

SERIES "238" OUTSWING ALUMINUM CASEMENT 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.

INSTRUCTIONS: USE CHARTS AS FOLLOWS.

- STEP 1

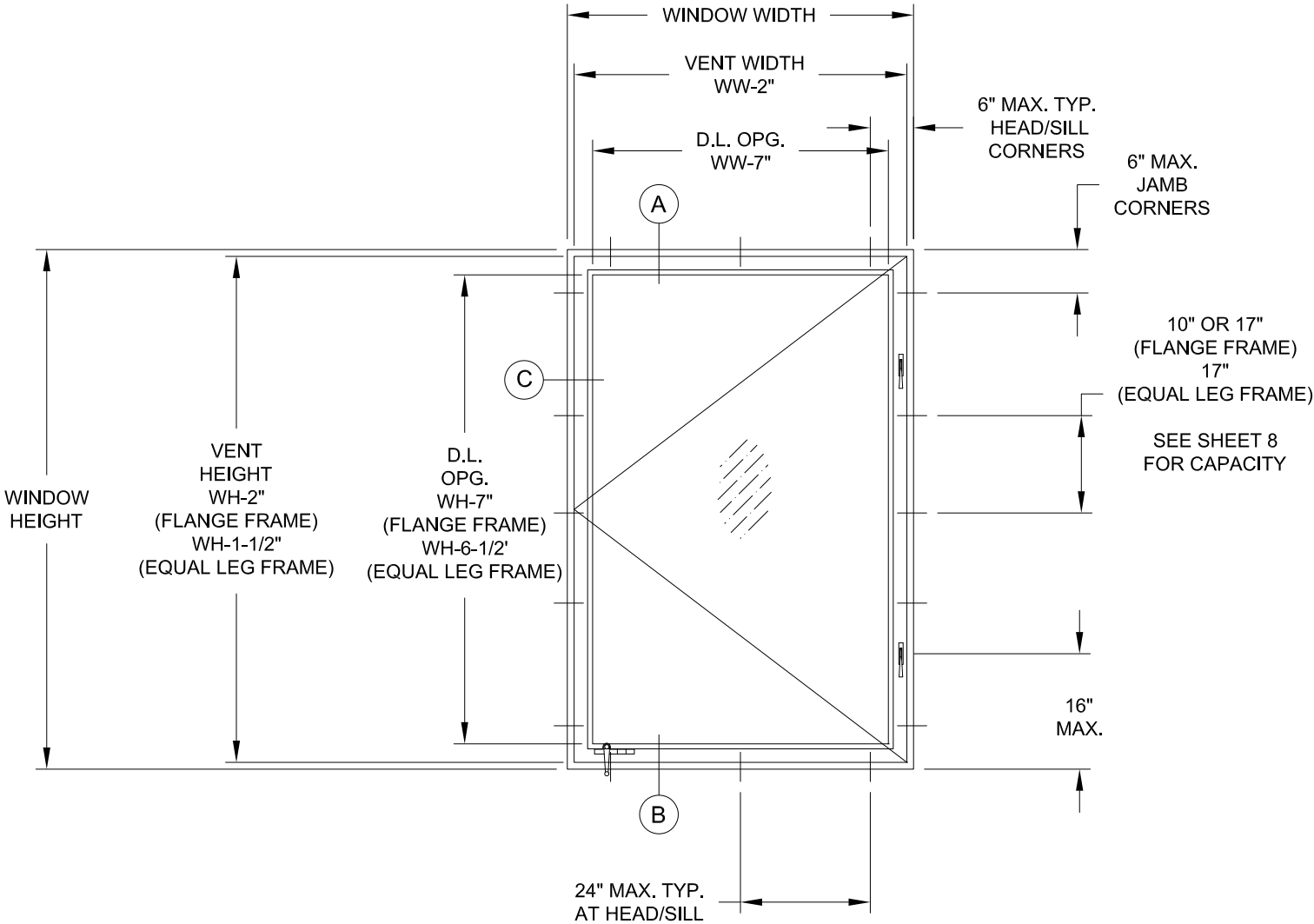
DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2

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

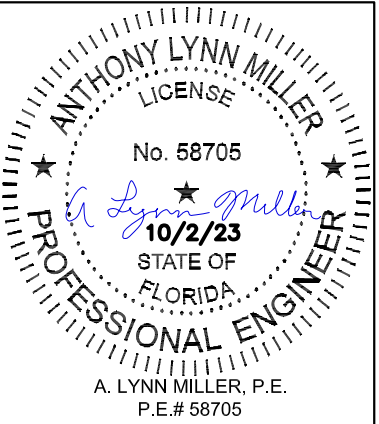
THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.



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

FOR MULLION/
MULTIPLE UNITS, REFER
TO SEPARATE
WINDOOR MULLION
FLORIDA PRODUCT
APPROVED.

W^{INDOOR}[®] INCORPORATED		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600			
		REGISTRATION #29296			
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		1/30/23			
SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)		Date			
ELEVATION & GENERAL NOTES		By		A. MORLESIN	
		Drawn			
		Dwg		No.	
		Sheet		1 OF 10	
		CA238		CA238LMI-FPA	
Series		Rev. #		A	



GENERAL WINDOW SECTIONS

FLANGE FRAME

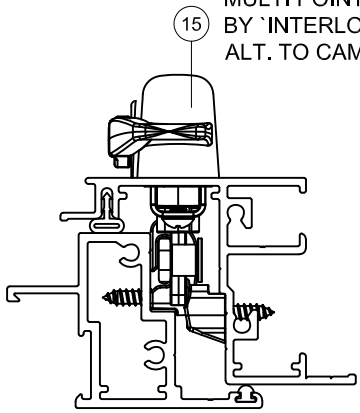
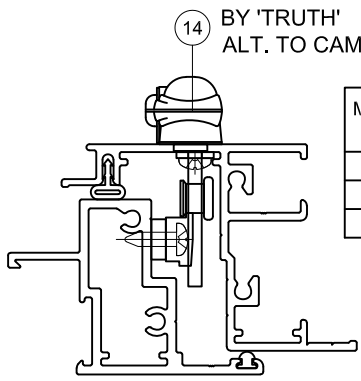
EQUAL LEG FRAME

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

MULTI POINT LOCK
BY 'INTERLOCK'
ALT. TO CAM LOCKS

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

MAX. WDW. HEIGHT	LOCK POINTS
38"	2
56"	3
74"	4
84"	5



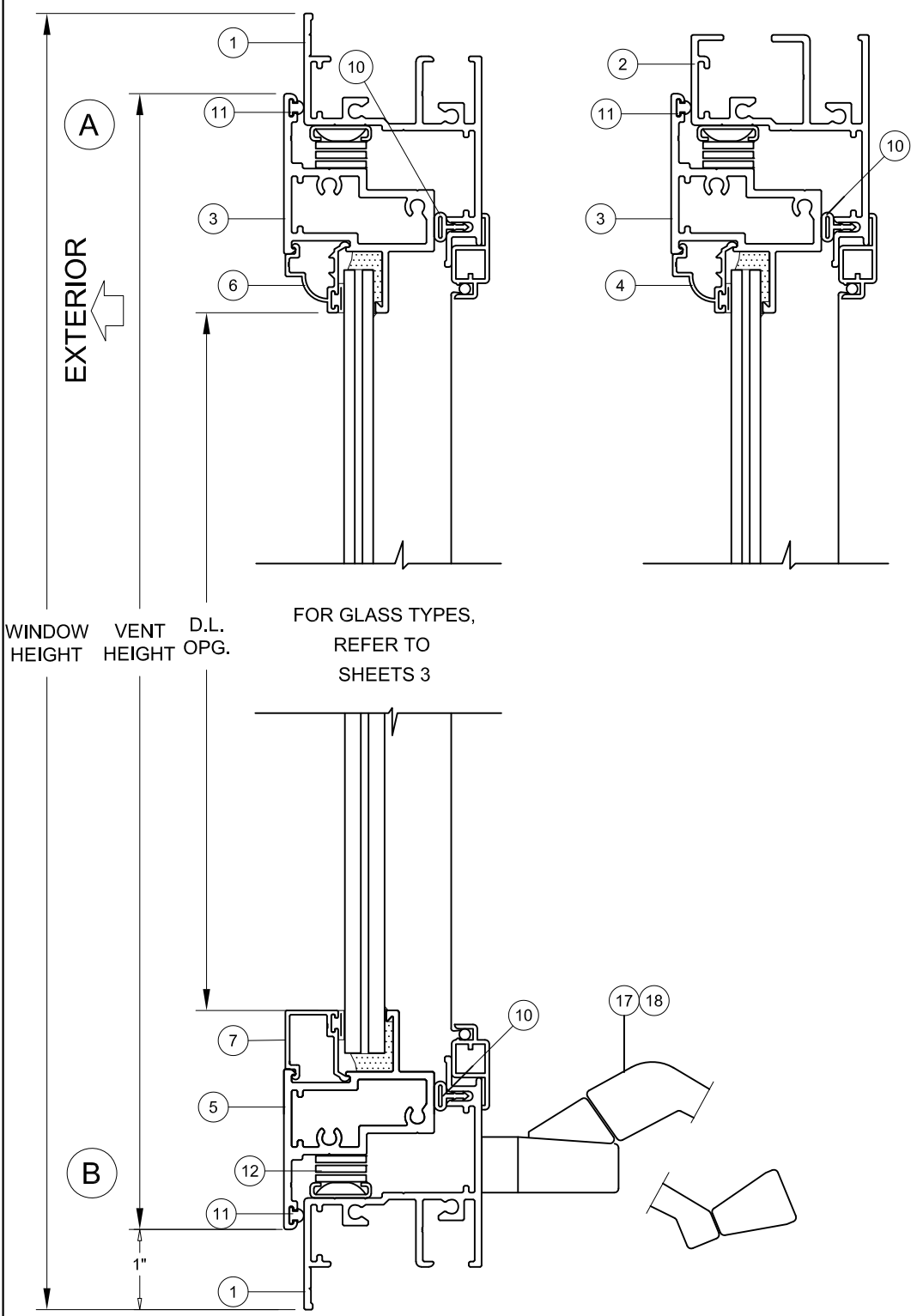
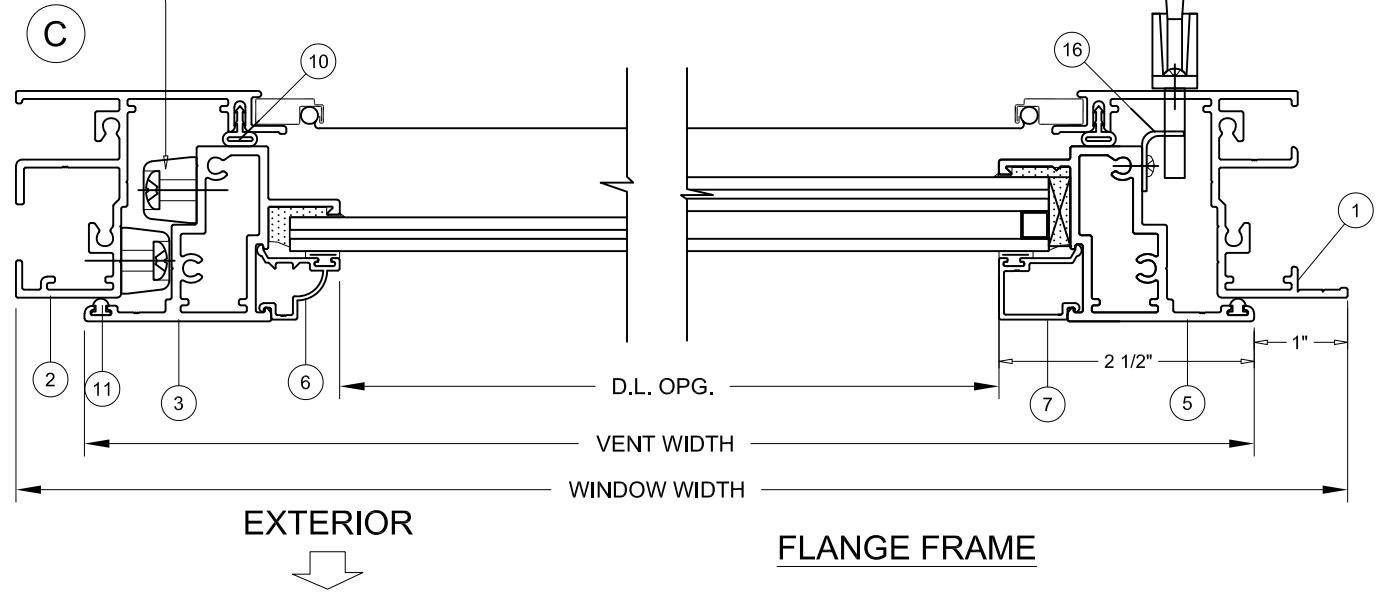
SNUBBER
AT IMPACT WINDOWS ONLY

