

SERIES 9400 THERMALLY BROKEN SINGLE HUNG LARGE MISSILE IMPACT

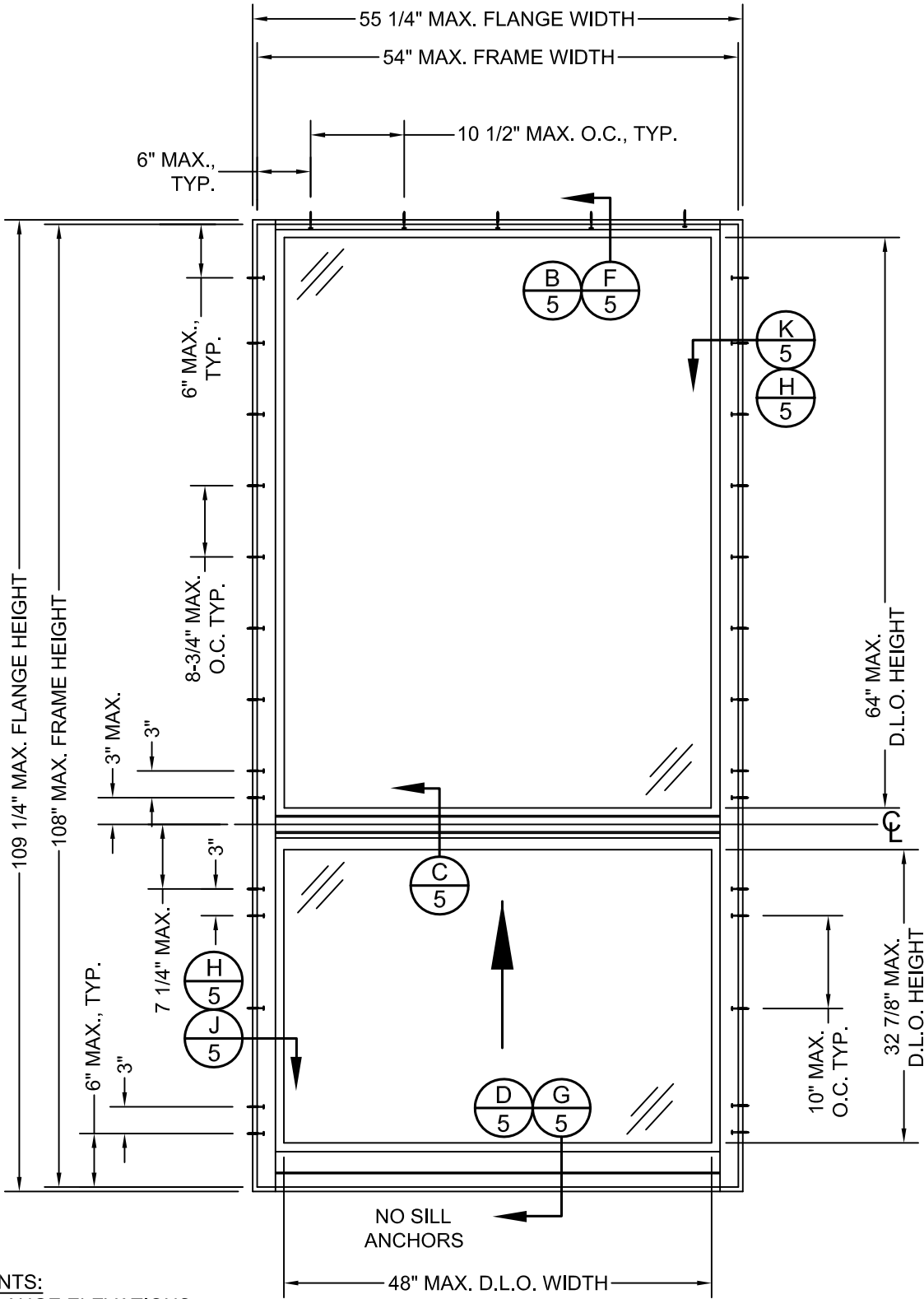
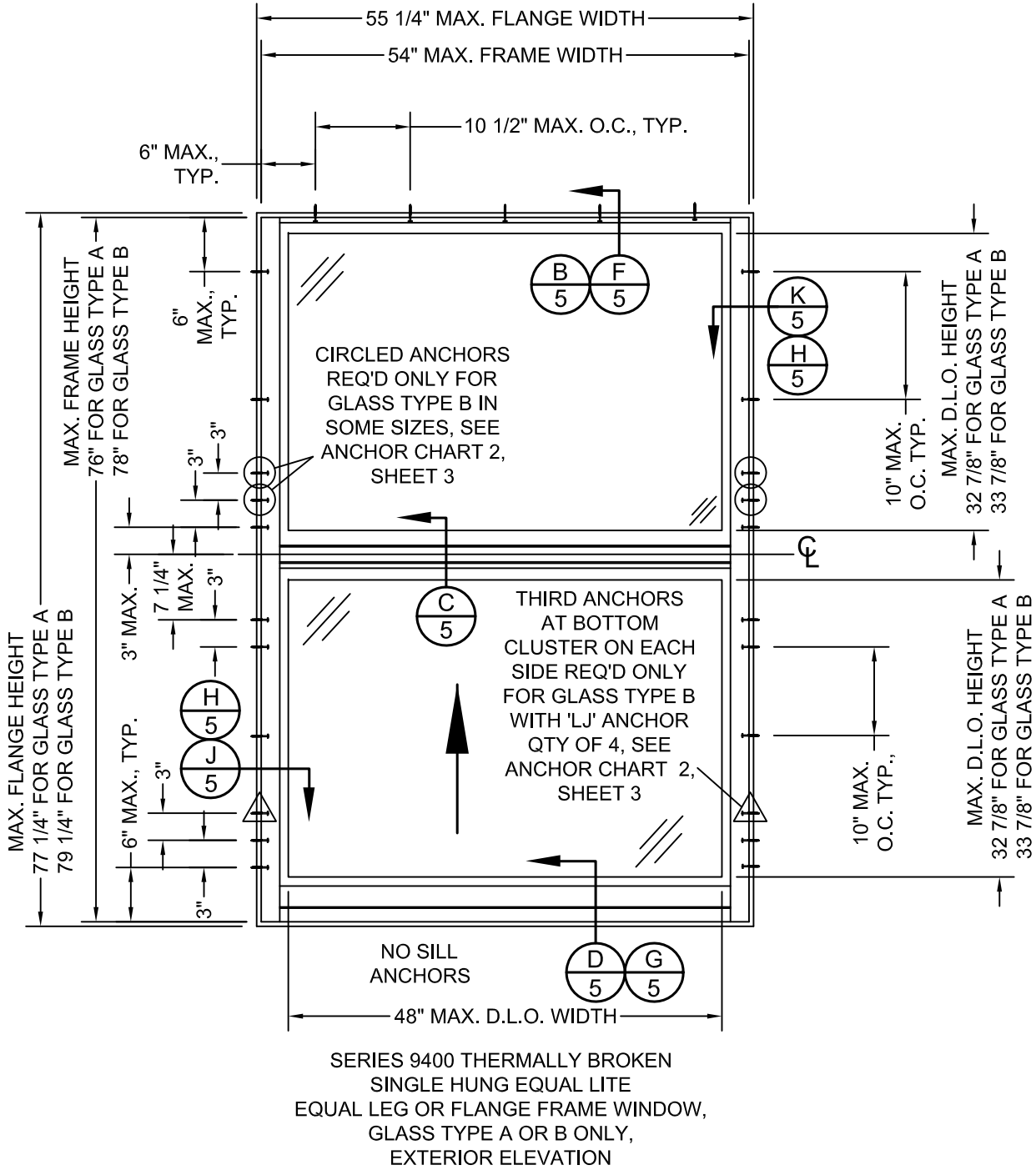


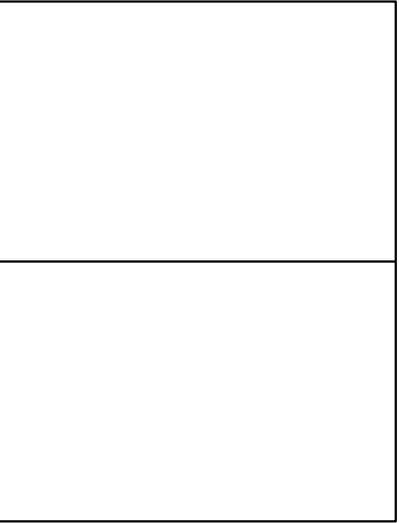
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SERIES 9400 THERMALLY BROKEN
SINGLE HUNG ORIEL
EQUAL LEG OR FLANGE FRAME WINDOW,
GLASS TYPE C ONLY,
EXTERIOR ELEVATION

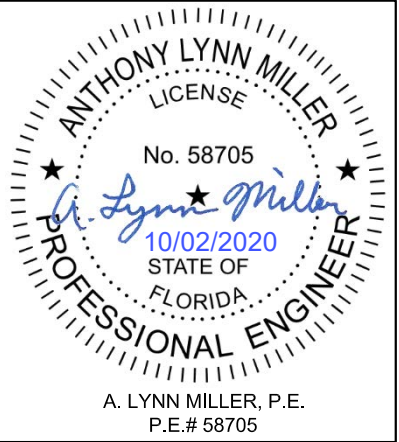


SERIES 9400 THERMALLY BROKEN
SINGLE HUNG EQUAL LITE
EQUAL LEG OR FLANGE FRAME WINDOW,
GLASS TYPE A OR B ONLY,
EXTERIOR ELEVATION



UPDATES FOR 2020 FBC. UPDATED
MANUFACTURING ADDRESS.

