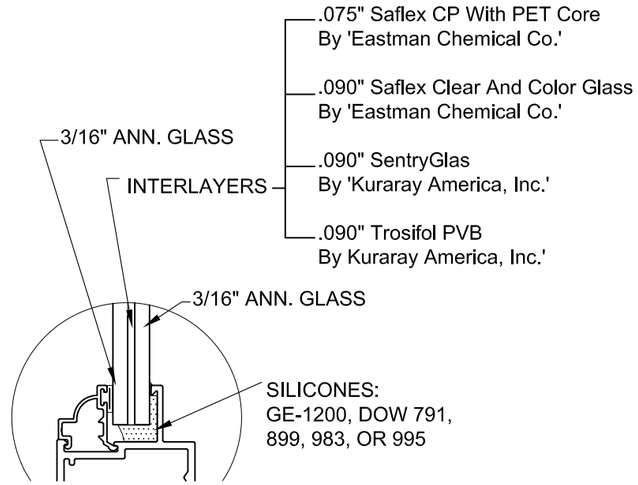
Title	Desc.	Sheet	DWG No.	Drawn By	Date	Rev.#
SERIES "238" ALUM. AWNING WINDOW (LMI)	SECTION DETAILS	AW238	2 OF 10	AW238LMI-FPA	A. MORLESIN	1/30/23	A



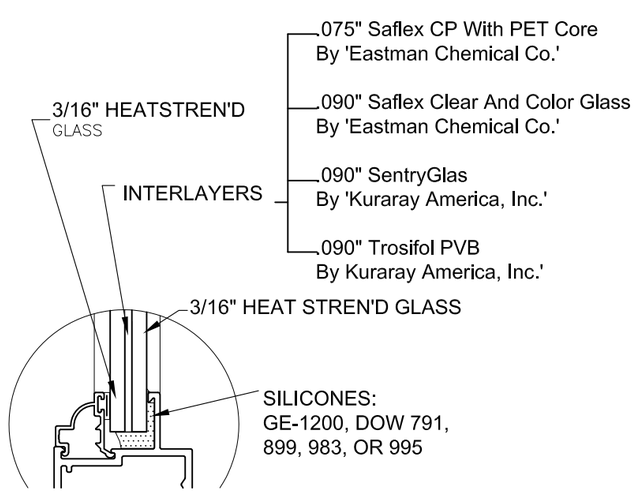
A. LYNN MILLER, P.E.
P.E.# 58705



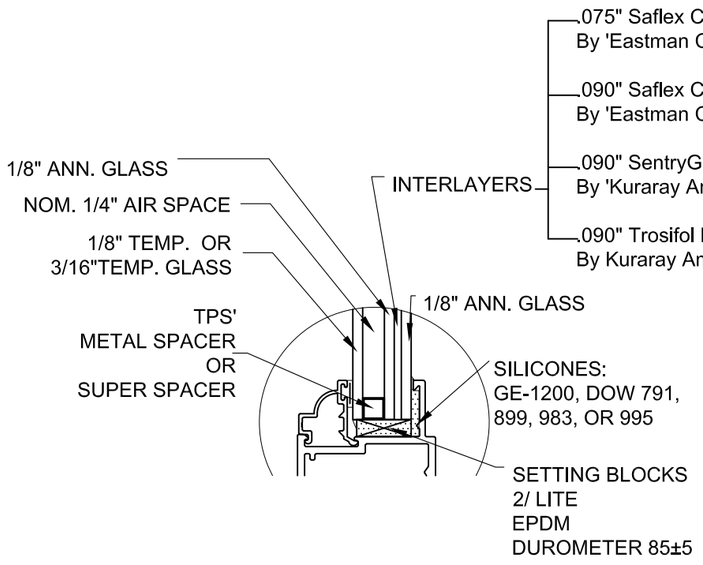
5/16" NOMINAL
GLASS TYPE `1'



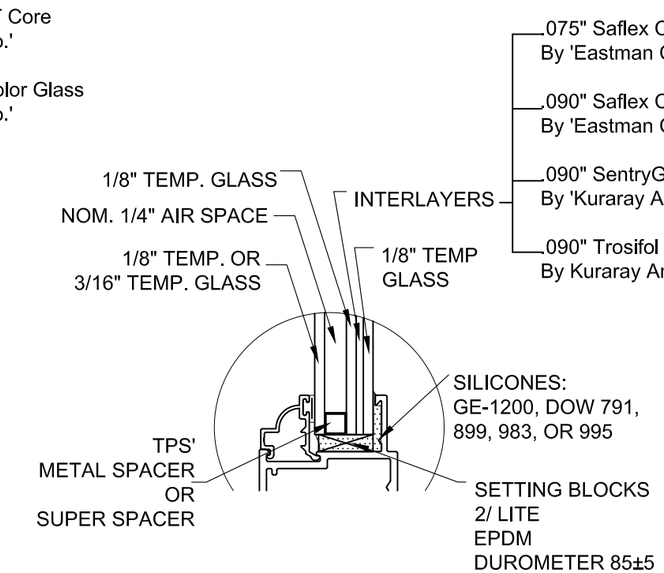
7/16" NOMINAL
GLASS TYPE `2'



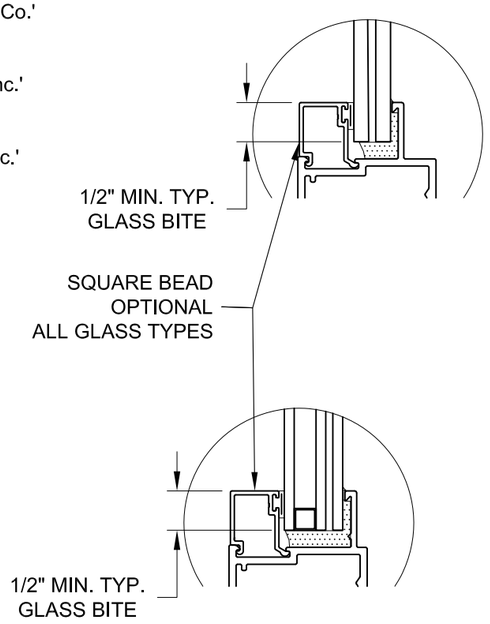
7/16" NOMINAL
GLASS TYPE '3'



INSULATED
GLASS TYPE '1A'



INSULATED
GLASS TYPE '2A'



Rev.	Date	By:
A	9/28/23	LMY

NO CHANGES THIS SHEET

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
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(833) 554-5432

Drawn By	Date	Rev.#
A. MORLESIN	1/30/23	A

Series	Desc.	Sheet	DWG No.	Rev.#
AW238	GLASS TYPES	3 OF 10	AW238LMI-FPA	A

SERIES "238" ALUM. AWNING WINDOW (LMI)