CAM LOCKS
2 LOCK POINTS
ALL SIZES

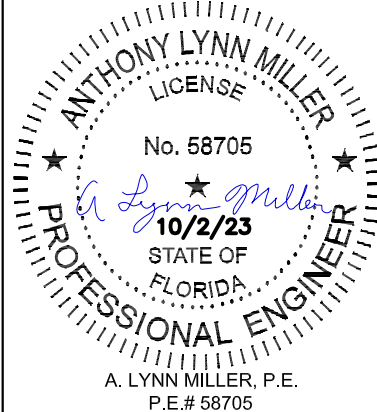
CAM LOCKS
2 LOCK POINTS
ALL SIZES

EQUAL LEG FRAME

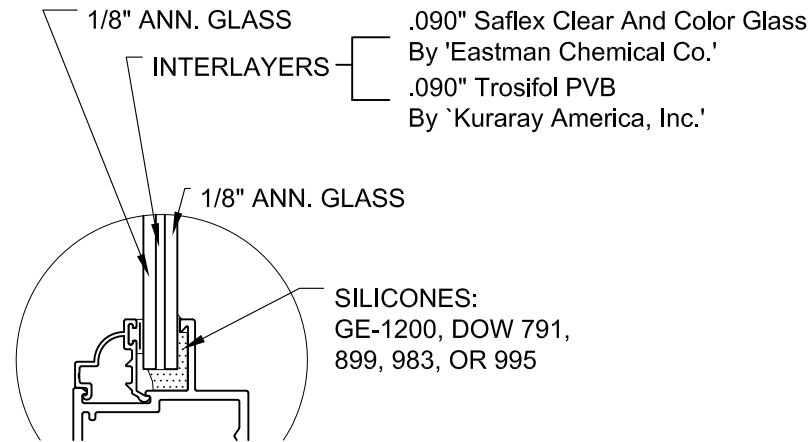
FLANGE FRAME



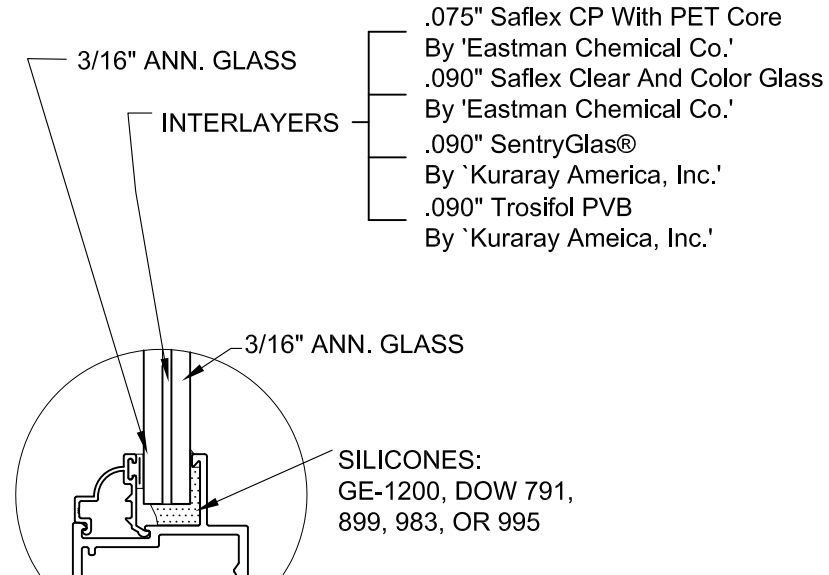
WINDOOR [®]		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	
INCORPORATED		REGISTRATION #29296	
WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD N. VENICE, FL 34275 (833) 554-5432		COPYRIGHT © 2023 WINDOOR, INC., LIMITED LICENSE TO MAKE COPIES FOR PERMITTING.	
Title		Date	
SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)		1/30/23	
SECTION DETAILS		A. MORLESIN	
Desc.		Drawn By	
CA238		CA238LMI-FPA	
Sheet		DWG No.	
2 OF 10		A	
Series		Rev.#	



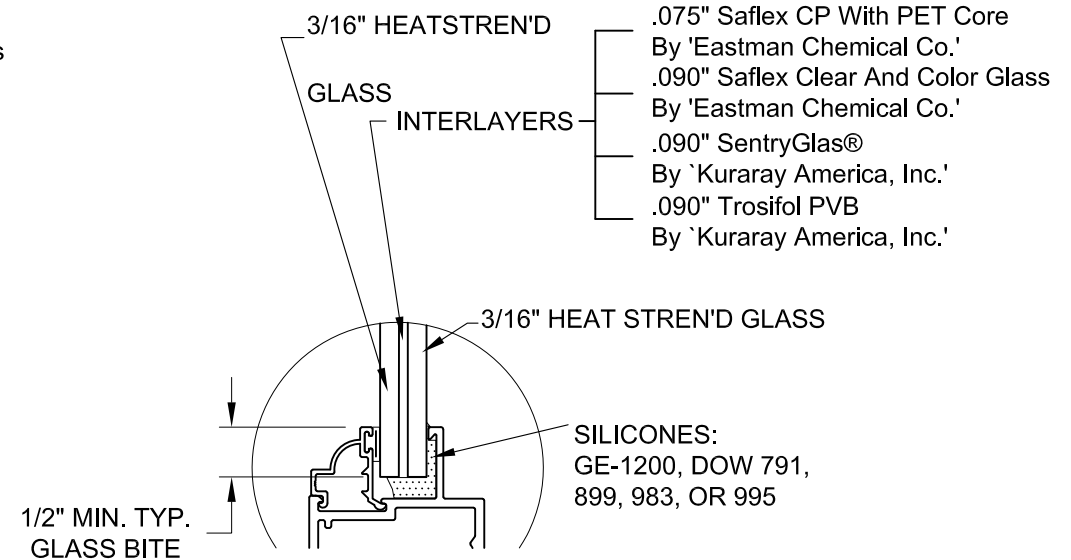
Rev. 9/29/23 By: LMY NO CHANGES THIS SHEET



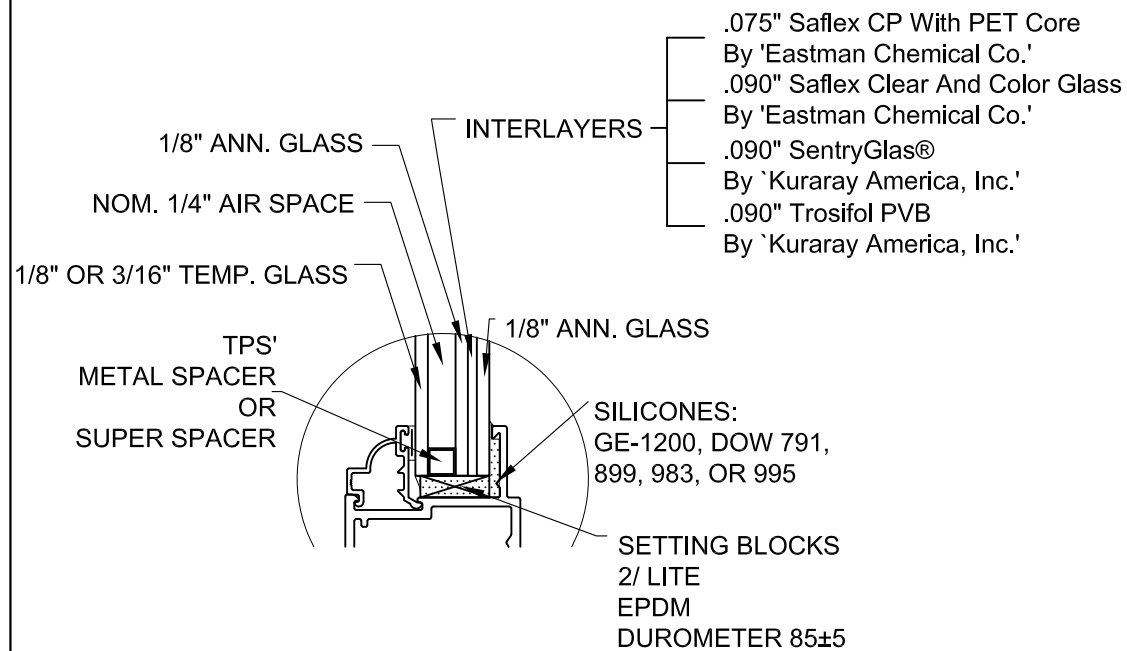
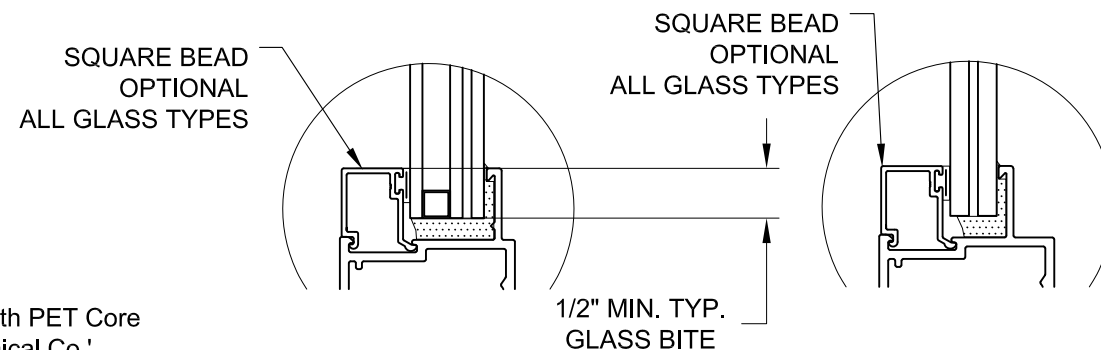
5/16" NOMINAL
GLASS TYPE '1'