WINDOOR [®] INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296		09/30/20	
	THERMALLY BROKEN ALUM. SINGLE HUNG (LM)		Date	
	EQUAL LEG / FLANGE ELEVATIONS		By	ERIN KOSS
	1 OF 11		DWG No.	9400 LMI HVHZ
SH9400T			Sheet	B



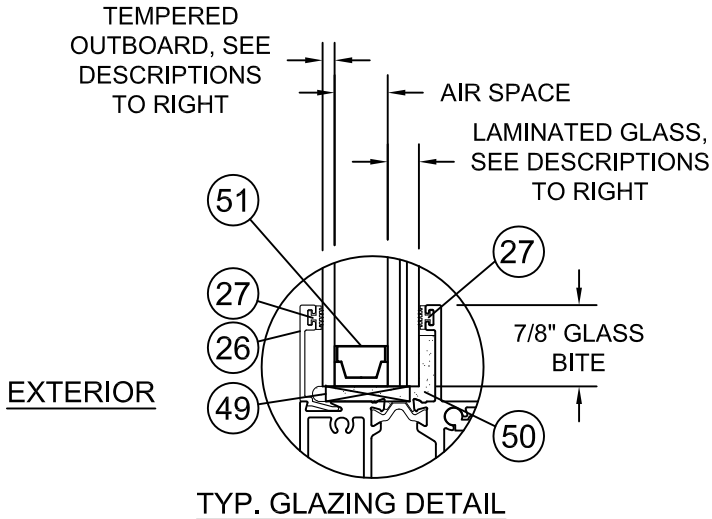
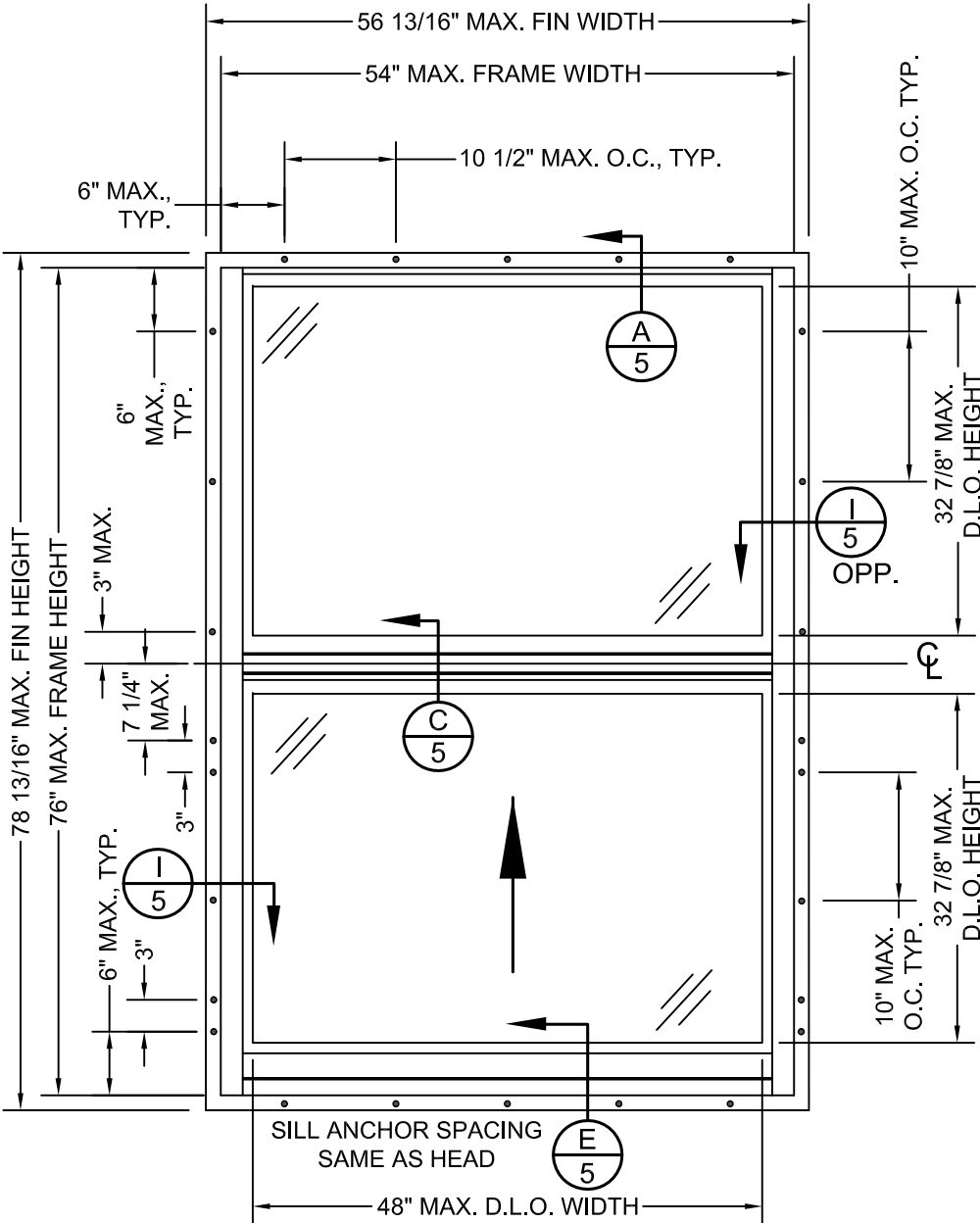
GENERAL NOTES