ANTHONY LYNN MILLER
LICENSE
No. 58705
A. Lynn Miller
9/29/23
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 1:

Window Dimensions		Window Design Pressure, (+/- psf) — Width (in)															Use this table for Glass Type: 1 & 1A
		19-1/8	24	26-1/2	30	36	37	42	48	53-1/8	54	60	66	72	78	84	
Height (in)	24	+110/-195	+110/-195	+110/-195	+110/-194.3	+110/-161.9	+110/-145.4	+110/-138.8	+110/-121.4	+/-107.9	+/-107.9	+/-95.4	+/-73.4	+/-56.1	+/-43.8	+/-34.9	
	26	+110/-195	+110/-195	+110/-195	+110/-166.5	+110/-145.4	+110/-145.4	+110/-128.1	+/-104.1	+/-101.3	+/-92.5	+/-83.3	+/-64.2	+/-48.9	+/-38.1		
	28	+110/-195	+110/-195	+110/-166.5	+110/-166.5	+110/-138.8	+110/-118.9	+110/-118.9	+/-104.1	+/-92.5	+/-92.5	+/-83.3	+/-64.2	+/-48.9	+/-38.1		
	30	+110/-194.3	+110/-194.3	+110/-155.4	+110/-155.4	+110/-129.5	+110/-111	+110/-111	+/-97.1	+/-86.3	+/-86.3	+/-77.7	+/-60.6	+/-46			
	36	+110/-190.6	+110/-161.9	+110/-137.5	+110/-129.5	+/-107.9	+/-98.5	+/-92.5	+/-80.9	+/-71.9	+/-71.9	+/-64.8					
	38-3/8	+110/-190.6	+110/-138.8	+110/-137.5	+110/-111	+/-98.5	+/-98.5	+/-86.8	+/-69.4	+/-68.6	+/-61.7						
	42	+110/-144.5	+110/-138.8	+110/-111	+110/-111	+/-92.5	+/-79.3	+/-79.3	+/-69.4	+/-61.7	+/-61.7						
	48	+110/-144.5	+110/-121.4	+/-104.3	+/-97.1	+/-80.9	+/-74.7	+/-69.4	+/-60.7								
	50-5/8	+110/-144.5	+/-107.9	+/-104.3	+/-86.3	+/-74.7	+/-74.7	+/-65.8									
	54	+/-107.9	+/-107.9	+/-86.3	+/-86.3	+/-71.9	+/-61.7	+/-61.7									
	60	+/-104.2	+/-95.4	+/-77.9	+/-77.7	+/-64.8	+/-60										
	63	+/-104.2	+/-77.9	+/-77.9	+/-60.6	+/-60	+/-60										
	66	+/-73.4	+/-73.4	+/-60.6	+/-60.6												
	72	+/-63	+/-56.1	+/-46.6	+/-46												
	74-1/4	+/-63	+/-46.6	+/-46.6													
	78	+/-43.8	+/-43.8														
	84	+/-34.9	+/-34.9														

NOTES:
GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS)

LOAD/AREA LIMITS
FOR +110.0, -120.0 PSF = 16.34 SQ. FT.
FOR +110.0, -195.0 PSF = 10.00 SQ. FT.

LIMIT MAX. LOADS TO 171.0 PSF WHEN MULTI POINT LOCK BY `INTERLOCK' IS USED.

TABLE 2:

Window Dimensions		Window Design Pressure, (+/- psf) — Width (in)															Use this table for Glass Type: 2
		19-1/8	24	26-1/2	30	36	37	42	48	53-1/8	54	60	66	72	78	84	
Height (in)	24	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	
	26	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	
	28	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	
	30	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120		
	36	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-194.5	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120					
	38-3/8	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-194.5	+110/-120	+110/-120	+110/-120	+110/-120						
	42	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120						
	48	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120								
	50-5/8	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120									
	54	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120									
	60	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120										
	63	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120										
	66	+110/-195	+110/-120	+110/-120	+110/-120												
	72	+110/-195	+110/-120	+110/-120	+110/-120												
	74-1/4	+110/-195	+110/-120	+110/-120	+110/-120												
	78	+110/-120	+110/-120	+110/-120	+110/-120												
	84	+110/-120	+110/-120														

Rev. CHANGE TO MATRIX FORMAT — By: LMY — Date: 9/28/23

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

REGISTRATION #29296

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104 TRIPLE DIAMOND BLVD
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(833) 554-5432

Title: SERIES "238" ALUM. AWNING WINDOW (LMI)
Desc.: GLASS PERFORMANCE VALUES
Series: AW238
Sheet: 4 OF 10
DWG No.: AW238LMI-FPA
Drawn By: A. MORLESIN
Date: 1/30/23
Rev.#: A

ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/29/23
A. LYNN MILLER, P.E.
P.E.# 58705

TABLE 3:

Window Design Pressure, (+/- psf)													Use this table for Glass Type:	3		
Window Dimensions		Width (in)														
		19-1/8	24	26-1/2	30	36	37	42	48	53-1/8	54	60	66	72	78	84
Height (in)	24	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120
	26	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	
	28	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	
	30	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120		
	36	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120				
	38-3/8	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120					
	42	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120					
	48	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120							
	50-5/8	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120								
	54	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120								
	60	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120									
	63	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120									
	66	+110/-120	+110/-120	+110/-120	+110/-120											
	72	+110/-120	+110/-120	+110/-120	+110/-120											
	74-1/4	+110/-120	+110/-120	+110/-120												
	78	+110/-120	+110/-120													
	84	+110/-120	+110/-120													

NOTES:
GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS)

LOAD/AREA LIMITS
FOR +110.0, -120.0 PSF = 16.34 SQ. FT.
FOR +110.0, -195.0 PSF = 10.00 SQ. FT.

LIMIT MAX. LOADS TO 171.0 PSF WHEN MULTI POINT LOCK BY `INTERLOCK' IS USED.