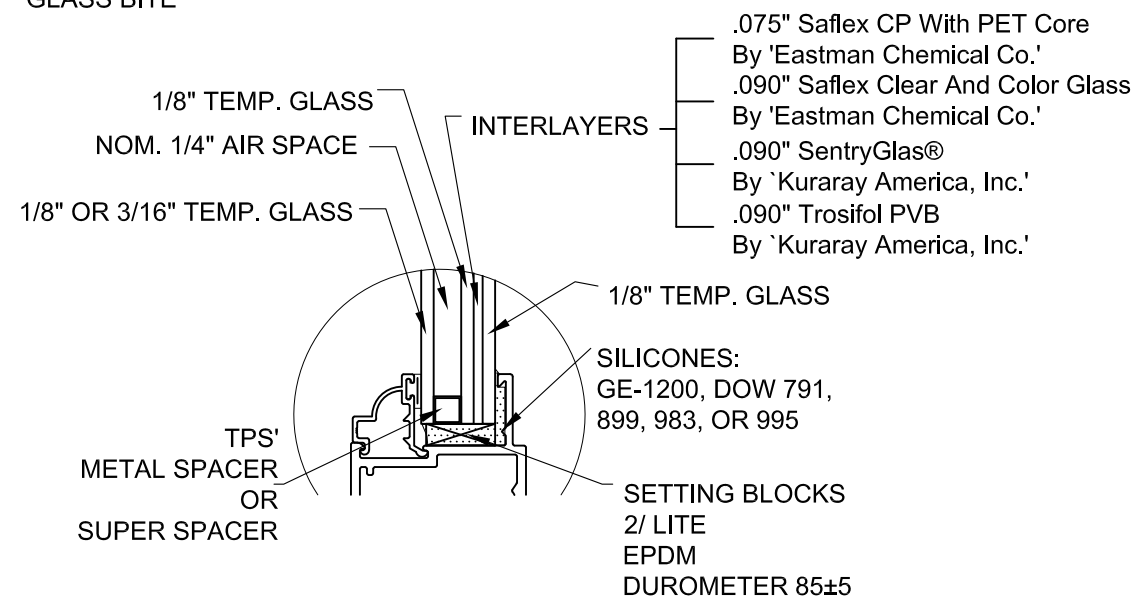
7/16" NOMINAL
GLASS TYPE '2'



7/16" NOMINAL
GLASS TYPE '3'



INSULATED
GLASS TYPE '2A'



INSULATED
GLASS TYPE '3A'

WINDOOR® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD N. VENICE, FL 34275 (833) 554-5432	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296 COPYRIGHT © 2023 WINDOOR, INC., LIMITED LICENSE TO MAKE COPIES FOR PERMITTING.		1/30/23	A
	SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)		A. MORLESIN		1/30/23	CA238LMI-FPA
CA238	3 OF 10	DWG	No.	CA238LMI-FPA	Date	Rev. #
GLASS TYPES		NO CHANGES THIS SHEET				

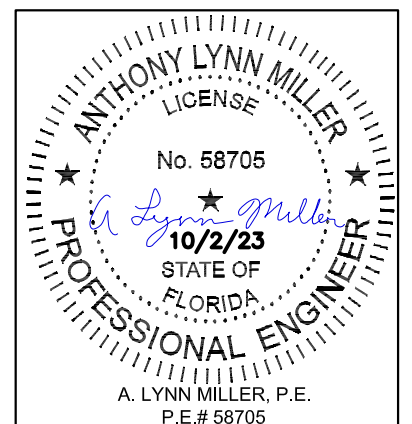


TABLE 1:

Window Design Pressure, (+/- psf)														Use this table for Glass Type:			1	
Window Dimensions		Height (in)																
		26	36	38-3/8	42	48	50-5/8	54	60	63	66	72	74-1/4	76	77	78	84	
Width (in)	19-1/8	+110/-195	+110/-194.3	+110/-190.6	+110/-166.5	+110/-145.7	+110/-144.5	+110/-129.5	+98.8/-112.6	+96.7/-104.2	+/-86.7	+/-66.4	+/-63	+/-52	+/-52	+/-52	+/-41.5	
	20	+110/-195	+110/-194.3	+110/-166.5	+110/-166.5	+110/-145.7	+110/-129.5	+110/-129.5	+98.8/-112.6	+/-86.7	+/-86.7	+/-66.4	+/-52	+/-52	+/-52	+/-52	+/-41.5	
	24	+110/-195	+110/-161.9	+110/-138.8	+110/-138.8	+110/-121.4	+99.7/-107.9	+98/-107.9	+85.8/-95.4	+74.9/-77.9	+/-73.4	+/-56.1	+/-46.6	+/-43.8	+/-43.8	+/-43.8	+/-34.9	
	26-1/2	+110/-195	+110/-138.8	+110/-137.5	+110/-118.9	+103.8/-104.3	+99.7/-104.3	+88.2/-92.5	+76.7/-83.3	+74.9/-77.9	+/-64.2	+/-48.9	+/-46.6	+/-38.1	+/-38.1	+/-38.1		
	28	+110/-145.4	+110/-138.8	+110/-118.9	+110/-118.9	+103.8/-104.1	+88.2/-92.5	+88.2/-92.5	+76.7/-83.3	+/-64.2	+/-64.2	+/-48.9	+/-38.1	+/-38.1	+/-38.1	+/-38.1		
	30	+110/-145.4	+110/-129.5	+110/-111	+110/-111	+/-97.1	+84.4/-86.3	+84.4/-86.3	+73.2/-77.7	+/-60.6	+/-60.6	+/-46						
	32	+110/-145.4	+110/-121.4	+/-104.1	+/-104.1	+/-91.1	+/-80.9	+/-80.9	+70.2/-72.8	+/-60	+/-57.5	+/-43.6						
	36	+110/-145.4	+/-107.9	+/-98.5	+/-92.5	+/-80.9	+/-74.7	+/-71.9	+/-64.8	+/-60								
	37	+110/-145.4	+/-98.5	+/-98.5	+/-83.3	+/-74.7	+/-74.7	+/-64.8	+/-60	+/-60								
	40	+110/-128.1	+/-97.1	+/-86.8	+/-83.3	+/-72.8	+/-65.8	+/-64.8										
	42	+110/-128.1	+/-92.5	+/-86.8	+/-79.3	+/-69.4	+/-65.8	+/-61.7										

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' ⁽¹⁵⁾
IS USED.

* * SIZE 37" X 77" APPLICABLE TO FLANGE
FRAMES ONLY SEE SHEET 1.

TABLE 2:

Window Design Pressure, (+/- psf)														Use this table for Glass Type:			2	
Window Dimensions		Height (in)																
		26	36	38-3/8	42	48	50-5/8	54	60	63	66	72	74-1/4	76	77	78	84	
Width (in)	19-1/8	+110/-195	+110/-195	+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
	20	+110/-195	+110/-195	+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
	24	+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	+110/-120	+110/-120
	26-1/2	+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	+110/-120	+110/-120	+110/-120
	28	+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	+110/-120	+110/-120	+110/-120	+110/-120
	30	+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	+110/-120	+110/-120	+110/-120	+/-51.2
	32	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60	+/-60	+/-48.3
	36	+110/-195	+110/-195	+110/-194.5	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60	+/-60	+/-56.3		
	37	+110/-195	+110/-195	+110/-194.5	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-59.8	+/-59.8	+/-56.3	+/-56.3**		
	40	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60					
42	+110/-195*	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60							

TABLE 3:

Window Design Pressure, (+/- psf)														Use this table for Glass Type:			3	
Window Dimensions		Height (in)																
		26	36	38-3/8	42	48	50-5/8	54	60	63	66	72	74-1/4	76	77	78	84	
Width (in)	19-1/8	+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	+110/-120	+110/-120
	20	+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	+110/-120	+110/-120
	24	+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	+110/-120	+110/-120
	26-1/2	+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	+110/-120	+110/-120	+/-54.5
	28	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-54.5
	30	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60	+/-60	+/-51.2
	32	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60	+/-60	+/-48.3
	36	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60	+/-60	+/-56.3		
	37	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-59.8	+/-59.8	+/-56.3	+/-56.3**		
	40	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60						
42	+110/-195*	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-60	+/-60	+/-60								

WINDOOR[®]

INCORPORATED

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

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

REGISTRATION #29296
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SERIES "238" OUTSWING ALUM. CASEMENT
WINDOW (LMI)

GLASS PERFORMANCE VALUES

4 OF 10

CA238

CA238LMI-FPA

A

By: **A. MORLESIN**

Date: 1/30/23

Rev. #: A

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/2/23
STATE OF
FLORIDA
A. LYNN MILLER, P.E.
P.E.# 58705

Rev. 9/29/23
Date
By: LMY
CHANGE TO MATRIX FORMAT

TABLE 4:

Window Design Pressure, (+/- psf)														Use this table for Glass Type:			2A	
Window Dimensions		Height (in)																
		26	36	38-3/8	42	48	50-5/8	54	60	63	66	72	74-1/4	76	77	78	84	
Width (in)	19-1/8	+110/-195	+110/-194.3	+110/-190.6	+110/-166.5	+110/-145.7	+110/-144.5	+110/-129.5	+98.8/-112.6	+96.7/-104.2	+/-86.7	+/-66.4	+/-63	+/-60	+/-60	+/-60	+/-54.5	
	20	+110/-195	+110/-194.3	+110/-166.5	+110/-166.5	+110/-145.7	+110/-129.5	+110/-129.5	+98.8/-112.6	+/-86.7	+/-86.7	+/-66.4	+/-60	+/-60	+/-60	+/-60	+/-54.5	
	24	+110/-195	+110/-161.9	+110/-138.8	+110/-138.8	+110/-121.4	+99.7/-107.9	+98/-107.9	+85.8/-95.4	+74.9/-77.9	+/-73.4	+/-60	+/-60	+/-60	+/-60	+/-60	+/-54.5	
	26-1/2	+110/-195	+110/-138.8	+110/-137.5	+110/-118.9	+104.1/-104.3	+99.7/-104.3	+/-92.5	+76.7/-83.3	+74.9/-77.9	+/-64.2	+/-60	+/-60	+/-60	+/-60	+/-60	+/-54.5	
	28	+110/-145.4	+110/-138.8	+110/-118.9	+110/-118.9	+/-104.1	+/-92.5	+/-92.5	+76.7/-83.3	+/-64.2	+/-64.2	+/-60	+/-60	+/-60	+/-60	+/-60	+/-54.5	
	30	+110/-145.4	+110/-129.5	+110/-111	+110/-111	+/-97.1	+84.4/-86.3	+84.4/-86.3	+73.2/-77.7	+/-60.6	+/-60.6	+/-60	+/-60	+/-60	+/-60	+/-60	+/-51.2	
	32	+110/-145.4	+110/-121.4	+/-104.1	+/-104.1	+/-91.1	+/-80.9	+/-80.9	+70.2/-72.8	+/-60	+/-60	+/-60	+/-60	+/-60	+/-60	+/-60	+/-48.3	
	36	+110/-145.4	+/-107.9	+/-98.5	+/-92.5	+/-80.9	+/-74.7	+/-71.9	+/-64.8	+/-60	+/-60	+/-60	+/-60	+/-60	+/-56.3			
	37	+110/-145.4	+/-98.5	+/-98.5	+/-83.3	+/-74.7	+/-74.7	+/-64.8	+/-60	+/-60	+/-60	+/-59.8	+/-59.8	+/-56.3	+/-56.3**			
	40	+110/-128.1	+/-97.1	+/-86.8	+/-83.3	+/-72.8	+/-65.8	+/-64.8	+/-60	+/-60	+/-60							
42	+110/-128.1	+/-92.5	+/-86.8	+/-79.3	+/-69.4	+/-65.8	+/-61.7	+/-60	+/-60									

TABLE 5:

Window Design Pressure, (+/- psf)												Use this table for Glass Type:			3A	
Window Dimensions		Height (in)														
		26	36	38-3/8	42	48	50-5/8	54	60	63	66	72	74-1/4	78	84	
Width (in)	19-1/8	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-169	+110/-120	+110/-120	+/-101.3	+/-80.8	
	20	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-169	+110/-169	+110/-120	+/-101.3	+/-101.3	+/-80.8
	24	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+/-109.3	+/-90.9	+/-85.4	+/-68
	26-1/2	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+/-95.3	+/-90.9	+/-74.3	
	28	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+/-95.3	+/-74.3	+/-74.3	
	30	+110/-195	+110/-195	+110/-195	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-118.2	+110/-118.2	+/-89.8			
	32	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-117	+110/-112.2	+/-85			
	36	+110/-195	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-117					
	37	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-117	+110/-117					
	40	+110/-195	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120							
	42	+110/-195*	+110/-120	+110/-120	+110/-120	+110/-120	+110/-120	+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.

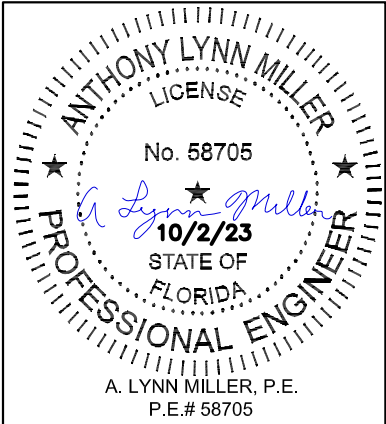
* LIMIT MAX. LOADS TO 171.0 PSF WHEN
MULTI POINT LOCK BY 'INTERLOCK' ⁽¹⁵⁾
IS USED.

* * SIZE 37" X 77" APPLICABLE TO FLANGE
FRAMES ONLY SEE SHEET 1.

Rev
Date
9/29/23
By:
LMY

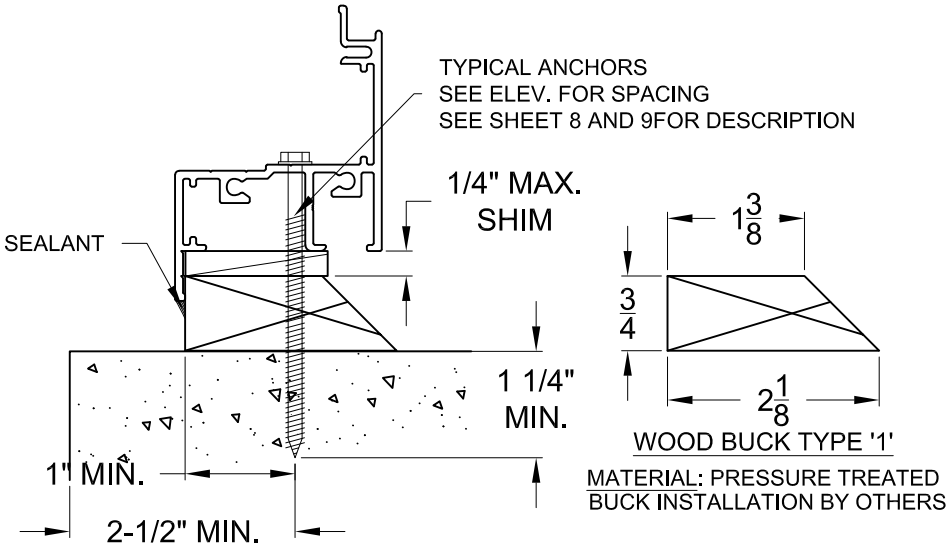
CHANGE TO MATRIX FORMAT

WINDOOR[®] INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD N VENICE, FL 34275 (833) 554-5432		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600				REGISTRATION #29296		COPYRIGHT © 2023 WINDOOR, INC., LIMITED LICENSE TO MAKE COPIES FOR PERMITTING.		1/30/23	
		SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)									
		GLASS PERFORMANCE VALUES									
		A. MORLESIN									
Series	CA238	Sheet	5 OF 10		DWG No.	By	CA238LMI-FPA		Rev #		A

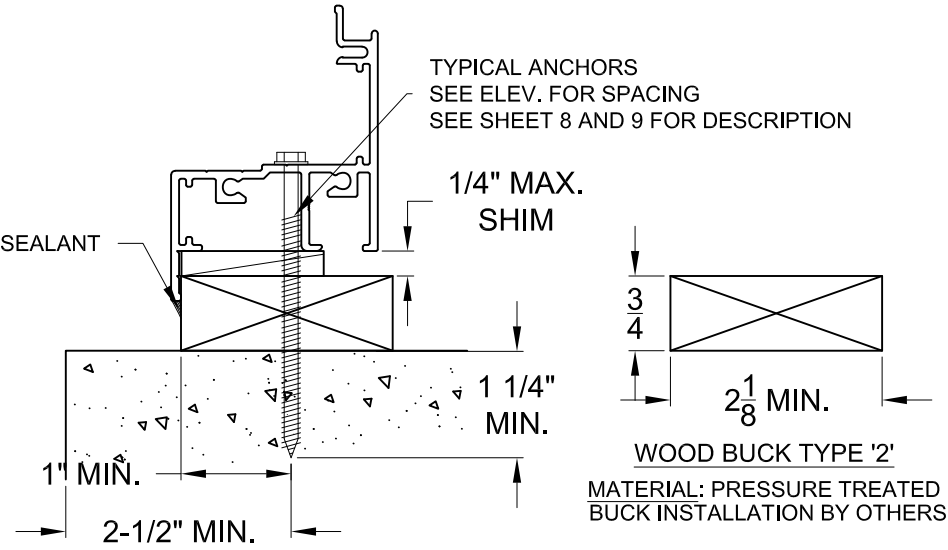


INSTALLATION CONDITIONS FLANGE FRAME (APPLIES TO ALL FOUR SIDES)

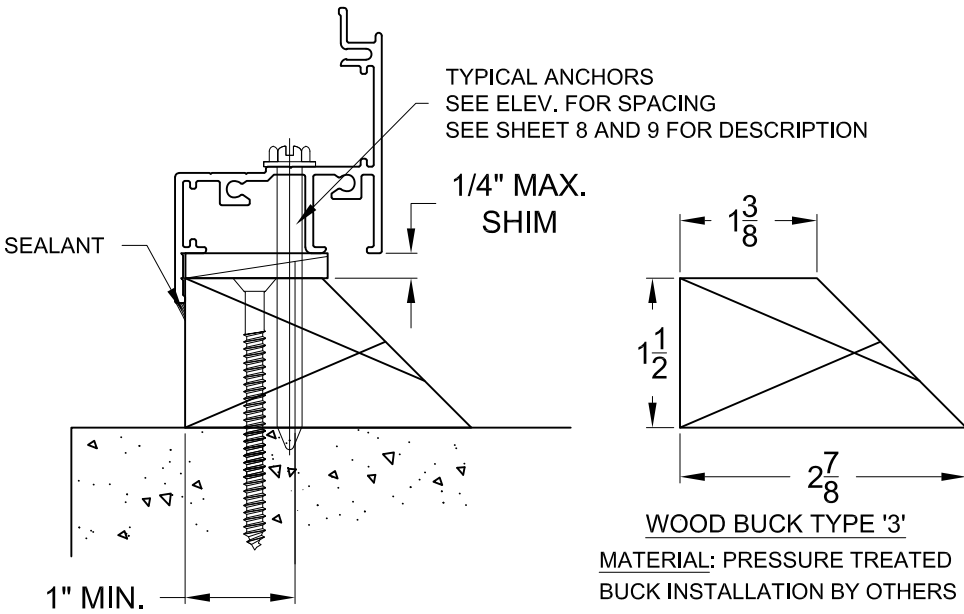
FOR ANCHOR PERFORMANCE VALUES SEE SHEET 8 AND 9