- THIS PRODUCT, FABRICATED AND ANCHORED AS DETAILED IN THIS DRAWING, IS LARGE MISSILE IMPACT RESISTANT AND DOES NOT REQUIRE THE USE OF IMPACT PROTECTIVE DEVICES (SHUTTERS) IN WINDBORNE DEBRIS REGIONS.
- THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ). SEE FL17820.
- ALLOWABLE CONFIGURATIONS ARE AS INDICATED HEREIN.
- THE DESIGN PRESSURE RATINGS (SEE SHEETS 3 AND 4) IN THIS DRAWING ARE AS LIMITED BY ASTM E-1300 04/09 GLASS TABLES, TESTED WATER, STRUCTURAL, AND CYCLIC PRESSURES, AND COMPARATIVE ANALYSIS (LIMITED BY CYCLIC AND WATER).
- THE 4/3 ALLOWABLE STRESS INCREASE FACTOR (SHORT-TERM INCREASE FACTOR) HAS NOT BEEN USED IN THE ANCHOR ANALYSIS FOR THIS SYSTEM. THE 1.6 Cd FACTOR WAS USED IN THE ANALYSIS OF ANCHORAGE INTO WOOD SUBSTRATE.
- INSTALLATION OF WOOD BUCKS TO THE SUBSTRATE TO BE ENGINEERED BY OTHERS OR AS APPROVED BY THE AUTHORITY HAVING JURISDICTION (A.H.J.). BUCKING, OPENINGS, & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED BY OTHERS IN ACCORDANCE WITH THE FBC TO TRANSFER SUPERIMPOSED LOADS TO THE STRUCTURE. ADEQUACY OF THE STRUCTURE TO RECEIVE THESE LOADS SHALL BE VERIFIED BY THE CONTRACTOR OR A.H.J. WHEN INSTALLING INTO CONCRETE (OR MASONRY AT JAMBS ONLY) WITH WOOD BUCKS LESS THAN 1-1/2" THICK, ANCHOR EMBEDMENT SHALL BE INTO CONCRETE (OR MASONRY AT JAMBS ONLY). WHEN INSTALLING INTO WOOD BUCKS 1-1/2" OR THICKER OVER CONCRETE (OR MASONRY AT JAMBS ONLY) , ANCHOR EMBEDMENT SHALL BE INTO THE WOOD.
- DISSIMILAR MATERIALS THAT COME INTO CONTACT SHALL BE COATED OR OTHERWISE PROTECTED PER FBC CHAPTER 20 TO PREVENT GALVANIC REACTIONS. WOOD BUCKS, IF USED, SHALL BE PRESSURE TREATED, WITH EITHER A TREATMENT OR COATING COMPATIBLE WITH 6063-T6 ALUMINUM. ALL ANCHORS USED SHALL BE OF A MATERIAL OR HAVE A COATING COMPATIBLE WITH THE PRESSURE TREATED WOOD BUCKS AND ALL OTHER WINDOW MATERIALS.
- ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS, OR AS APPROVED, SIGNED, AND SEALED BY A FLORIDA-REGISTERED PROFESSIONAL ENGINEER ON A SITE-SPECIFIC BASIS.
- SEALING AND FLASHING STRATEGIES FOR OVERALL WATER INFILTRATION RESISTANCE OF THE INSTALLED PRODUCT SHALL BE THE RESPONSIBILITY OF OTHERS USING ASTM E-2112 AND IS NOT ADDRESSED BY THIS DOCUMENT.
- FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK, USE #12 GRADE 5 STEEL WOOD SCREWS WITH 1-3/8" MINIMUM EMBEDMENT INTO SUBSTRATE AND 1" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
- FOR ANCHORING INTO CONCRETE, USE:
 - 1/4" ELCO ULTRACONS: 1-3/4" MIN. EMBEDMENT, 1" MIN. EDGE DISTANCE, 3" MIN. O.C.
 - 1/4" DEWALT ULTRACON+: 1-3/4" MIN. EMBEDMENT, 1-3/16" MIN. EDGE DISTANCE, 3" MIN. O.C.
 - 1/4" ELCO CRETE-FLEX : 1-3/4" MIN. EMBEDMENT, 1" MIN. EDGE DISTANCE, 3" MIN. O.C.
 - LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS. CONCRETE SHALL NOT BE CRACKED.
- FOR ANCHORING INTO MASONRY (ONLY AT JAMBS), USE:
 - 1/4" ELCO ULTRA CON, DEWALT ULTRA CON+ OR ELCO CRETE-FLEX: 1-1/4" MIN. EMBEDMENT, 2-1/2" MIN. EDGE DISTANCE, 3" MIN. O.C.
 - LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS. MASONRY SHALL NOT BE CRACKED.
- FOR ANCHORING INTO 0.060" MINIMUM 45KSI MIN. ULT. TENSILE STRENGTH STEEL, USE #12 ITW BUILDUX TEKS SELECT SELF-DRILLING STRUCTURAL FASTENERS (GRADE 5) WITH FULL THREAD ENGAGEMENT THROUGH THE METAL WALL THICKNESS AND 1/2" MINIMUM EDGE DISTANCE. FOR ANCHORING INTO 1/8" MINIMUM THICKNESS 6063-T5 ALUMINUM OR 45KSI MIN. ULT. TENSILE STRENGTH STEEL, USE #12 GRADE 5 SELF-DRILLING FASTENER WITH FULL THREAD ENGAGEMENT THROUGH THE METAL WALL THICKNESS AND 1/2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
- INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTRUCTIONS AND MINIMUM SUBSTRATE STRENGTH SHALL BE AS FOLLOWS:
 - WOOD - MIN. SPECIFIC GRAVITY OF 0.42 (SPRUCE-PINE-FIR)
 - SOLID CONCRETE - 3350 PSI MIN. COMPRESSIVE STRENGTH MASONRY/CMU AT JAMBS ONLY - STRENGTH CONFORMANCE TO ASTM C-90 WITH NORMAL COMPRESSIVE STRENGTH OF 2 KSI MIN.
 - STEEL - 33 KSI MIN. YIELD STRENGTH, 45 KSI MIN. ULTIMATE TENSILE STRENGTH
 - ALUMINUM - 6063-T5 1/8" THICK MIN.

TYPE A: 1" INSULATED LAMI GLASS:
1/8" TEMPERED OUTBOARD + 9/16" AIR SPACE
WITH HELIMA ALUMINUM SPACER +
5/16" LAMINATED CONSISTING OF:
1/8" ANNEALED +
0.090" KURARAY PVB® (CLEAR AND WHITE)
GLASS INTERLAYERS BY KURARAY AMERICA, INC. +
1/8" ANNEALED

TYPE B: 1" INSULATED LAMI GLASS:
3/16" TEMPERED OUTBOARD + 3/8" AIR SPACE
WITH HELIMA ALUMINUM SPACER +
7/16" LAMINATED CONSISTING OF:
3/16" ANNEALED +
0.090" SENTRYGLAS® (CLEAR AND WHITE)
GLASS INTERLAYERS BY KURARAY AMERICA, INC. +
3/16" ANNEALED

TYPE C: 1" INSULATED LAMI GLASS:
3/16" TEMPERED OUTBOARD + 1/2" AIR SPACE
WITH HELIMA ALUMINUM SPACER +
5/16" LAMINATED CONSISTING OF:
1/8" HEAT STRENGTH. +
0.090" SENTRYGLAS® (CLEAR AND WHITE)
GLASS INTERLAYERS BY KURARAY AMERICA, INC. +
1/8" HEAT STRENGTH.



ADDED 1/4" ELCO ULTRA CON+

WINDOOR® INCORPORATED		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296		Date		09/30/20
				By		ERIN KOSS
WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432	THERMALLY BROKEN ALUM. SINGLE HUNG (LM)		GENERAL NOTES, GLAZING DETAILS & FIN ELEVATION		Drawn	ERIN KOSS
SH9400T		2 OF 11	DWG No.	9400 LMI HVHZ		
Series		Sheet				

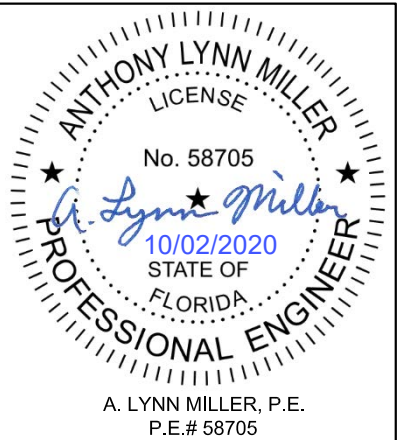


CHART 1. EQUAL LITE (FLANGE, FIN, OR EQ. LEG) WITH GLASS TYPE A DESIGN PRESSURES (PSF)

FRAME HEIGHT (in.)	SUB-STRATE	FRAME WIDTH (in.)					
		24	30	36	42	48	54
36	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
42	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
48	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
54	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
60	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+89.0/-89.0	+82.0/-82.0
66	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+89.0/-89.0	+82.0/-82.0
72	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+89.0/-89.0	+78.0/-78.0
76	C/M/F	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
	W	+90.0/-90.0	+90.0/-90.0	+89.0/-89.0	+89.0/-89.0	+89.0/-89.0	+75.0/-75.0

CHART 2. EQUAL LITE (FLANGE OR EQ. LEG) WITH GLASS TYPE B DESIGN PRESSURES (PSF)

FRAME HEIGHT (in.)		FRAME WIDTH (in.)					
		24	30	36	42	48	54
36	C/M	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0
	W	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-143.0	+100.0/-143.0	+100.0/-125.0
42	C/M	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0
	W	+100.0/-154.0	+100.0/-154.0	+100.0/-153.0	+100.0/-143.0	+100.0/-129.0	+100.0/-125.0
48	C/M	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0
	W	+100.0/-154.0	+100.0/-154.0	+100.0/-146.0	+100.0/-141.0	+100.0/-129.0	+100.0/-125.0
54	C/M	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0
	W	+100.0/-154.0	+100.0/-154.0	+100.0/-140.0	+100.0/-132.0	+100.0/-129.0	+100.0/-125.0
60	C/M	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-149.5
	W	+100.0/-154.0	+100.0/-151.0	+100.0/-137.0	+100.0/-125.0	+100.0/-125.0	+100.0/-125.0
66	C/M	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+100.0/-160.0	+97.9/-141.3
	W	+100.0/-134.0	+100.0/-125.0	+100.0/-125.0	+100.0/-125.0	+100.0/-125.0	+97.9/-124.0
72	C/M	+100.0/-160.0	+100.0/-156.9	+100.0/-152.6	+100.0/-152.6	+100.0/-152.6	+93.4/-135.0
	W	+100.0/-134.0	+100.0/-125.0	+100.0/-125.0	+100.0/-125.0	+100.0/-125.0	+93.4/-118.0
78	C/M	+100.0/-152.6	+95.1/-137.3	+90.5/-130.8	+90.0/-130.0	+90.0/-130.0	+90.0/-130.0
	W	+100.0/-134.0	+95.1/-125.0	+90.5/-125.0	+90.0/-116.0	+90.0/-116.0	+90.0/-106.0

CHART 1 AND 2 ANCHORAGE QUANTITY NOTES:

1. MAX. ANCHOR SPACING SHOWN IN THE ELEVATIONS ON SHTS 1 AND 2 SHALL NOT BE EXCEEDED.
2. FIN WINDOWS SHALL BE INSTALLED ONLY TO WOOD SUBSTRATES AS SHOWN ON SHEET 9.
3. SUBSTRATE C/M/F IN CHART 1 INDICATES CONCRETE (OR MASONRY AT JAMBS ONLY) OR METAL FOR FLANGE OR EQUAL LEG, AND APPLIES TO FIN WINDOWS INSTALLED TO WOOD THROUGH THE FIN. SUBSTRATE C/M IN CHART 2 INDICATES CONCRETE (OR MASONRY AT JAMBS ONLY) OR METAL. SUBSTRATE W IN BOTH CHARTS INDICATES FLANGE OR EQUAL LEG INSTALLED TO WOOD FRAMING.
4. ANCHOR QUANTITIES IN UJ AND LJ LOCATIONS INCLUDE CORNER ANCHORS; EVENLY SPACE ANY ADDITIONAL ANCHORS REQUIRED BEYOND CORNER ANCHOR(S) BETWEEN CORNER AND MEETING RAIL ANCHORS.
5. REDUCE CORNER OR ON-CENTER SPACING AS REQUIRED TO ENSURE 3" MIN. SPACING IS MAINTAINED BETWEEN ANY TWO FASTENERS