TABLE 4:

Window Design Pressure, (+/- psf)													Use this table for Glass Type:	2A		
Window Dimensions		Width (in)														
		19-1/8	24	26-1/2	30	36	37	42	48	53-1/8	54	60	66	72	78	84
Height (in)	24	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+/-109.3	+/-85.4	+/-68
	26	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-95.3	+/-74.3	
	28	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-95.3	+/-74.3	
	30	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-118.2	+/-89.8		
	36	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120				
	38-3/8	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120					
	42	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120					
	48	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-118.4							
	50-5/8	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120								
	54	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120								
	60	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-117									
	63	+110/-195	+110/-120	+110/-120	+110/-118.2	+110/-117	+110/-117									
	66	+110/-120	+110/-120	+110/-118.2	+110/-118.2											
	72	+110/-120	+/-109.3	+/-90.9	+/-89.8											
	74-1/4	+110/-120	+/-90.9	+/-90.9												
	78	+/-85.4	+/-85.4													
	84	+/-68	+/-68													

Rev. CHANGE TO MATRIX FORMAT | Date 9/28/23 | By: LMY

PREPARED BY A. LYNN MILLER
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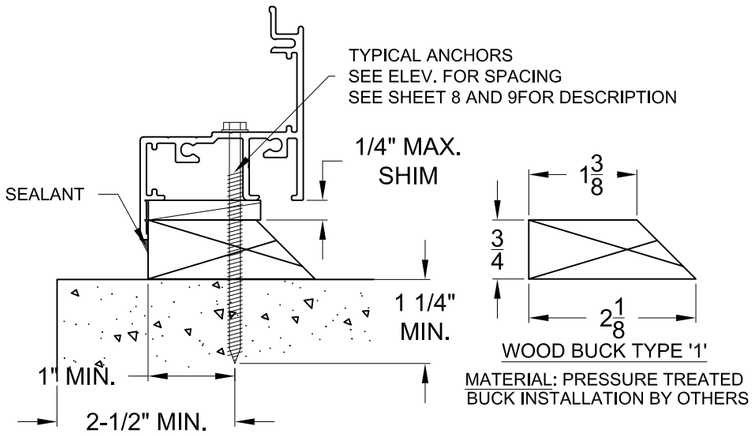
Title: SERIES "238" ALUM. AWNING WINDOW (LMI)
Desc.: GLASS PERFORMANCE VALUES
Series: AW238 | Sheet: 5 OF 10 | DWG No.: AW238LMI-FPA | Rev.#: A
Drawn By: A. MORLESIN | Date: 1/30/23

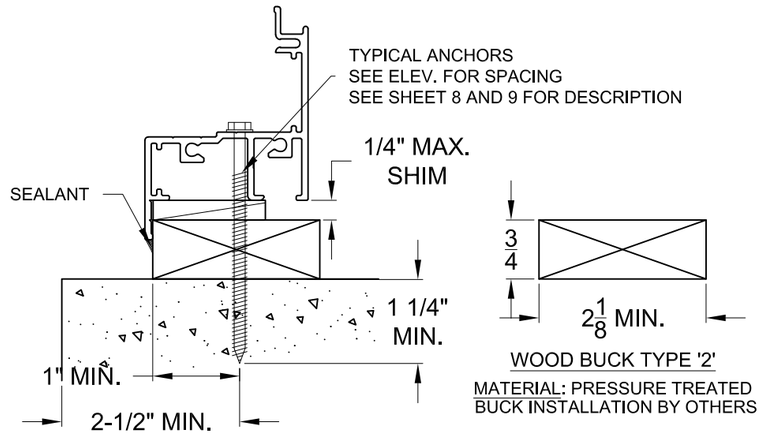
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/29/23
A. LYNN MILLER, P.E.
P.E.# 58705

INSTALLATION CONDITIONS FLANGE FRAME (APPLIES TO ALL FOUR SIDES)

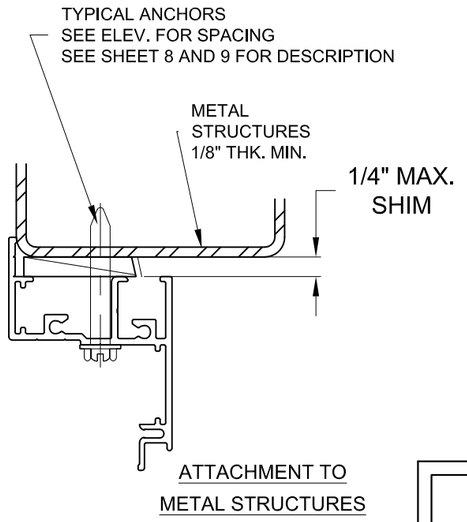
FOR ANCHOR PERFORMANCE VALUES SEE SHEET 8 AND 9



INSTALLATION TYPE '1'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD

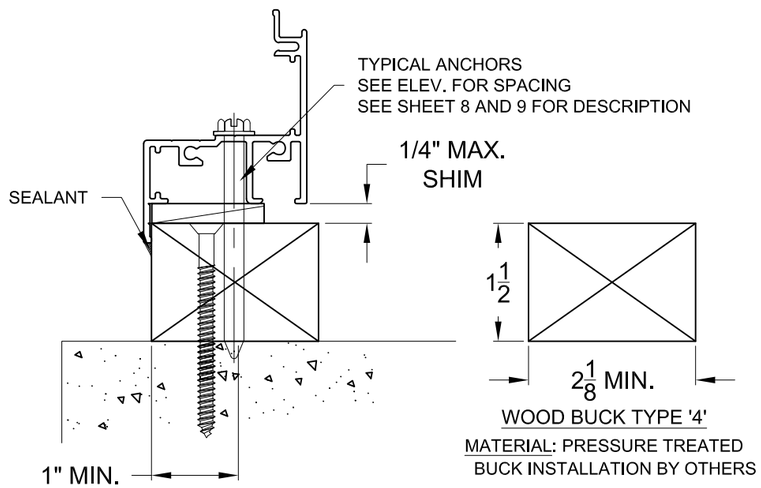


INSTALLATION TYPE '2'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD

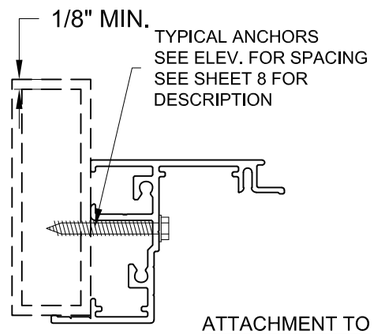


ATTACHMENT TO
METAL STRUCTURES

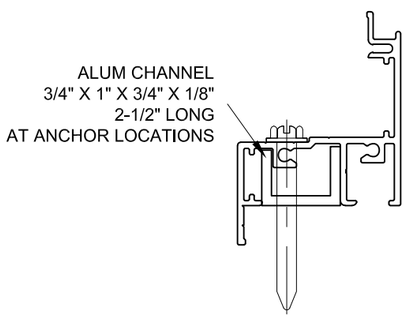
INSTALLATION TYPE '3'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD



INSTALLATION TYPE '4'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD



ATTACHMENT TO
APPROVED MULLIONS



ALT. ANCHOR LOCATION
WITH SHEAR CLIP

WOOD BUCKS NOT BY WINDOOR, MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

Rev.	Date	By:
NO CHANGES THIS SHEET	9/28/23	LMY

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

REGISTRATION #29296

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104 TRIPLE DIAMOND BLVD
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(833) 554-5432

Title	Date	Drawn By	DWG No.	Sheet
SERIES "238" ALUM. AWNING WINDOW (LMI)	1/30/23	A. MORLESIN	AW238LMI-FPA	6 OF 10
ANCHOR INSTALLATION				