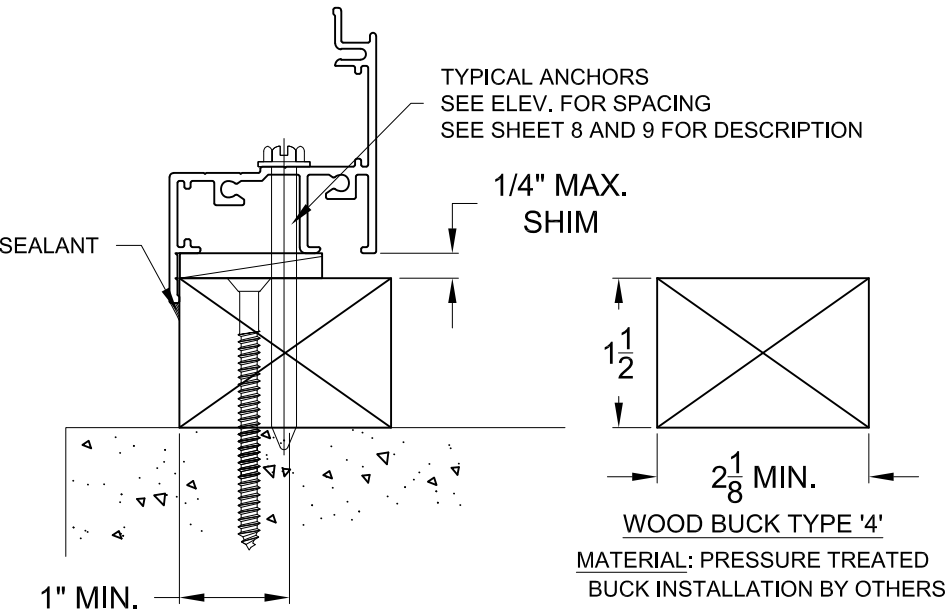
INSTALLATION TYPE '1'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD



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

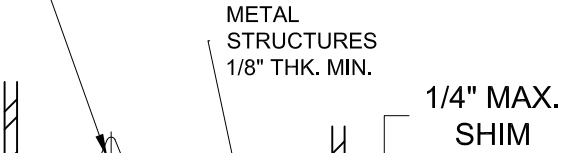


INSTALLATION TYPE '3'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD

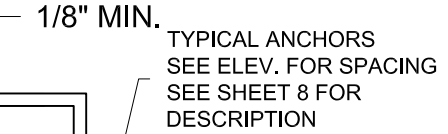


INSTALLATION TYPE '4'
TYPICAL INSTALLATION DETAIL
ON ALL FOUR SIDES/USING WOOD

TYPICAL ANCHORS
SEE ELEV. FOR SPACING
SEE SHEET 8 AND 9 FOR DESCRIPTION

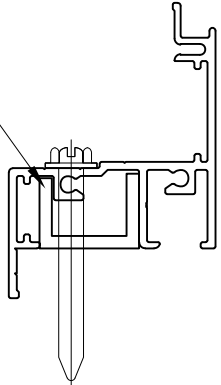


ATTACHMENT TO
METAL STRUCTURES



ATTACHMENT TO
APPROVED MULLIONS

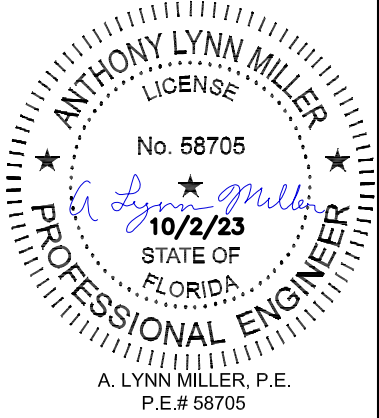
ALUM CHANNEL
3/4" X 1" X 3/4" X 1/8"
2-1/2" LONG
AT ANCHOR LOCATIONS



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.

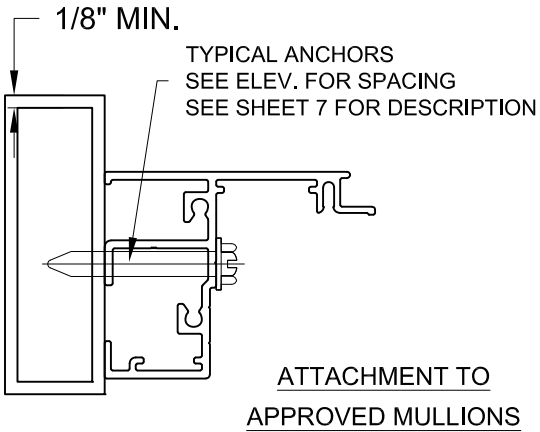
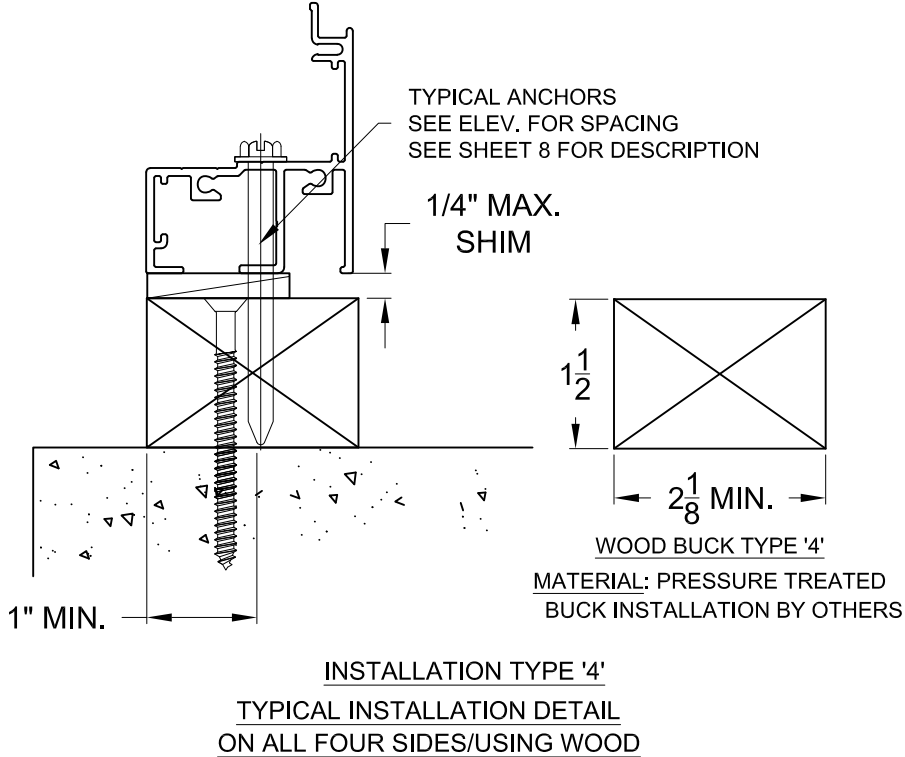
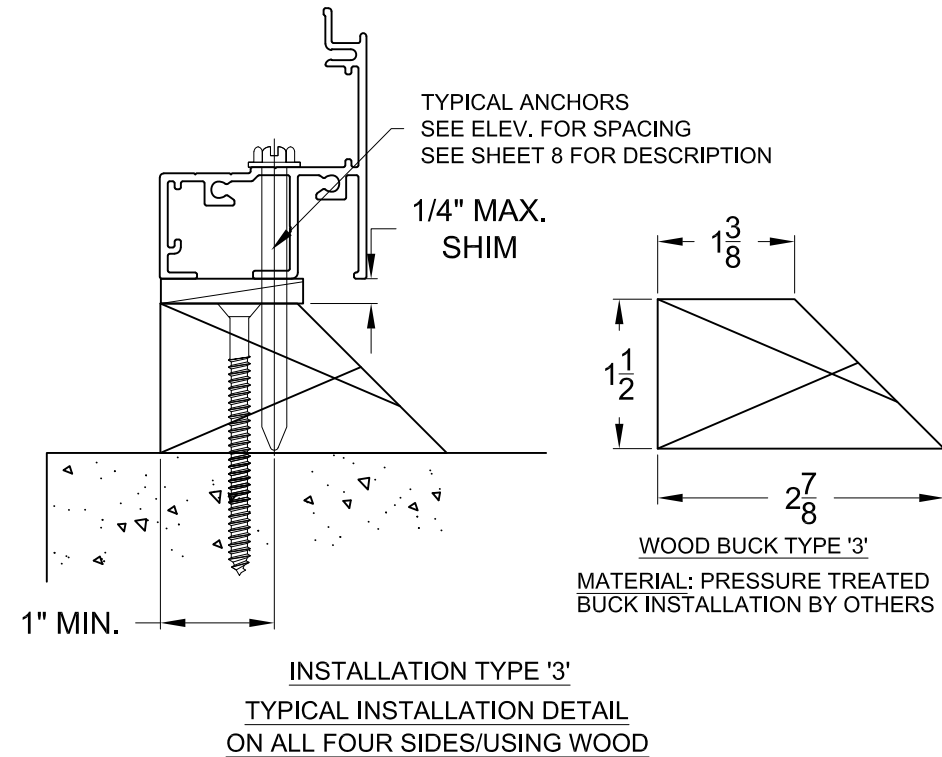
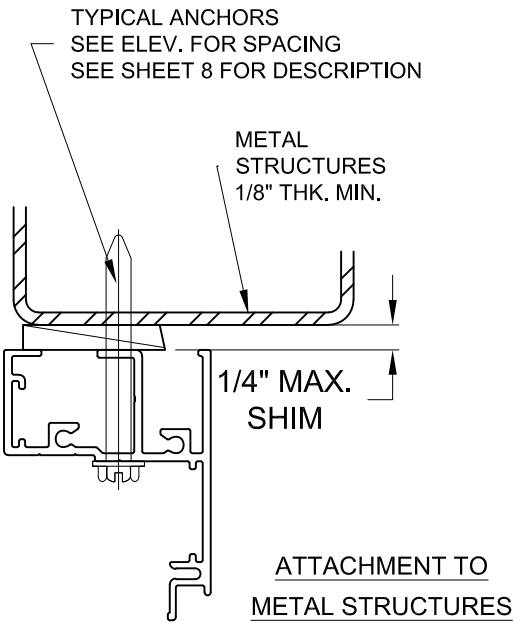
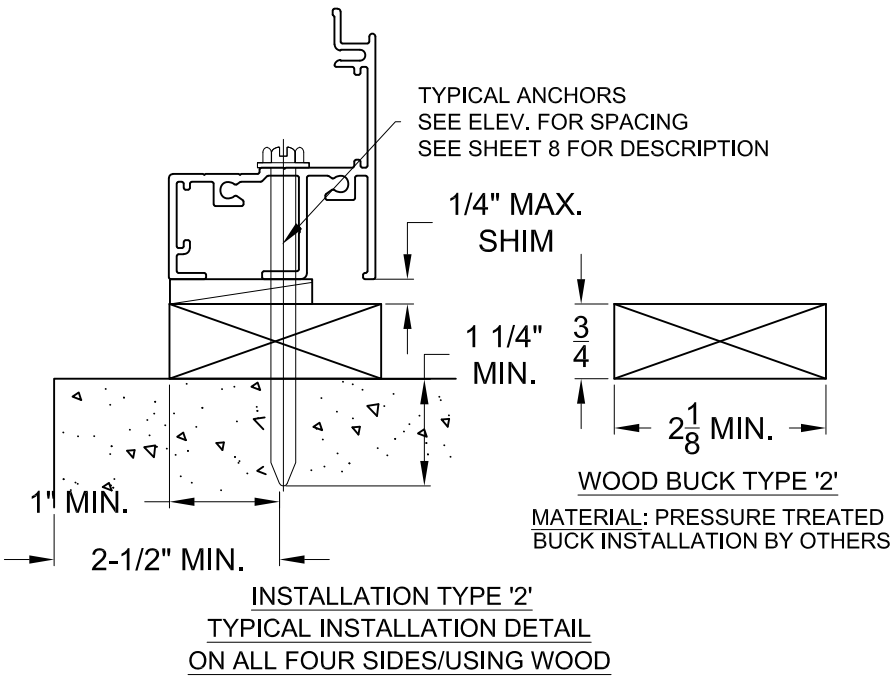
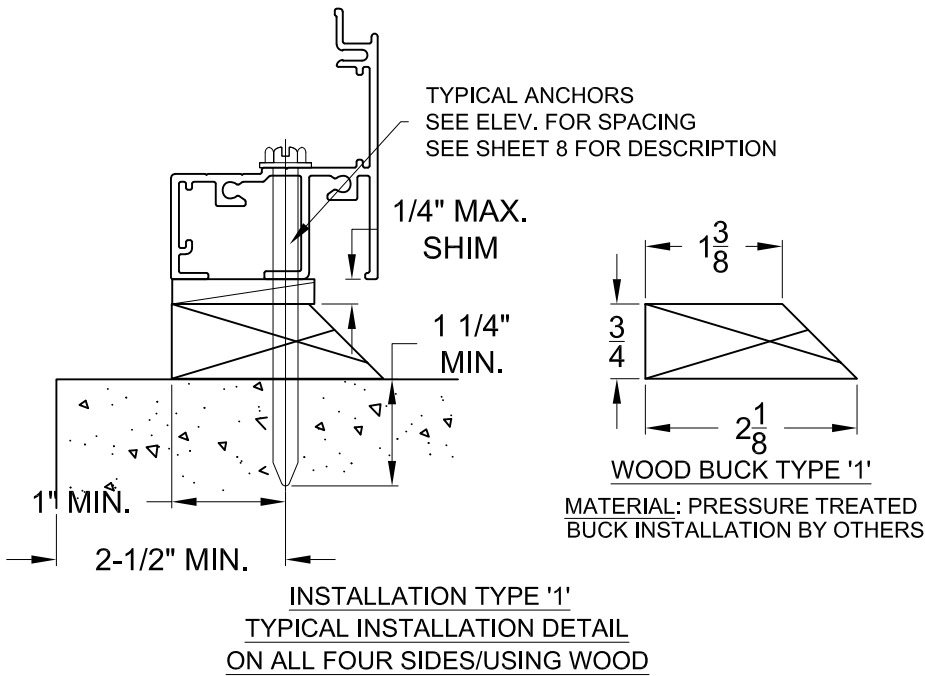
PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296 COPYRIGHT © 2023 WINDOOR, INC., LIMITED LICENSE TO MAKE COPIES FOR PERMITTING.	1/30/23 Date	A. MORLESIN By	CA238LM-LFPA DWG	6 OF 10 Sheet	CA238 Series	ANCHOR INSTALLATION Desc.	SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI) Title	WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD N. VENICE, FL 34275 (833) 554-5432	WINDOOR® INCORPORATED