ANCHOR QUANTITIES FOR CHART 1, SEE EQUAL LITE ELEVATIONS FOR LOCATIONS

FRAME HEIGHT (in.)	FRAME WIDTH (in.)															
	24				30				36				42			
	H	UJ	MR	LJ	H	UJ	MR	LJ	H	UJ	MR	LJ	H	UJ	MR	LJ
36	3	1	3	2	3	1	3	2	4	1	3	2	4	1	3	2
42	3	2	3	2	3	2	3	2	4	2	3	2	4	2	3	2
48	3	2	3	2	3	2	3	2	4	2	3	2	4	2	3	2
54	3	2	3	2	3	2	3	2	4	2	3	2	4	2	3	2
60	3	3	3	2	3	3	3	2	4	3	3	2	4	3	3	2
66	3	3	3	3	3	3	3	3	4	3	3	3	4	3	3	3
72	3	3	3	3	3	3	3	3	4	3	3	3	4	3	3	3
78	3	3	3	3	3	3	3	3	4	3	3	3	4	3	3	3

H = HEAD

MR = TOTAL QTY IN CLUSTER AT EACH END OF MEETING RAIL (INCLUDING ANCHORS ABOVE AND BELOW MTG RAIL)

UJ = UPPER JAMB NOT INCLUDING MEETING RAIL QTY

LJ = LOWER JAMB NOT INCLUDING MEETING RAIL QTY

ANCHOR QUANTITIES FOR CHART 2, SEE EQUAL LITE ELEVATION FOR LOCATIONS

FRAME HEIGHT (in.)	FRAME WIDTH (in.)															
	24				30				36				42			
	H	UJ	MR	LJ	H	UJ	MR	LJ	H	UJ	MR	LJ	H	UJ	MR	LJ
36	3	1	3	2	3	1	3	2	4	1	3	2	4	1	3	2
42	3	2	3	2	3	2	3	2	4	2	3	2	4	2	4	2
48	3	2	3	3	3	2	3	3	4	2	3	3	4	2	4	3
54	3	2	3	3	3	2	3	3	4	2	3	3	4	2	4	3
60	3	3	3	3	3	3	3	3	4	3	3	3	4	3	4	3
66	3	3	3	4	3	3	3	4	4	3	4	4	4	3	4	4
72	3	3	3	4	3	3	3	4	4	3	4	4	4	3	4	4
78	3	3	3	4	3	3	3	4	4	3	4	4	4	3	4	4

H = HEAD

MR = TOTAL QTY IN CLUSTER AT EACH END OF MEETING RAIL (INCLUDING ANCHORS ABOVE AND BELOW MTG RAIL)

UJ = UPPER JAMB NOT INCLUDING MEETING RAIL QTY

LJ = LOWER JAMB NOT INCLUDING MEETING RAIL QTY

Revision:

NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600
REGISTRATION #29296

WINDOOR[®]

INCORPORATED

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

09/30/20

Date

ERIN KOSS

By

9400 LMI HVHZ

No.

3 OF 11

Sheet

SH9400T

Rev.

B

DWG

Series

THERMALLY BROKEN ALUM. SINGLE HUNG (LM)

DP & ANCHORAGE CHARTS - EQUAL LITE

Title

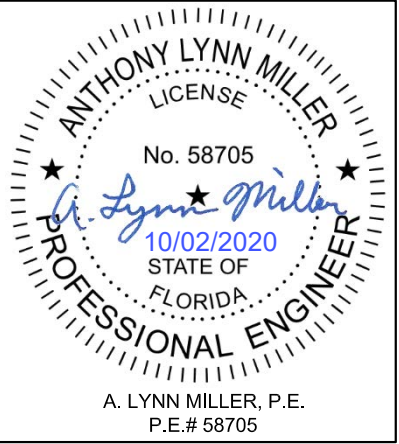


CHART 3. ORIEL (FLANGE OR EQ. LEG) WITH GLASS TYPE C, DESIGN PRESSURES (PSF)

FRAME HEIGHT (in.)	SASH HEIGHT (in.)	SASH D.L.O. (in.)	FIXED D.L.O. (in.)	SUB- STRATE	FRAME WIDTH (in.)					
					24	30	36	42	48	54
66	24 1/4	18	36 7/8	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
72	26 3/8	20 1/8	40 3/4	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+88.0/-88.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0
78	28 1/2	22 1/4	44 5/8	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+88.0/-88.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+78.0/-78.0
84	30 5/8	24 3/8	48 1/2	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+88.0/-88.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+76.0/-76.0
90	32 3/4	26 1/2	52 3/8	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+88.0/-88.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+80.0/-80.0	+73.0/-73.0
96	34 7/8	28 5/8	56 1/4	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+88.0/-88.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+80.0/-80.0	+73.0/-73.0
102	37	30 3/4	60 1/8	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+88.0/-88.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+80.0/-80.0	+72.0/-72.0
108	39 1/8	32 7/8	64	C/M	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0	+90.0/-90.0
				W	+88.0/-88.0	+87.0/-87.0	+87.0/-87.0	+87.0/-87.0	+80.0/-80.0	+72.0/-72.0

C/M = CONCRETE-MASONRY OR METAL SUBSTRATE

W = WOOD SUBSTRATE

ANCHOR QUANTITIES FOR CHART 3, SEE ORIEL ELEVATION FOR LOCATIONS

FRAME HEIGHT (in.)	FRAME WIDTH (in.)																			
	24				30				36				42				48			
	H	UJ	MR	LJ	H	UJ	MR	LJ	H	UJ	MR	LJ	H	UJ	MR	LJ	H	UJ	MR	LJ
66	3	4	4	2	3	4	3	2	4	4	4	2	4	4	4	2	5	4	4	2
72	3	5	4	2	3	5	3	2	4	5	4	2	4	5	4	2	5	5	4	2
78	3	5	4	2	3	5	3	2	4	5	4	2	4	5	4	2	5	5	4	2
84	3	5	4	2	3	5	3	2	4	5	4	2	4	5	4	2	5	5	4	2
90	3	6	4	2	3	6	3	2	4	6	4	2	4	6	4	2	5	6	4	2
96	3	6	4	3	3	6	3	3	4	6	4	3	4	6	4	3	5	6	4	3
102	3	7	4	3	3	7	3	3	4	7	4	3	4	7	4	3	5	7	4	3
108	3	7	4	3	3	7	3	3	4	7	4	3	4	7	4	3	5	7	4	3

H = HEAD
MR = TOTAL QTY IN CLUSTER AT EACH END OF MEETING RAIL (INCLUDING ANCHORS ABOVE AND BELOW MTG RAIL)

UJ = UPPER JAMB NOT INCLUDING MEETING RAIL QTY
LJ = LOWER JAMB NOT INCLUDING MEETING RAIL QTY

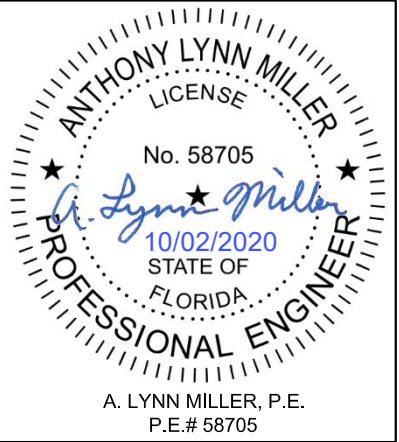
CHART 3 ANCHORAGE QUANTITY NOTES:

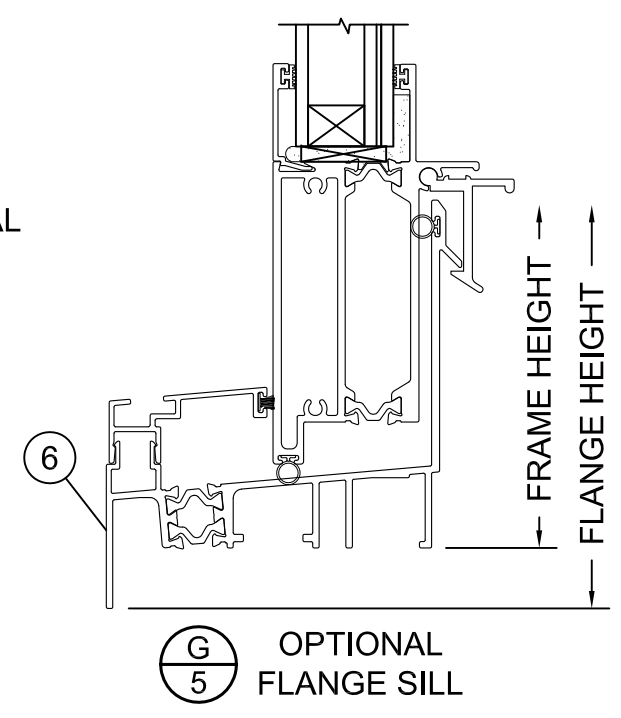
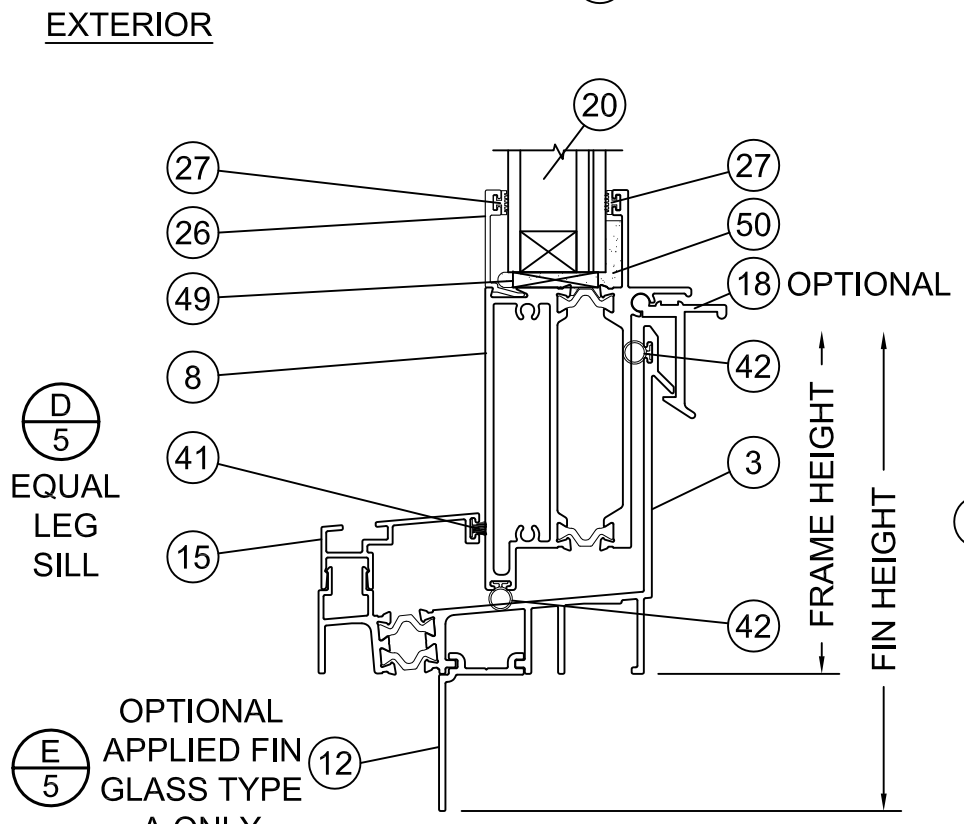
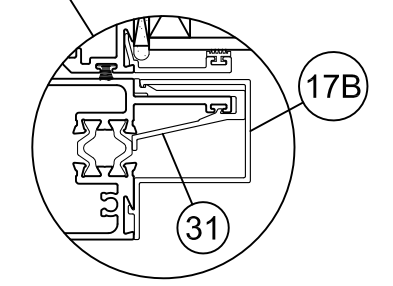
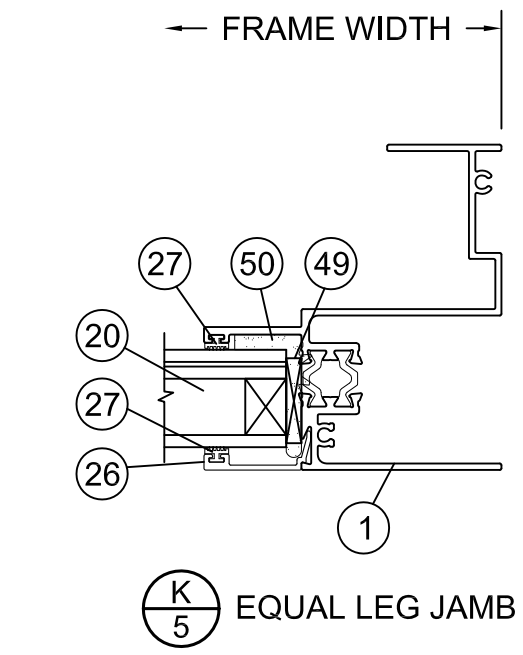
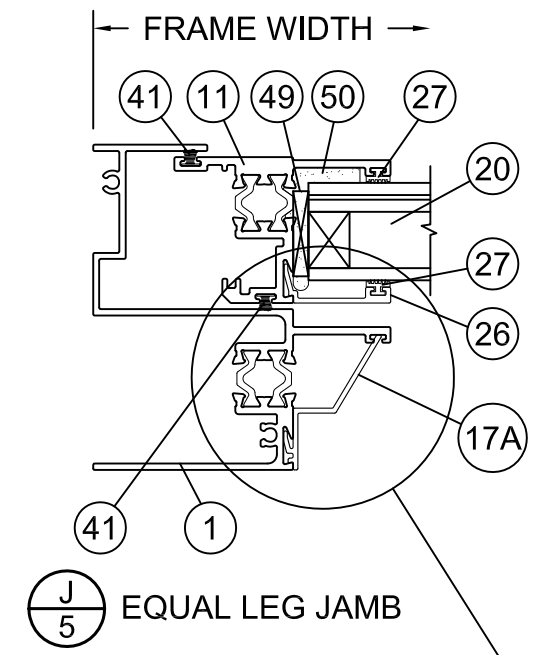
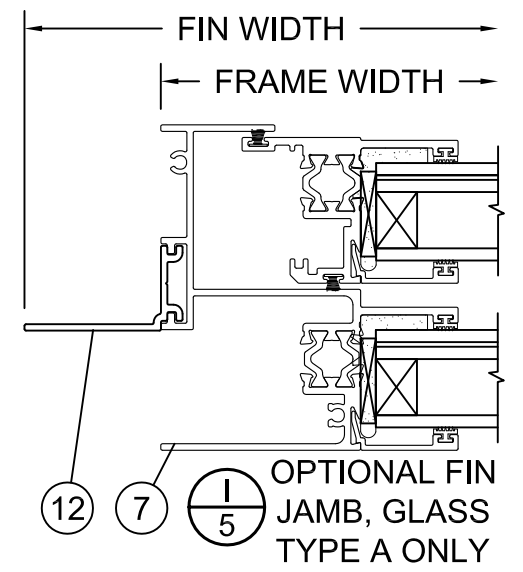
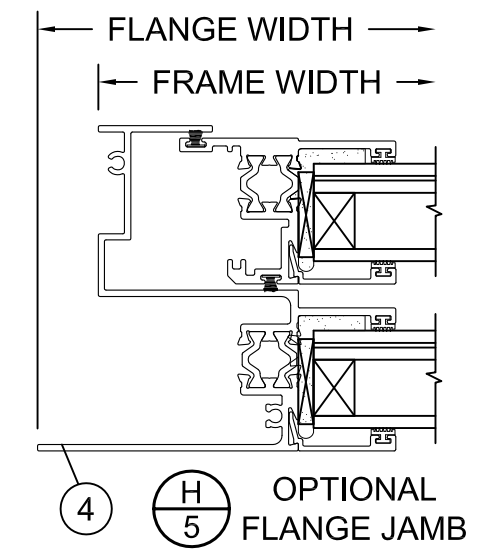
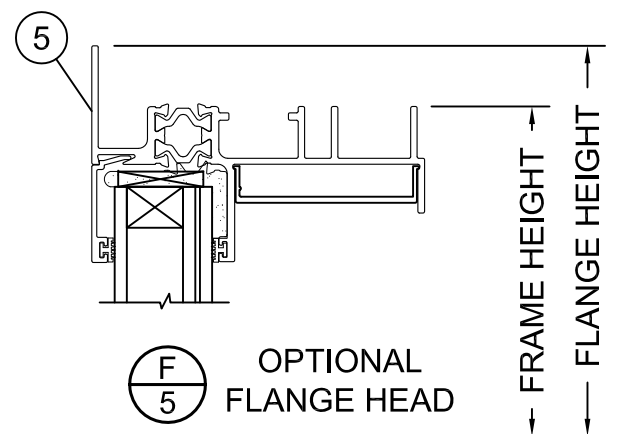
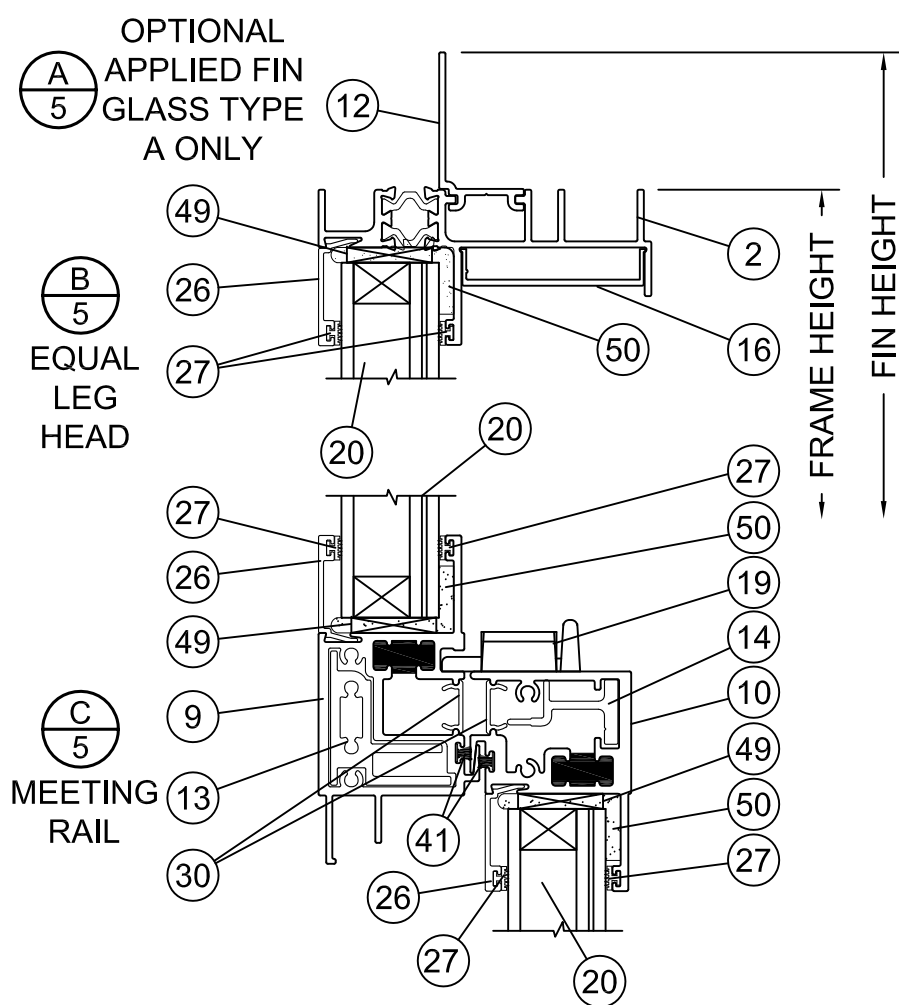
1. THE MAXIMUM ANCHOR SPACING SHOWN IN THE ORIEL ELEVATION ON SHEET 1 SHALL NOT BE EXCEEDED.
2. ANCHOR QUANTITIES IN UJ AND LJ LOCATIONS INCLUDE CORNER ANCHORS; EVENLY SPACE ANY ADDITIONAL ANCHORS REQUIRED BEYOND CORNER ANCHOR(S) BETWEEN CORNER AND MEETING RAIL ANCHORS.
3. REDUCE CORNER OR ON-CENTER SPACING AS REQUIRED TO ENSURE 3" MIN. SPACING IS MAINTAINED BETWEEN ANY TWO FASTENERS