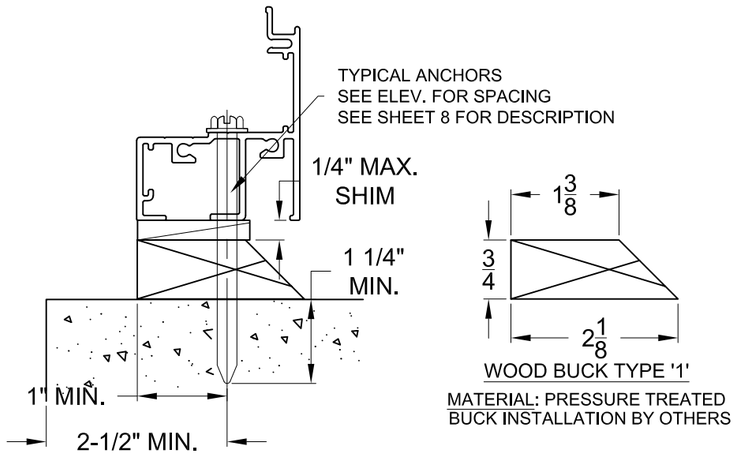
Series	Desc.	Rev.#
AW238		A

ANTHONY LYNN MILLER
LICENSE
No. 58705
A. Lynn Miller
9/29/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

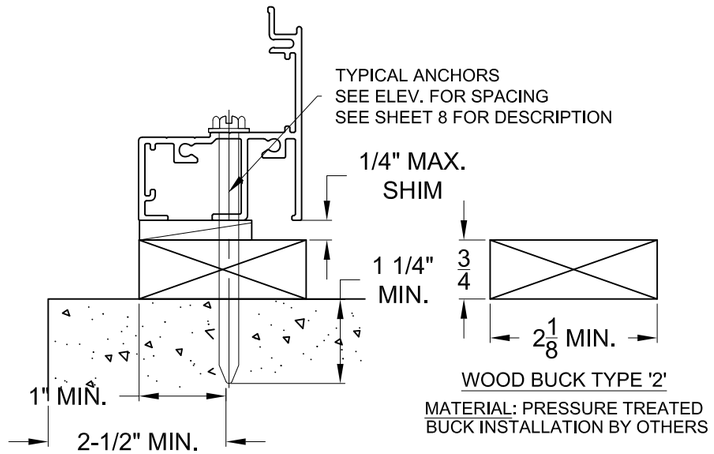
A. LYNN MILLER, P.E.
P.E.# 58705

INSTALLATION CONDITIONS EQUAL LEG FRAME (APPLIES TO ALL FOUR SIDES)

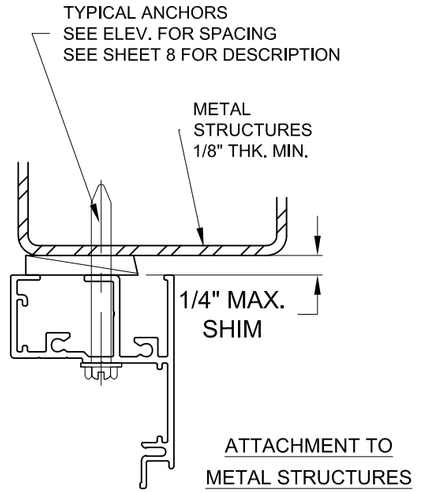
FOR ANCHOR PERFORMANCE VALUES SEE SHEET 8



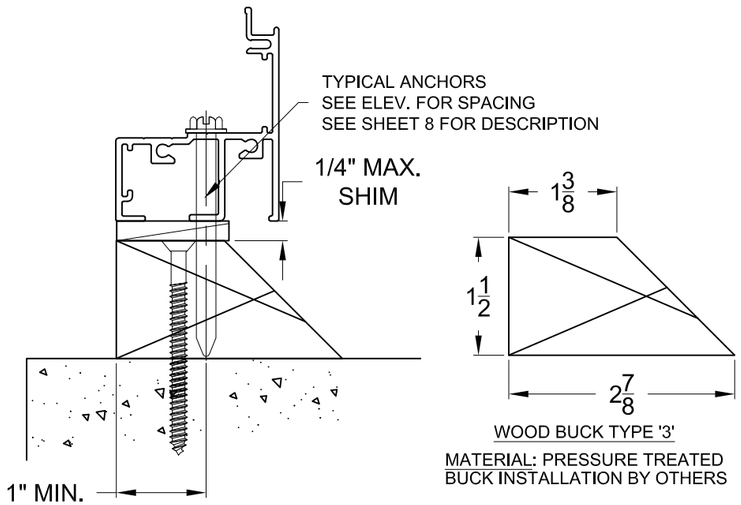
INSTALLATION TYPE '1'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD



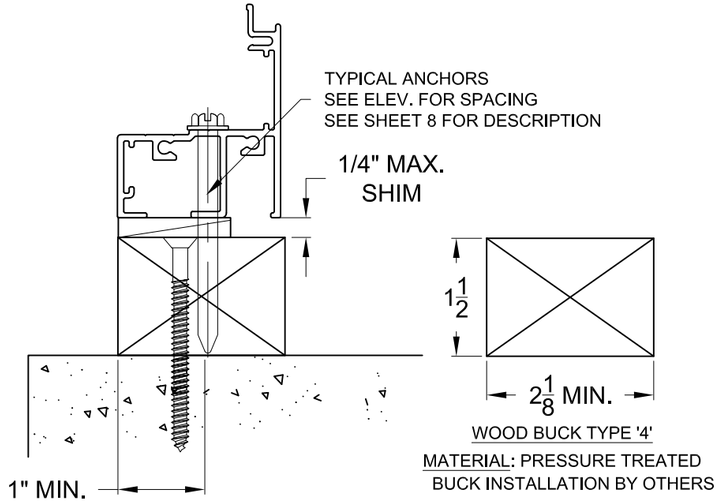
INSTALLATION TYPE '2'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD



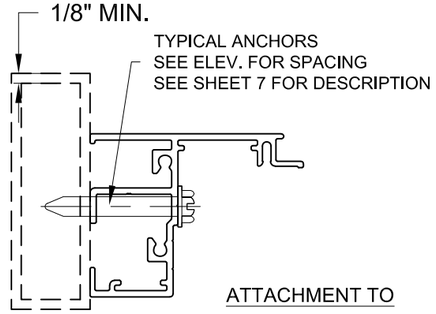
ATTACHMENT TO
METAL STRUCTURES



INSTALLATION TYPE '3'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD



INSTALLATION TYPE '4'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD



ATTACHMENT TO
APPROVED MULLIONS

WOOD BUCKS NOT BY WINDOOR, MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