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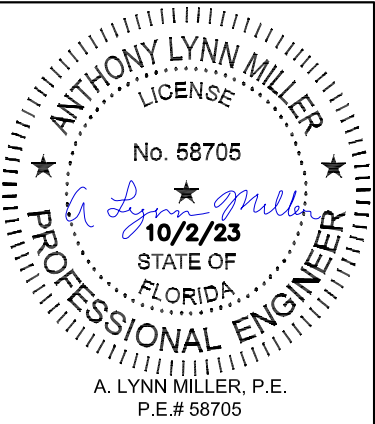
INSTALLATION CONDITIONS EQUAL LEG FRAME (APPLIES TO ALL FOUR SIDES)

FOR ANCHOR PERFORMANCE VALUES SEE SHEET 8



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

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		REGISTRATION #29296	
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Series	CA238	Sheet	
7 OF 10		DWG No.	
ANCHOR INSTALLATION 2		By Drown	
TITLE		Date	
SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)		1/30/23	
ANCHOR INSTALLATION 2		A. MORLESIN	
CA238		CA238LMI-FPA	
Rev.#		A	



PERFORMANCE VALUES OF INSTALLATION ANCHORS REFER TO SHEETS 6 & 7 FOR DETAILS					
WINDOW DIMS.		ANCHORS W/O SHEAR CLIP		ANCHORS WITH SHEAR CLIP	
		AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.
WIDTH	HEIGHT	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)
20"	36"	195.0	195.0	154.8	195.0
24"		195.0	195.0	129.0	172.0
28"		192.9	195.0	110.6	147.4
30"		180.0	195.0	103.2	137.6
32"		168.8	195.0	96.8	129.0
36"		150.0	195.0	86.0	114.7
40"		135.0	180.0	77.4	103.2
42"		128.6	171.4	73.7	98.3
20"	42"	195.0	195.0	132.7	176.9
24"		192.9	195.0	110.6	147.4
28"		165.3	195.0	94.8	126.4
30"		154.3	195.0	88.5	117.9
32"		144.6	192.9	82.9	110.6
36"		128.6	171.4	73.7	98.3
40"		115.7	154.3	66.3	88.5
42"		110.2	146.9	63.2	84.2
20"	48"	195.0	195.0	154.8	193.5
24"		195.0	195.0	129.0	161.3
28"		192.9	195.0	110.6	138.2
30"		180.0	195.0	103.2	129.0
32"		168.8	195.0	96.8	120.9
36"		150.0	187.5	86.0	107.5
40"		135.0	168.8	77.4	96.8
42"		128.6	160.7	73.7	92.1
20"	54"	195.0	195.0	137.6	195.0
24"		195.0	195.0	114.7	172.0
28"		171.4	195.0	98.3	147.4
30"		160.0	195.0	91.7	137.6
32"		150.0	195.0	86.0	129.0
36"		133.3	195.0	76.4	114.7
40"		120.0	180.0	68.8	103.2
42"		114.3	171.4	65.5	98.3
20"	60"	195.0	195.0	123.8	185.8
24"		180.0	195.0	103.2	154.8
28"		154.3	195.0	88.5	132.7
30"		144.0	195.0	82.6	123.8
32"		135.0	195.0	77.4	116.1
36"		120.0	180.0	68.8	103.2
40"		108.0	162.0	61.9	92.9
42"		102.9	154.3	59.0	88.5
20"	66"	195.0	195.0	140.7	195.0
24"		195.0	195.0	117.3	164.2
28"		175.3	195.0	100.5	140.7
30"		163.6	195.0	93.8	131.3
32"		153.4	195.0	88.0	123.1
36"		136.4	190.9	78.2	109.5
40"		122.7	171.8	70.4	98.5

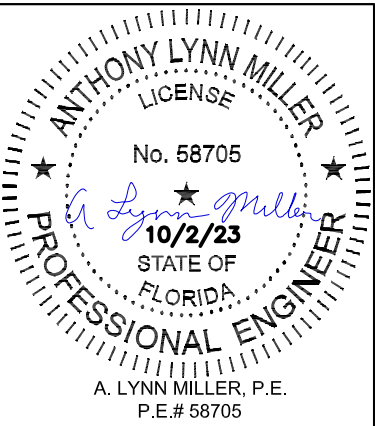
PERFORMANCE VALUES OF INSTALLATION ANCHORS REFER TO SHEETS 6 & 7 FOR DETAILS					
WINDOW DIMS.		ANCHORS W/O SHEAR CLIP		ANCHORS WITH SHEAR CLIP	
		AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.
WIDTH	HEIGHT	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)
20"	72"	195.0	195.0	129.0	180.6
24"		187.5	195.0	107.5	150.5
28"		160.7	195.0	92.1	129.0
30"		150.0	195.0	86.0	120.4
32"		140.6	195.0	80.6	112.9
36"		125.0	175.0	71.7	100.3
32"	76"	133.2	195.0	76.4	122.2
36"		118.4	189.5	67.9	108.6
20"	78"	195.0	195.0	119.1	190.5
24"		173.1	195.0	99.2	158.8
28"		148.4	195.0	85.1	136.1
30"		138.5	195.0	79.4	127.0
32"		129.8	195.0	74.4	119.1
20"	84"	195.0	195.0	132.7	195.0
24"		195.0	195.0	110.6	165.9
28"		165.3	195.0	94.8	142.2
32"		154.3	195.0	88.5	132.7

PERFORMANCE VALUES OF INSTALLATION ANCHORS REFER TO SHEETS 6 & 7 FOR DETAILS					
WINDOW DIMS.		ANCHORS W/O SHEAR CLIP		ANCHORS WITH SHEAR CLIP	
		AT 17" O.C.	AT 10" O.C.	AT 17" O.C.	AT 10" O.C.
WIDTH	HEIGHT	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)	POS.(+) / NEG.(-)
19-1/8"	26"	195.0	195.0	149.4	195.0
26-1/2"		195.0	195.0	107.8	161.8
37"		195.0	195.0	77.2	115.9
19-1/8"	38-3/8"	195.0	195.0	151.9	195.0
26-1/2"		191.2	195.0	109.6	146.1
37"	50-5/8"	136.9	182.6	78.5	104.7
19-1/8"		195.0	195.0	153.5	191.9
26-1/2"		193.2	195.0	110.8	138.5
37"	63"	138.4	173.0	79.3	99.2
19-1/8"		195.0	195.0	123.3	195.0
26-1/2"		155.3	195.0	89.0	155.8
37"		111.2	194.6	63.8	111.6
42"		98.0	171.4	56.2	98.3
19-1/8"	74-1/4"	195.0	195.0	130.8	195.0
26-1/2"		164.7	195.0	94.4	151.1
37"		117.9	188.6	67.6	108.1

TYPICAL ANCHORS:

Anchor Type	Description	Substrate	Frame Members	Min. Edge Distance	Min. Embedment or Metal Thickness
A	1/4" DIA. Hilti Kwik-con II	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"
		Directly into Concrete or Masonry	All	2-1/2"	1-1/4"
B	1/4" DIA. Ultracon+	Into 2BY Wood Buck or Wood Structure	All	1"	1-1/2"
		Thru 1BY Buck into Concrete or Masonry	All	1"	1-1/4"
		Directly into Concrete or Masonry	All	2-1/2"	1-1/4"
		Directly into Grout filled Block	All	2-1/2"	2-1/4"
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
		Into 2BY Wood Buck or Wood Structure	All	1"	1-1/2"

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SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)		Title		Date	1/30/23
ANCHORS & DESIGN PRESSURE		By		A. MORLESIN	
CA238		DWG No.		CA238LMI-FPA	
8 OF 10		Sheet		Rev.#	
Series		CA238		A	

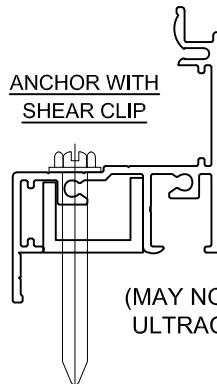
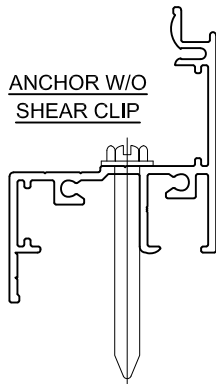
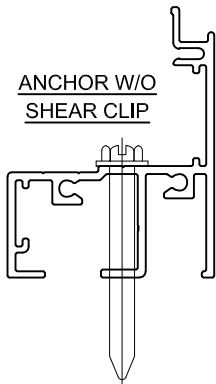


LMY
By: 9/29/23
Date
NO CHANGES THIS SHEET
Rev

PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS			
WINDOW DIMS.		POS.(+)	NEG.(-)
WIDTH	HEIGHT		
20"	36"	110.0	195.0
24"		110.0	195.0
28"		110.0	186.5
30"		110.0	182.4
32"		110.0	179.5
36"		110.0	177.3
40"		105.8	145.1
42"		97.0	120.0
20"	42"	110.0	179.5
24"		110.0	159.6
28"		106.9	146.6
30"		103.5	141.9
32"		100.7	138.1
36"		97.0	120.0
40"		95.2	120.0
42"		95.0	120.0
20"	48"	110.0	195.0
24"		110.0	177.3
28"		110.0	160.9
30"		110.0	154.8
32"		109.1	120.0
36"		103.5	120.0
40"		99.8	120.0
42"		95.0	120.0
20"	54"	110.0	174.1
24"		110.0	152.0
28"		99.8	120.0
30"		95.5	120.0
32"		91.9	120.0
36"		86.2	118.2
40"		82.2	112.7
42"		80.6	110.5
20"	60"	110.0	153.2
24"		97.0	133.0
28"		86.8	119.0
30"		82.8	113.5
32"		79.4	108.8
36"		73.9	101.3
40"		60.0	60.0
42"		60.0	60.0
20"	66"	110.0	171.0
24"		107.8	120.0
28"		95.9	120.0
30"		91.3	120.0
32"		87.3	119.7
36"		60.0	60.0
40"		60.0	60.0

PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS			
WINDOW DIMS.		POS.(+)	NEG.(-)
WIDTH	HEIGHT		
20"	72"	110.0	154.5
24"		97.0	120.0
28"		86.0	117.9
30"		81.7	112.0
32"		77.9	106.9
36"		60.0	60.0
20"	76"	105.8	120.0
24"		90.9	120.0
28"		80.5	110.3
30"		76.3	104.7
32"		60.0	60.0
36"		60.0	60.0
20"	78"	102.7	120.0
24"		88.2	120.0
28"		77.9	120.0
30"		73.9	101.3
32"		60.0	60.0
20"	84"	110.0	120.0
24"		97.0	120.0
28"		85.5	117.3
30"		60.0	60.0
32"		60.0	60.0

PERFORMANCE VALUES OF ALUMINUM BUCK INSTALLATION ANCHORS			
WINDOW DIMS.		POS.(+)	NEG.(-)
WIDTH	HEIGHT		
19-1/8"	26"	110.0	195.0
26-1/2"		110.0	195.0
37"		110.0	184.2
42"		110.0	152.4
19-1/8"		110.0	195.0
26-1/2"	38-3/8"	110.0	172.6
37"		110.0	156.3
42"		95.7	120.0
19-1/8"	50-5/8"	110.0	195.0
26-1/2"		110.0	154.7
37"		94.0	120.0
42"		89.8	120.0
19-1/8"		109.3	149.9
26-1/2"	63"	84.8	116.2
37"		67.9	93.1
42"		60.0	60.0
19-1/8"		110.0	154.8
26-1/2"	74-1/4"	86.4	118.5
37"		60.0	60.0
19-1/8"		109.9	120.0
26-1/2"	76"	84.0	115.2
37"		60.0	60.0
19-1/8"		108.3	120.0
26-1/2"	77"	82.7	113.4
37"		60.0	60.0

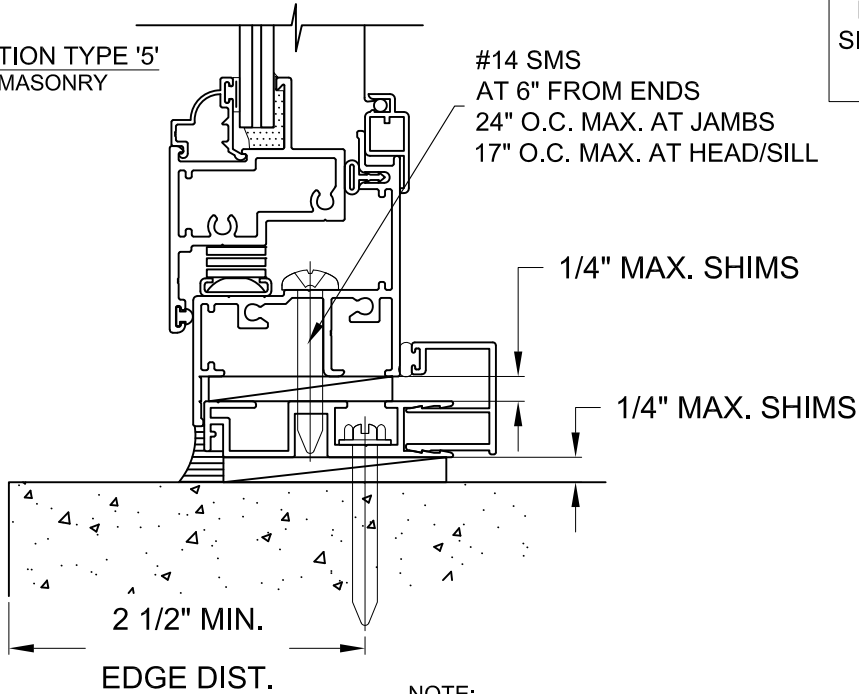


(MAY NOT BE USED WITH
ULTRACON+ ANCHORS)

ALUMINUM BUCK FRAMING DETAILS

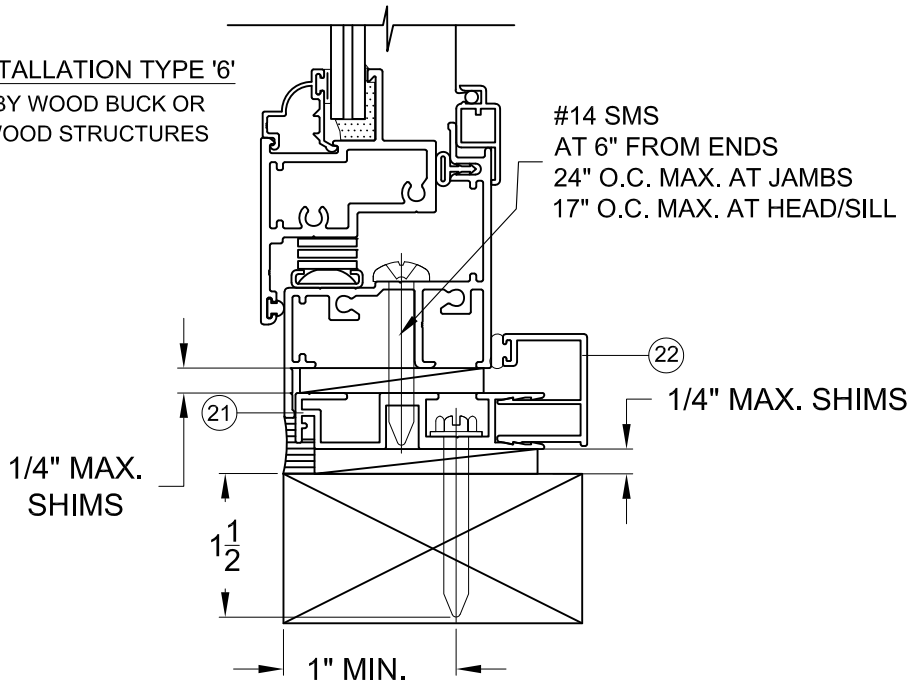
REFER TO SHEETS 4 THRU 8 FOR WINDOW CAPACITIES
USE LOWER APPLICABLE VALUES.

INSTALLATION TYPE '5'
INTO MASONRY



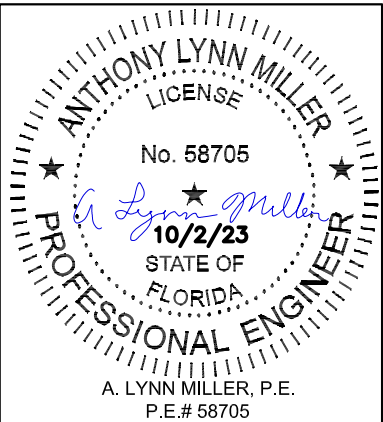
NOTE:
ALUM BUCK ANCHORS TO BE INTO
CONCRETE AT HEAD & SILL.
MAY BE INTO FILLED CMU AT JAMBS.