Revision:

NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	09/30/20	Date	ERIN KOSS	By	9400 LMI HVHZ	Rev.	B
WINDOOR® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432	THERMALLY BROKEN ALUM. SINGLE HUNG (LM)	Title	DP & ANCHORAGE CHARTS - ORIEL	Sheet	4 OF 11	Dwg	No.
Series	SH9400T	Desc.	4 OF 11	Sheet	4 OF 11	Dwg	No.





HORIZONTAL CROSS SECTION
EXTERIOR

VERTICAL CROSS SECTION

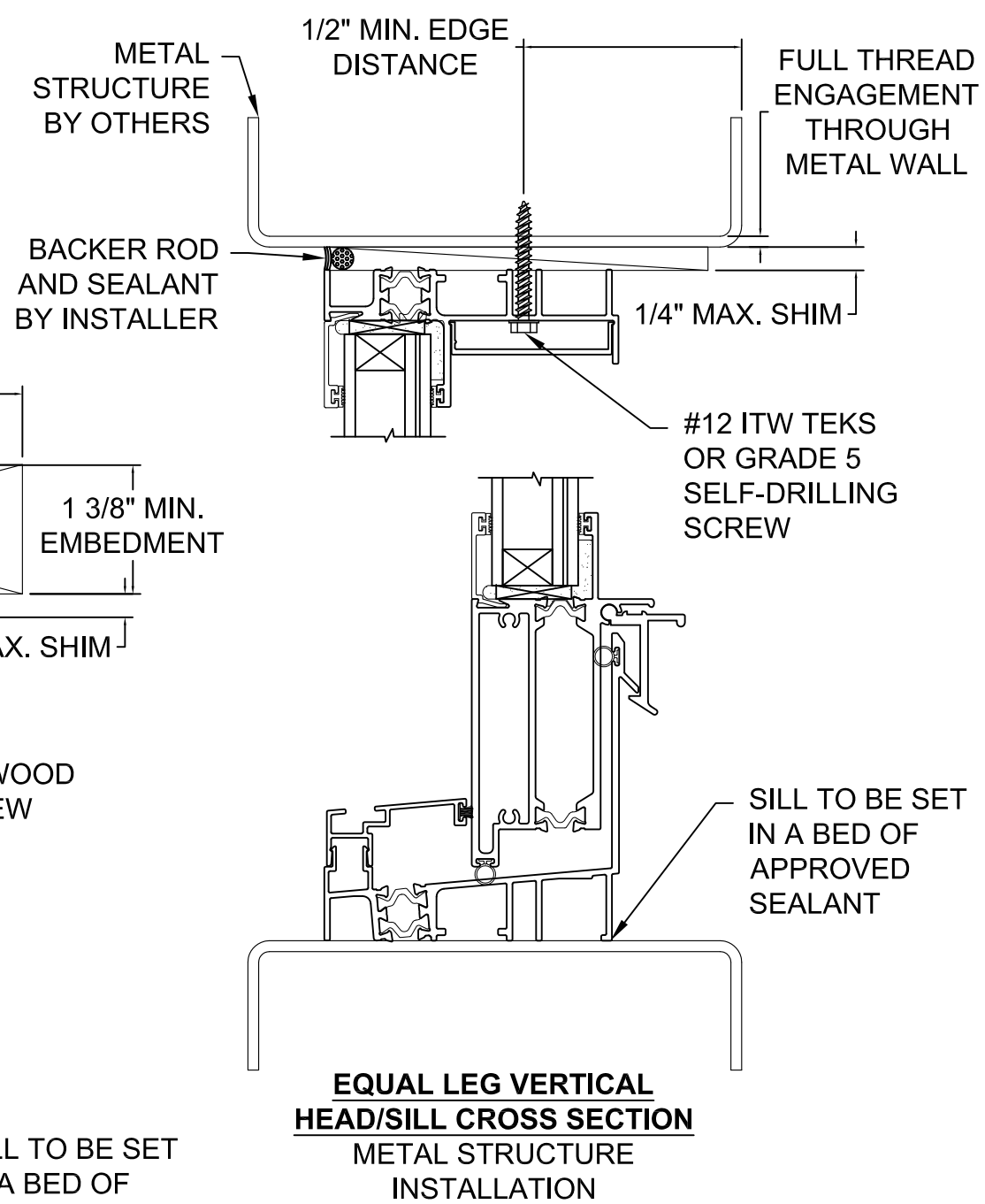
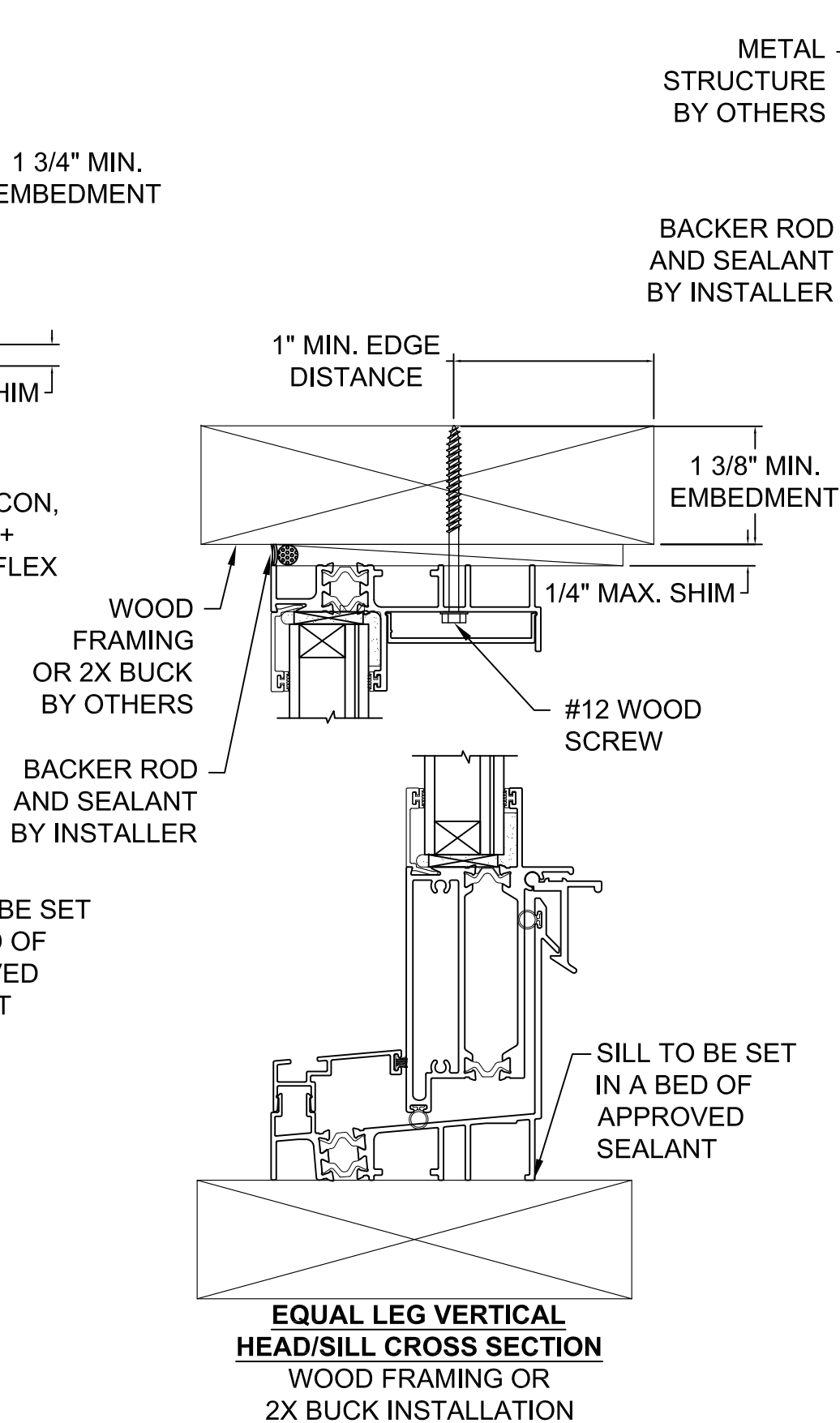
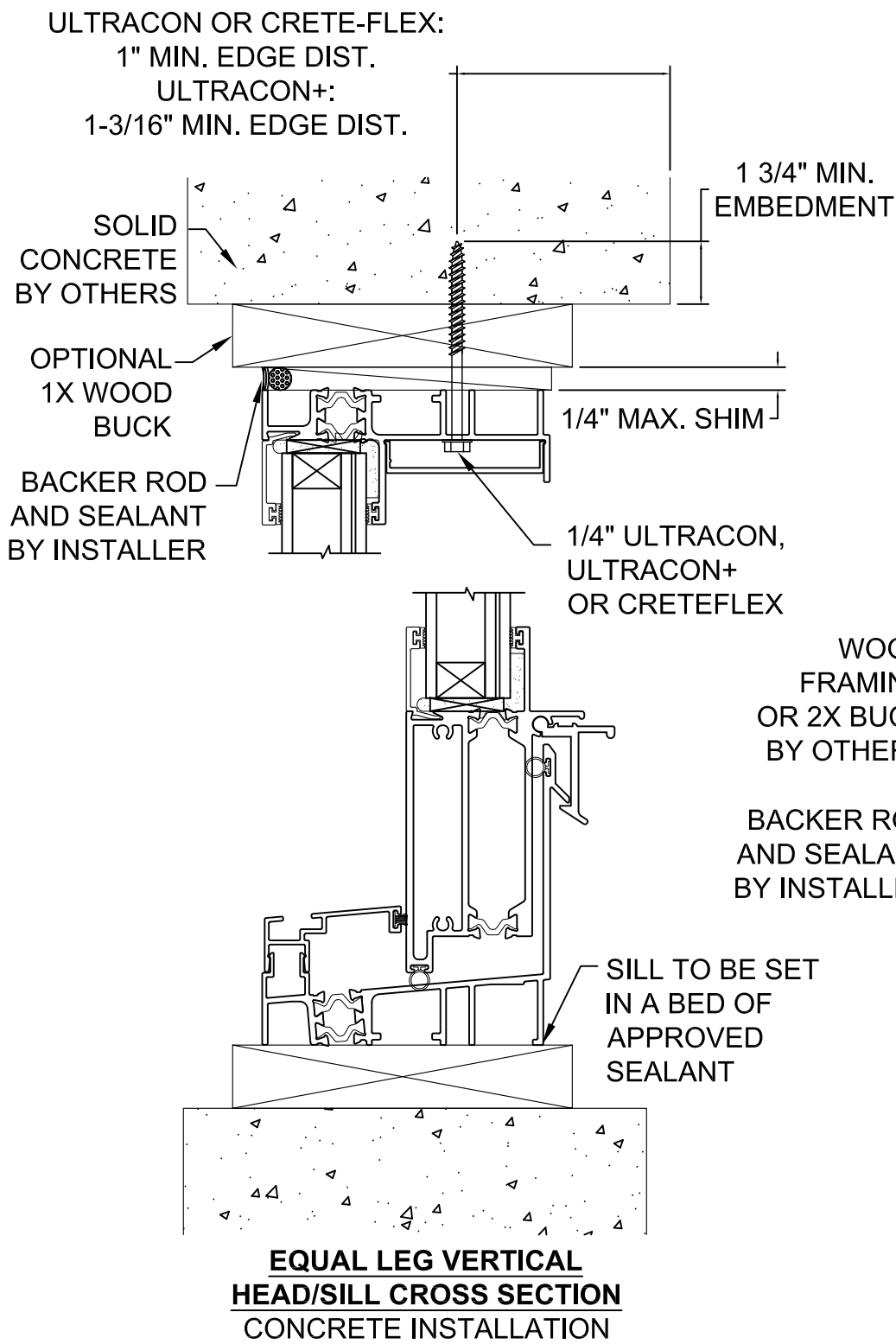
Revision:

NO CHANGES THIS SHEET.

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Date	09/30/20	Rev.	B
	By			
	Dwg. No.	9400 LMI HVHZ		
	Sheet	5 OF 11		
Title		SECTION VIEWS		