Rev.	Date	By:
NO CHANGES THIS SHEET	9/28/23	LMY

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

REGISTRATION #29296

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Title	Date	Rev.#
SERIES "238" ALUM. AWNING WINDOW (LMI)	1/30/23	A

Desc.	Drawn By	DWG No.
ANCHOR INSTALLATION 2	A. MORLESIN	AW238LMI-FPA

Series	Sheet
AW238	7 OF 10

ANTHONY LYNN MILLER
LICENSE
No. 58705
A. Lynn Miller
9/29/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.
P.E.# 58705

PERFORMANCE VALUES OF INSTALLATION ANCHORS
REFER TO SHEETS 6 & 7 FOR DETAILS

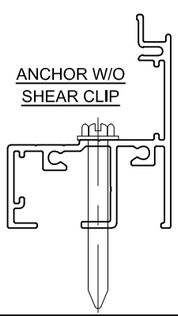
WINDOW DIMS.		ANCHORS TYPE `A' & `C'				ANCHORS TYPE `B'	
		W/O SHEAR CLIP		WITH SHEAR CLIP		WITH OR W/O SHEAR CLIP	
WIDTH	HEIGHT	AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.
24"	24"	195.0	195.0	129.0	193.5	195.0	195.0
	28"	195.0	195.0	110.6	165.9	195.0	195.0
	30"	195.0	195.0	154.8	154.8	195.0	195.0
	36"	195.0	195.0	129.0	172.0	195.0	195.0
	42"	195.0	195.0	110.6	147.4	195.0	195.0
	48"	195.0	195.0	129.0	161.3	195.0	195.0
	54"	195.0	195.0	114.7	172.0	195.0	195.0
	60"	193.6	195.0	103.2	154.8	195.0	195.0
	66"	195.0	195.0	117.3	164.2	195.0	195.0
	72"	195.0	195.0	107.5	150.5	195.0	195.0
	78"	186.2	195.0	99.2	158.8	195.0	195.0
	84"	195.0	195.0	110.6	165.9	195.0	195.0
30"	24"	195.0	195.0	154.8	154.8	195.0	195.0
	28"	195.0	195.0	132.7	132.7	195.0	195.0
	30"	195.0	195.0	123.8	123.8	195.0	195.0
	36"	193.6	195.0	103.2	137.6	195.0	195.0
	42"	165.9	195.0	88.5	117.9	195.0	195.0
	48"	193.6	195.0	103.2	129.0	195.0	195.0
	54"	172.1	195.0	91.7	137.6	195.0	195.0
	60"	154.9	195.0	82.6	123.8	195.0	195.0
	66"	176.0	195.0	93.8	131.3	195.0	195.0
	72"	161.3	195.0	86.0	120.4	195.0	195.0
	78"	148.9	195.0	79.4	127.0	195.0	195.0
36"	24"	195.0	195.0	129.0	172.0	195.0	195.0
	28"	195.0	195.0	110.6	147.4	195.0	195.0
	30"	193.6	195.0	103.2	137.6	195.0	195.0
	36"	161.3	195.0	86.0	114.7	195.0	195.0
	42"	138.3	184.4	73.7	98.3	195.0	195.0
	48"	161.3	195.0	86.0	107.5	195.0	195.0
	54"	143.4	195.0	76.4	114.7	195.0	195.0
	60"	129.1	193.6	68.8	103.2	195.0	195.0
42"	24"	195.0	195.0	110.6	147.4	195.0	195.0
	28"	177.8	195.0	94.8	126.4	195.0	195.0
	30"	165.9	195.0	88.5	117.9	195.0	195.0
	36"	138.3	184.4	73.7	98.3	195.0	195.0
	42"	118.5	158.0	63.2	84.2	179.8	195.0
	48"	138.3	172.9	73.7	92.1	195.0	195.0
	54"	122.9	184.4	65.5	98.3	186.4	195.0
48"	24"	195.0	195.0	129.0	161.3	195.0	195.0
	28"	195.0	195.0	110.6	138.2	195.0	195.0
	30"	193.6	195.0	103.2	129.0	195.0	195.0
	36"	161.3	195.0	86.0	107.5	195.0	195.0
	42"	138.3	172.9	73.7	92.1	195.0	195.0
	48"	121.0	151.3	64.5	80.6	183.5	195.0
54"	24"	195.0	195.0	114.7	172.0	195.0	195.0
	28"	184.4	195.0	98.3	147.4	195.0	195.0
	30"	172.1	195.0	91.7	137.6	195.0	195.0
	36"	143.4	195.0	76.4	114.7	195.0	195.0
	42"	122.9	184.4	65.5	98.3	186.4	195.0

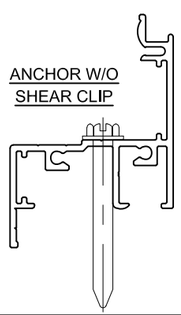
PERFORMANCE VALUES OF INSTALLATION ANCHORS
REFER TO SHEETS 6 & 7 FOR DETAILS

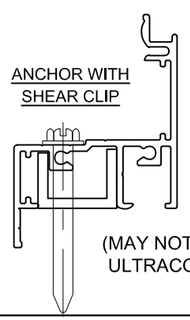
WINDOW DIMS.		ANCHORS TYPE `A' & `C'				ANCHORS TYPE `B'	
		W/O SHEAR CLIP		WITH SHEAR CLIP		WITH OR W/O SHEAR CLIP	
WIDTH	HEIGHT	AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.
60"	24"	193.6	195.0	103.2	154.8	195.0	195.0
	28"	165.9	195.0	88.5	132.7	195.0	195.0
	30"	154.9	195.0	82.6	123.8	195.0	195.0
	36"	129.1	193.6	68.8	103.2	195.0	195.0
66"	24"	195.0	195.0	117.3	164.2	195.0	195.0
	28"	188.6	195.0	100.5	14.7	195.0	195.0
	30"	176.0	195.0	93.8	131.3	195.0	195.0
72"	24"	195.0	195.0	107.5	150.5	195.0	195.0
	28"	172.9	195.0	92.1	129.0	195.0	195.0
	30"	161.3	195.0	86.0	120.4	195.0	195.0
78"	24"	186.2	195.0	99.2	158.8	195.0	195.0
	28"	159.6	195.0	85.1	136.1	195.0	195.0
	30"	148.9	195.0	79.4	127.0	195.0	195.0
84"	24"	195.0	195.0	110.6	165.9	195.0	195.0
	28"	177.8	195.0	94.8	142.2	195.0	195.0