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



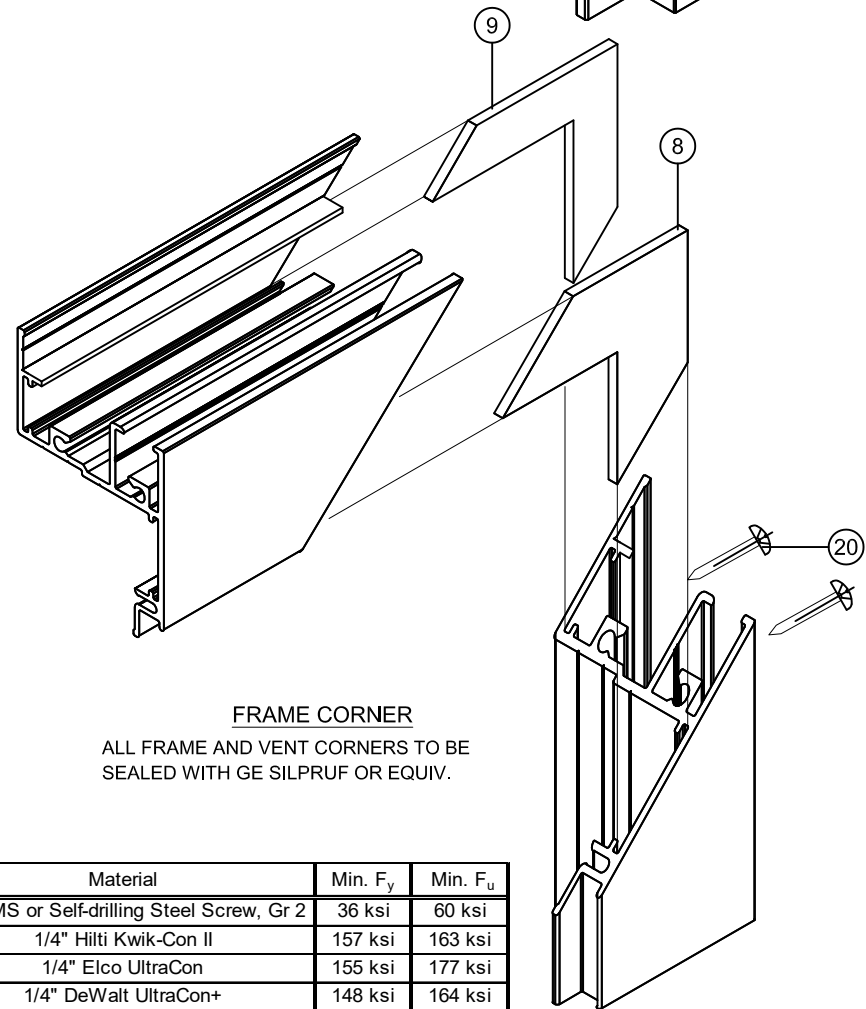
TYPICAL INSTALLATION
DETAIL ON ALL FOUR
SIDES USING ALUMINUM
BUCK SYSTEM

WINDOOR[®] INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD N VENICE, FL 34275 (833) 554-5432		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600			
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		Date1/30/23			
SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)		ByDrawn		A. MORLESIN	
ALU. BUCK PERFORMANCE					
CA238		9 OF 10		CA238LMI-FPA	
Sheet		No.		Rev.#	
Series		Dwg		A	

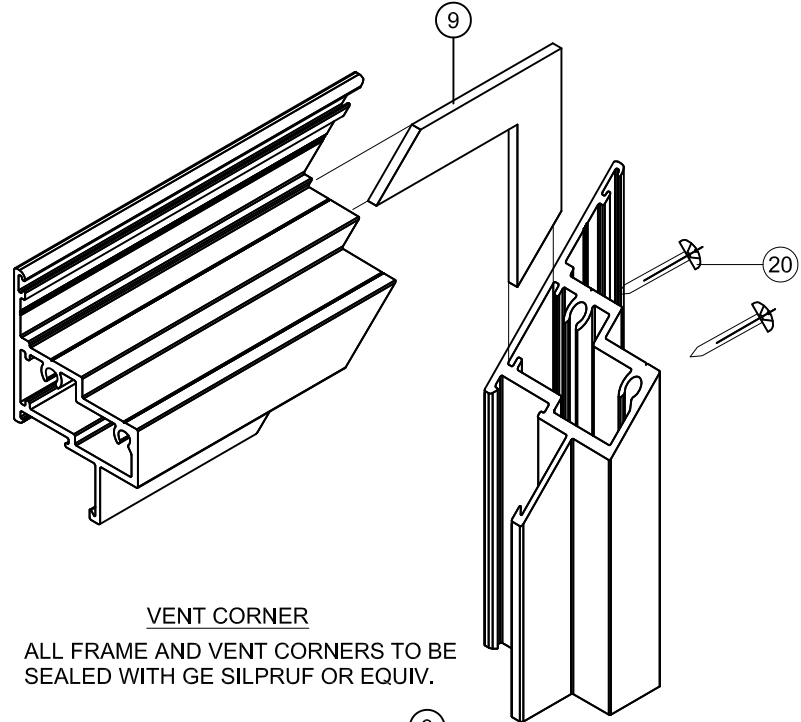


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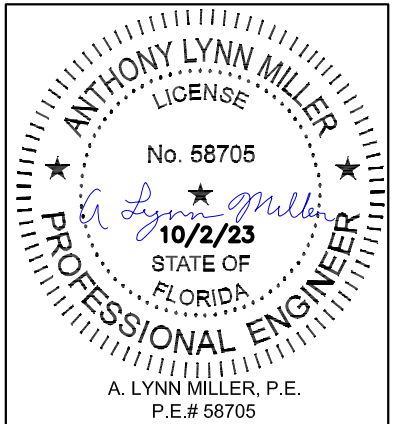
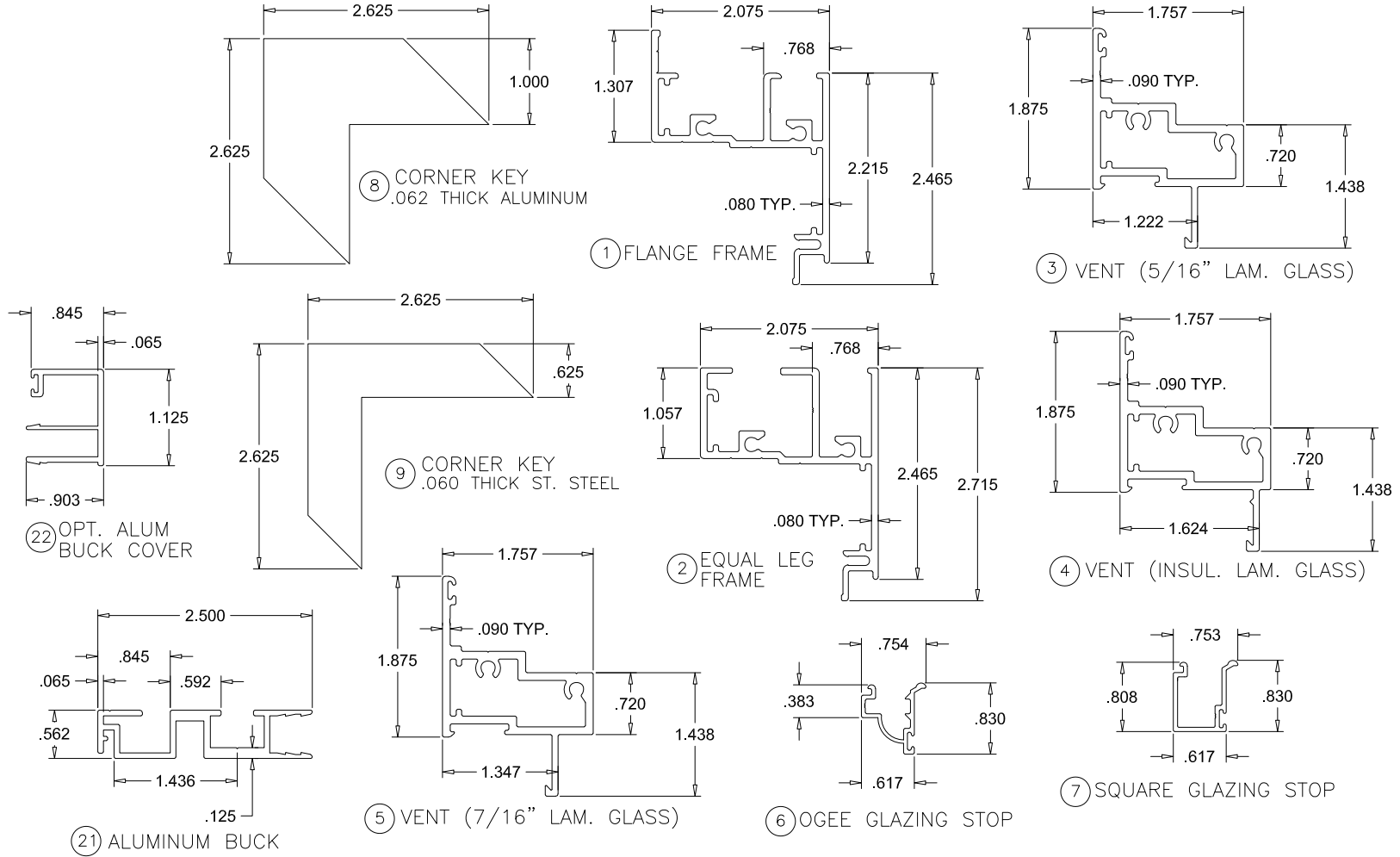
Material	Min. F _y	Min. F _u
#14 SMS or Self-drilling Steel Screw, Gr 2	36 ksi	60 ksi
1/4" Hilti Kwik-Con II	157 ksi	163 ksi
1/4" Elco UltraCon	155 ksi	177 ksi
1/4" DeWalt UltraCon+	148 ksi	164 ksi
6063-T5 Aluminum	16 ksi	22 ksi
A36 Steel	36 ksi	58 ksi
Gr. 33 Steel Stud	33 ksi	45 ksi



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



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 TOP & BOTTOM / 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 / TRUTH	-
15	-	MULTI POINT LOCK / INTERLOCK	-
16	-	.110 THICK LOCK KEEPER, AT FRAME JAMB FACING LOCK / (2) 310 X 3/8" SS SMS	STEEL
17	-	OPERATOR (OPTIONAL) / ATTACHED W/ (2) #8 X 3/8" SS SMS	STEEL
18	-	OPERATOR (OPTIONAL) / INTERLOCK	STEEL
19	-	OPERATOR TRACK / ATTACHED W/ (2) #8 X 3/8" SS SMS	STEEL
20	AL-1225	FRAME AND VENT ASSEMBLY SCREWS / #10 X 1-1/4" SS SMS	-
21	-	ALUMINUM BUCK	6063-T6
22	-	OPTIONAL ALUMINUM BUCK COVER	6063-T6



WinDoor® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD N VENICE, FL 34275 (833) 554-5432	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296 COPYRIGHT © 2023 WINDOOR, INC., LIMITED LICENSE TO MAKE COPIES FOR PERMITTING.	
	SERIES "238" OUTSWING ALUM. CASEMENT WINDOW (LMI)	BOM & EXTRUSIONS	A. MORLESIN	1/30/23
CA238	10 OF 10	CA238LMI-FPA	A	9/29/23

NO CHANGES THIS SHEET

LMY