Series		SH9400T		

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

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/02/2020
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
A. LYNN MILLER, P.E.
P.E.# 58705



GENERAL ANCHOR NOTES:

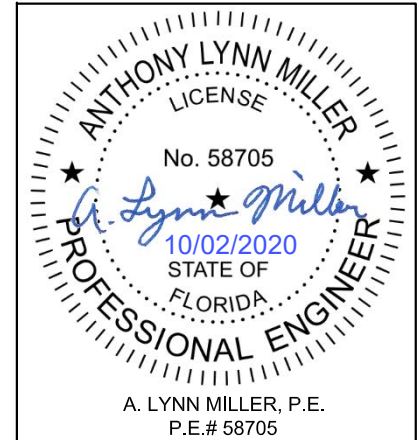
1. INSTALL ONE ANCHOR AS INDICATED IN DETAILS ON THIS SHEET AT EACH LOCATION SHOWN IN THE ELEVATIONS ON SHEET 1.
2. INSTALL SHIMS AT EACH ANCHOR LOCATION WHERE A GAP OF 1/16" OR GREATER EXISTS BETWEEN PRODUCT FRAME AND SUBSTRATE.
3. SHIMS SHALL BE LOAD-BEARING (PLASTIC OR METALLIC) AND CAPABLE OF TRANSFERRING LOADS TO SUBSTRATE.
4. SPECIFIED ANCHOR EMBEDMENT TO SUBSTRATE SHALL BE BEYOND WALL FINISH OR STUCCO, BY OTHERS.