PERFORMANCE VALUES OF INSTALLATION ANCHORS
REFER TO SHEETS 6 & 7 FOR DETAILS

WINDOW DIMS.		ANCHORS TYPE `A' & `C'				ANCHORS TYPE `B'	
		W/O SHEAR CLIP		WITH SHEAR CLIP		WITH OR W/O SHEAR CLIP	
WIDTH	HEIGHT	AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.
19-1/8"	26"	195.0	195.0	149.4	195.0	195.0	195.0
	38-3/8"	195.0	195.0	151.9	195.0	195.0	195.0
	50-5/8"	195.0	195.0	153.5	191.9	195.0	195.0
	63"	195.0	195.0	123.3	195.0	195.0	195.0
	74-1/4"	195.0	195.0	130.8	195.0	195.0	195.0
26-1/2"	26"	195.0	195.0	107.8	161.8	195.0	195.0
	38-3/8"	195.0	195.0	109.6	146.1	195.0	195.0
	50-5/8"	195.0	195.0	110.8	138.5	195.0	195.0
	63"	167.0	195.0	89.0	155.8	195.0	195.0
	74-1/4"	177.1	195.0	94.4	151.1	195.0	195.0
37"	26"	195.0	195.0	115.9	154.5	195.0	195.0
	38-3/8"	147.3	195.0	78.5	104.7	195.0	195.0
	50-5/8"	148.8	186.0	79.3	99.2	195.0	195.0
	63"	119.6	195.0	63.8	111.6	181.4	195.0
42"	26"	191.5	195.0	102.1	136.1	195.0	195.0
	38-3/8"	129.7	173.0	69.2	92.2	195.0	195.0
	50-5/8"	131.1	163.9	69.9	87.4	195.0	195.0
53-1/8"	26"	195.0	195.0	107.6	161.4	195.0	195.0
	38-3/8"	136.7	195.0	72.9	109.3	195.0	195.0







(MAY NOT BE USED WITH
ULTRACON+ ANCHORS)

TYPICAL ANCHORS:

SEE ELEV. FOR SPACING

Anchor Type	Description	Substrate	Frame Members	Min. Edge Distance	Min. Enbedment or Metal Thickness
A	1/4" DIA. Hilti Kwik-con II 1/4" DIA. Ultracon+	Into 2BY Wood Buck or Wood Structure	All	1"	1-1/2"
		Thru 1BY Buck into Concrete or Masonry	All	2-1/2"	1-1/4"
B	1/4" DIA. Hilti Kwik-con II 1/4" DIA. Ultracon+	Directly into Concrete or Filled Block	All	2-1/2"	1-3/4"
C	#14 SMS OR SELF DRIVING SCREW	Into Steel 12 GA Min.	All	3/4"	(3) Threads min. to extended beyond metal thickness
		Into Aluminum 1/8" thk.	All	3/4"	(3) Threads min. to extended beyond metal thickness
		Into FPA Mullions	All	3/4"	(3) Threads min. to extended beyond metal thickness

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
C-90 HOLLOW/FILLED NORMAL WEIGHT
BLOCK AT JAMBS f'm = 2000 PSI MIN.

Rev.	By:	Date
NO CHANGES THIS SHEET	LMY	9/28/23

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

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Rev.#	Date	Drawn By
A	1/30/23	A. MORLESIN

WINDOOR® INCORPORATED

WINDOOR INCORPORATED
104 TRIPLE DIAMOND BLVD
N VENICE, FL 34275
(833) 554-5432

Title	Desc.	Series	Sheet	DWG No.	Rev.#
SERIES "238" ALUM. AWNING WINDOW (LMI)	ANCHORS & DESIGN PRESSURE	AW238	8 OF 10	AW238LMI-FPA	A

ANTHONY LYNN MILLER
LICENSE
No. 58705
A. Lynn Miller
9/29/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.
P.E.# 58705

PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS			
WINDOW DIMS.		1/4" ANCHORS INTO MASONRY	#14 ANCHORS INTO WOOD
WIDTH	HEIGHT	POS.(+)/NEG.(-)	NEG.(+)/POS.(-)
24"	24"	195.0	195.0
	28"	195.0	195.0
	30"	195.0	195.0
	36"	195.0	195.0
	42"	195.0	169.1
	48"	195.0	148.0
	54"	195.0	131.6
	60"	177.6	118.4
	66"	161.5	107.6
	72"	148.0	98.7
	78"	136.6	91.1
	84"	126.9	84.6
28"	24"	195.0	195.0
	28"	195.0	195.0
	30"	195.0	195.0
	36"	195.0	169.1
	42"	195.0	145.0
	48"	190.3	126.9
	54"	169.1	112.8
	60"	152.2	101.5
	66"	138.4	92.3
	72"	126.9	84.6
	78"	117.1	78.1
	84"	108.7	72.5
30"	24"	195.0	195.0
	28"	195.0	195.0
	30"	195.0	189.4
	36"	195.0	157.9
	42"	195.0	135.3
	48"	195.0	118.4
	54"	195.0	105.2
	60"	177.6	94.7
	66"	161.5	86.1
	72"	148.0	78.9
	78"	136.6	72.9
36"	24"	195.0	195.0
	28"	195.0	169.1
	30"	195.0	157.9
	36"	195.0	131.6
	42"	195.0	112.8
	48"	185.0	98.7
	54"	164.4	87.7
	60"	148.0	78.9

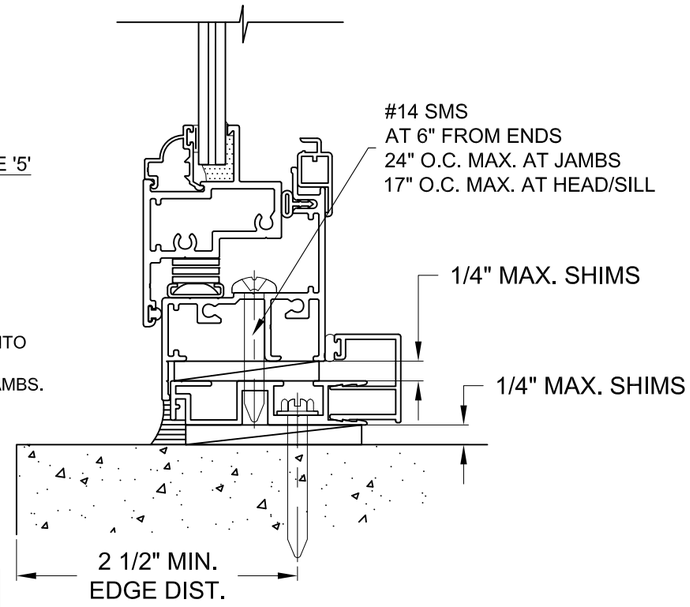
PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS			
WINDOW DIMS.		1/4" ANCHORS INTO MASONRY	#14 ANCHORS INTO WOOD
WIDTH	HEIGHT	POS.(+)/NEG.(-)	POS.(+)/NEG.(-)
42"	24"	190.3	169.1
	28"	163.1	145.0
	30"	152.2	135.3
	36"	126.9	112.8
	42"	108.7	96.7
	48"	95.1	84.6
	54"	84.6	75.2
48"	24"	195.0	148.0
	28"	190.3	126.9
	30"	177.6	118.4
	36"	148.0	98.7
	42"	126.9	84.6
	48"	111.0	74.0
54"	24"	195.0	131.6
	28"	169.1	112.8
	30"	157.9	105.2
	36"	131.6	87.7
	42"	112.8	75.2
60"	24"	177.6	118.4
	28"	152.2	101.5
	30"	142.1	94.7
	36"	118.4	78.9
66"	24"	195.0	134.5
	28"	173.0	115.3
	30"	161.5	107.6
72"	24"	185.0	123.3
	28"	158.6	105.7
	30"	148.0	98.7
78"	24"	170.8	113.8
	28"	146.4	97.6
	30"	136.6	91.1
84"	24"	190.3	126.9
	28"	163.1	108.7
19-1/8"	26"	195.0	195.0
	38-3/8"	195.0	195.0
	50-5/8"	195.0	176.1
	63"	195.0	141.5
	74-1/4"	180.1	120.1
26-1/2"	26"	195.0	195.0
	38-3/8"	195.0	167.7
	50-5/8"	190.6	127.1
	63"	153.2	102.1
	74-1/4"	130.0	86.7
37"	26"	195.0	177.2
	38-3/8"	135.1	120.1
	50-5/8"	102.4	91.0
	63"	82.3	73.1
53-1/8"	26"	185.2	123.4
	38-3/8"	125.4	83.6

ALUMINUM BUCK FRAMING DETAILS

REFER TO SHEETS 4 THRU 8 FOR WINDOW CAPACITIES. USE LOWER APPLICABLE VALUES.

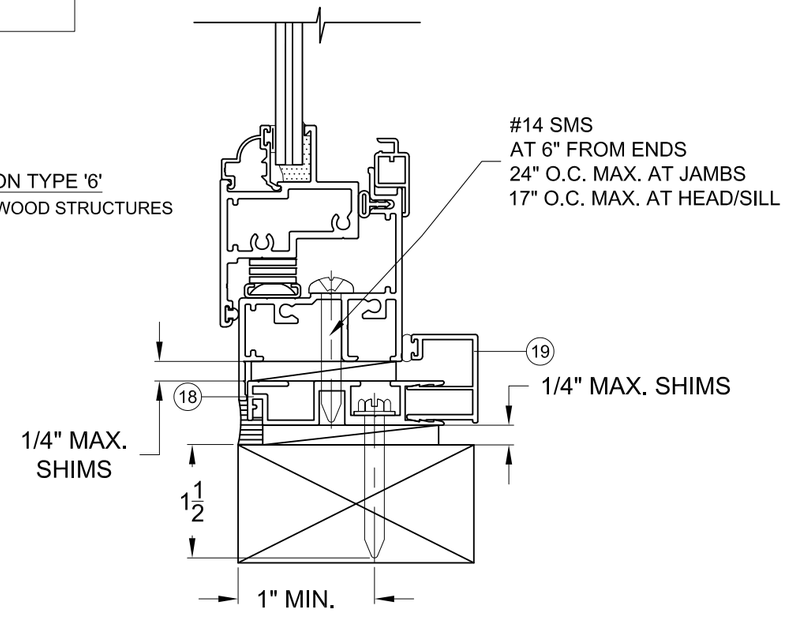
INSTALLATION TYPE '5'
INTO MASONRY

NOTE:
ALUM BUCK ANCHORS TO BE INTO CONCRETE AT HEAD & SILL.
MAY BE INTO FILLED CMU AT JAMBS.



TYPICAL INSTALLATION DETAIL ON ALL FOUR SIDES USING ALUMINUM BUCK SYSTEM

INSTALLATION TYPE '6'
2BY WOOD BUCK OR WOOD STRUCTURES



Rev.	Date	By:
	9/28/23	LMY

NO CHANGES THIS SHEET

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
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REGISTRATION #29296

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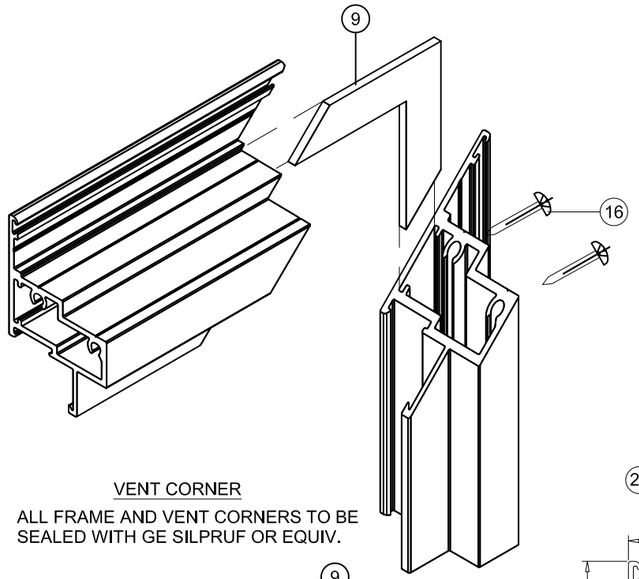
(833) 554-5432

Title	Desc.	Series	Sheet	DWG No.	Rev.#
SERIES "238" ALUM. AWNING WINDOW (LMI)	ALU. BUCK PERFORMANCE	AW238	9 OF 10	AW238LMI-FPA	A

Date	Drawn By
1/30/23	A. MORLESIN

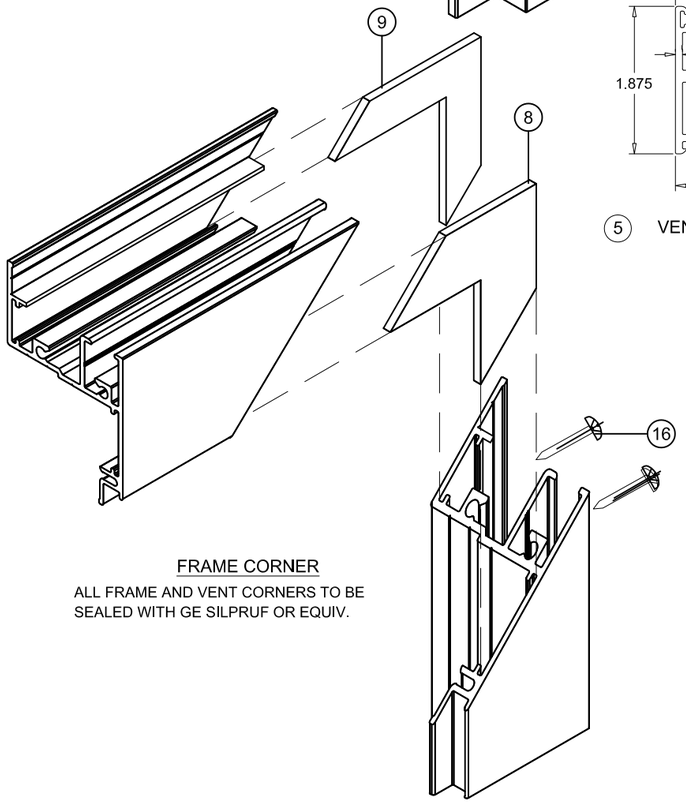
ANTHONY LYNN MILLER
LICENSE
No. 58705
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/29/23

A. LYNN MILLER, P.E.
P.E.# 58705



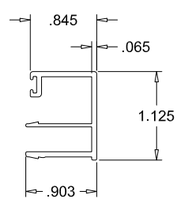
VENT CORNER

ALL FRAME AND VENT CORNERS TO BE SEALED WITH GE SILPRUF OR EQUIV.

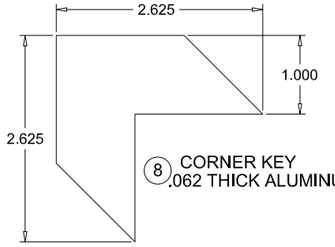


FRAME CORNER

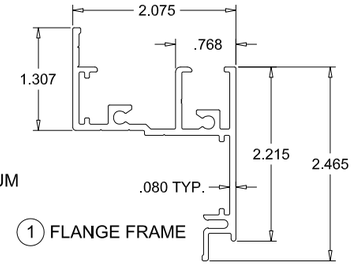
ALL FRAME AND VENT CORNERS TO BE SEALED WITH GE SILPRUF OR EQUIV.



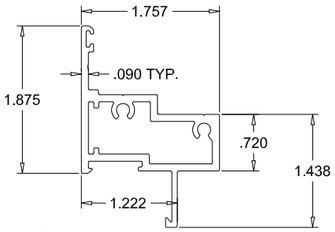
19 OPT. ALUM BUCK COVER



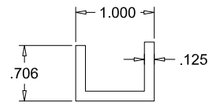
8 CORNER KEY .062 THICK ALUMINUM



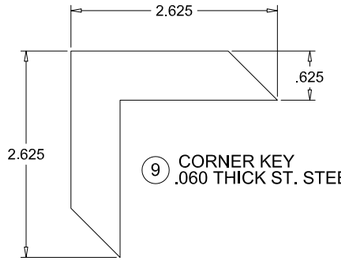
1 FLANGE FRAME



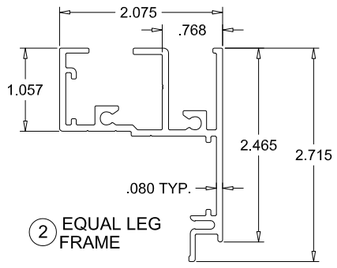
3 VENT (5/16" LAM. GLASS)



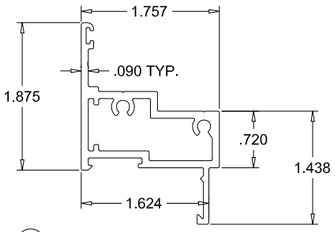
20 SHEAR CLIP CHANNEL



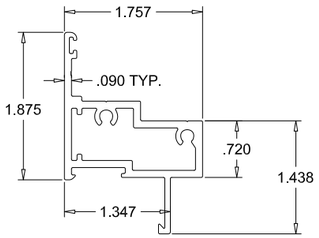
9 CORNER KEY .060 THICK ST. STEEL



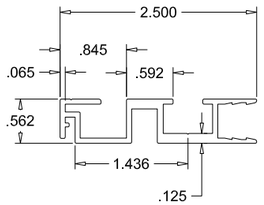
2 EQUAL LEG FRAME



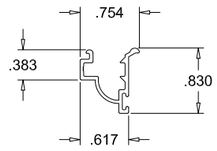
4 VENT (INSUL. LAM. GLASS)



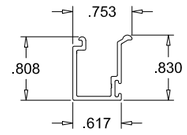
5 VENT (7/16" LAM. GLASS)



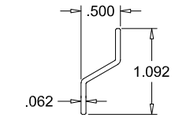
18 ALUMINUM BUCK



6 OGEE GLAZING STOP



7 SQUARE GLAZING STOP



20 OPTIONAL DRIP CAP

ITEM	PART #	DESCRIPTION	MATERIAL
1	CGI-373	FLANGE FRAME	6063-T6
2	CGI-397	EQUAL LEG FRAME	6063-T6
3	CGI-378	VENT (5/16" LAM. GLASS)	6063-T6
4	CGI-381	VENT (INSUL. LAM. GLASS)	6063-T6
5	CGI-385	VENT (7/16" LAM. GLASS)	6063-T6
6	CGI-375	OGEE GLAZING BEAD	6063-T5
7	CGI-396	SQUARE GLAZING BEAD	6063-T5
8	-	.060 THICK CORNER KEY	ALUMINUM
9	-	.060 THICK CORNER KEY	ST. STEEL
10	AP-425	FRAME WEATHERSTRIPPING	-
11	Q200 X190	VENT WEATHERSTRIPPING	-
12	35-10-00-101	4 BAR HINGE, AT JAMBS / ATTACHED W/ (6) #8 X 3/8" SS SMS	STEEL
13	24-13-00-202	FACE MOUNT LOCK / ATTACHED W/ (2) #8 X 3/8" SMS	STEEL
14	-	MULTI POINT LOCK	-
15	-	110 THICK LOCK KEEPER, AT FRAME JAMB FACING LOCK / ATTTACHED W/ (2) #10 X 3/8" SS SMS	STEEL
16	-	FRAME AND VENT ASSEMBLY SCREWS / #10 X 1-1/4" SS SMS	-
17	-	SETTING BLOCKS / DUROMETER 80±5 SHORE A	EPDM
18	-	ALUMINUM BUCK	6063-T6
19	-	OPTIONAL ALUMINUM BUCK COVER	6063-T6
20	AL-1225	OPTIONAL DRIP CAP	6063-T6
21	-	DOUBLE-SIDED FOAM TAPE FOR OPTIONAL DRIP CAP	

Rev.	Date	By:
NO CHANGES THIS SHEET	9/28/23	LMY

PREPARED BY A. LYNN MILLER
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Rev.#	A
Drawn By	A. MORLESIN
Date	1/30/23
DWG No.	AW238LMI-FPA
Sheet	10 OF 10
Series	AW238
Desc.	BOM & EXTRUSIONS
Title	SERIES "238" ALUM. AWNING WINDOW (LMI)

ANTHONY LYNN MILLER
LICENSE
No. 58705
A. Lynn Miller
9/29/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.
P.E.# 58705