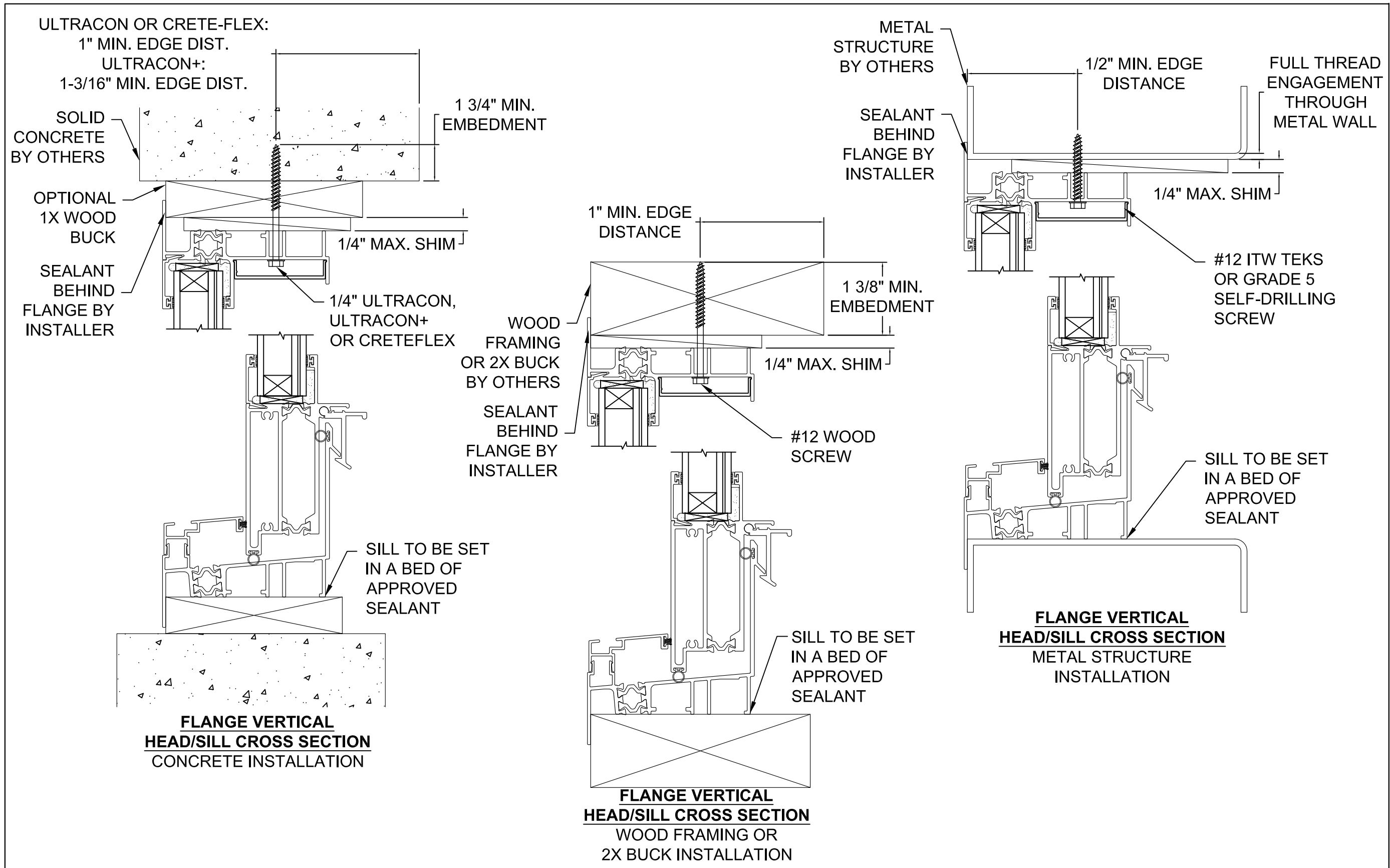
EXTERIOR



Revision:
ADDED 1/4" ELCO ULTRACON+

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Date	09/30/20	Rev.	B
WINDOOR® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432	By	ERIN KOSS	Dwg. No.	9400 LMI HVHZ
THERMALLY BROKEN ALUM. SINGLE HUNG (LM)	Title	INSTALLATION DETAILS - EQUAL LEG	Sheet	6 OF 11
SH9400T	Series	DESC.	No.	9400 LMI HVHZ





- GENERAL ANCHOR NOTES:**
1. INSTALL ONE ANCHOR AS INDICATED IN DETAILS ON THIS SHEET AT EACH LOCATION SHOWN IN THE ELEVATIONS ON SHEET 1.
 2. INSTALL SHIMS AT EACH ANCHOR LOCATION WHERE A GAP OF 1/16" OR GREATER EXISTS BETWEEN PRODUCT FRAME AND SUBSTRATE.
 3. SHIMS SHALL BE LOAD-BEARING (PLASTIC OR METALLIC) AND CAPABLE OF TRANSFERRING LOADS TO SUBSTRATE.
 4. SPECIFIED ANCHOR EMBEDMENT TO SUBSTRATE SHALL BE BEYOND WALL FINISH OR STUCCO, BY OTHERS.
- EXTERIOR** ←

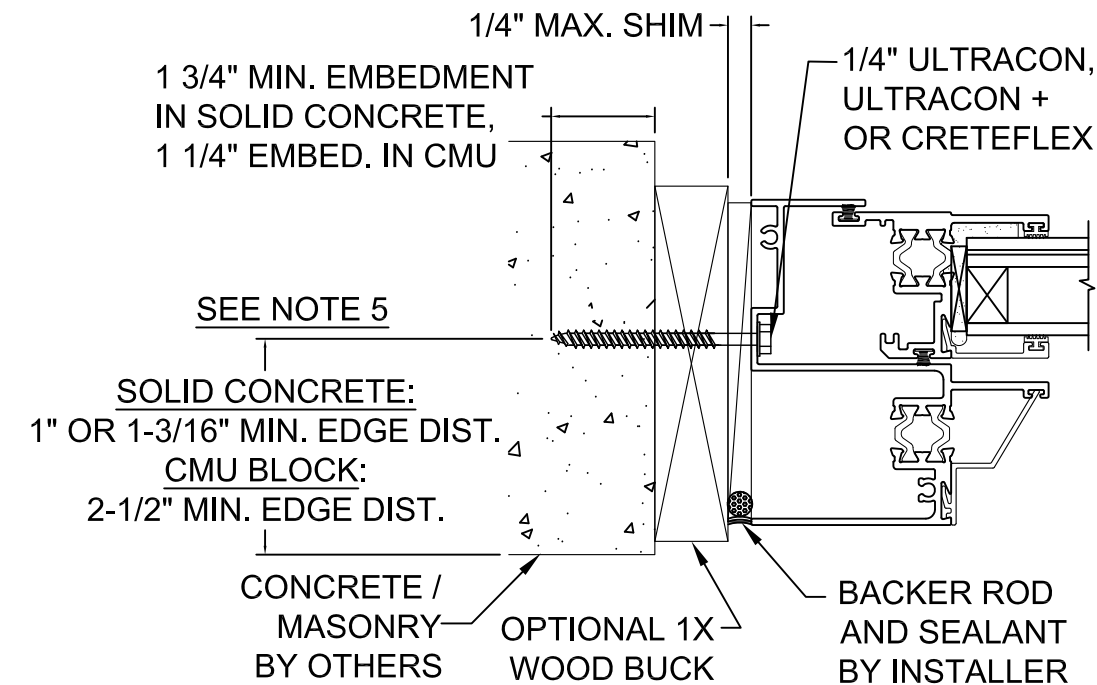
Revision:

ADDED 1/4" ELCO ULTRACON+

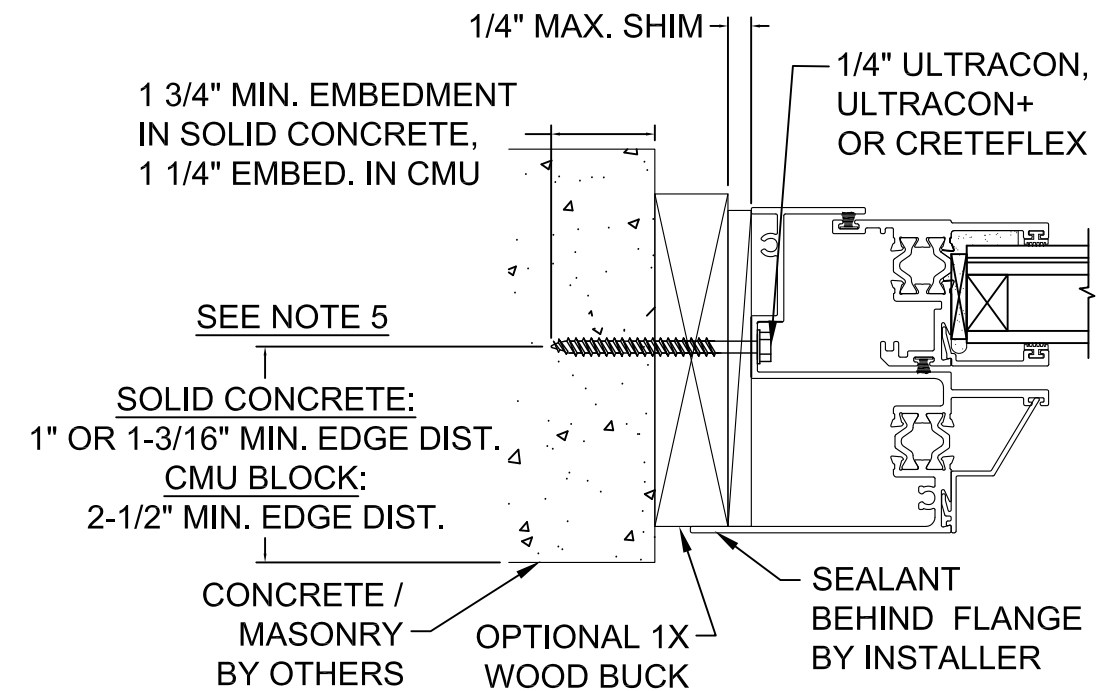
PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Date	09/30/20	By	ERIN KOSS	Rev.	B		
					No.	9400 LMI HVHZ		
							Dwg	7 OF 11
WINDOOR® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432		THERMALLY BROKEN ALUM. SINGLE HUNG (LM)		INSTALLATION DETAILS - FLANGE		Series	Desc.	

ANTHONY LYNN MILLER
LICENSE
No. 58705
10/02/2020
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

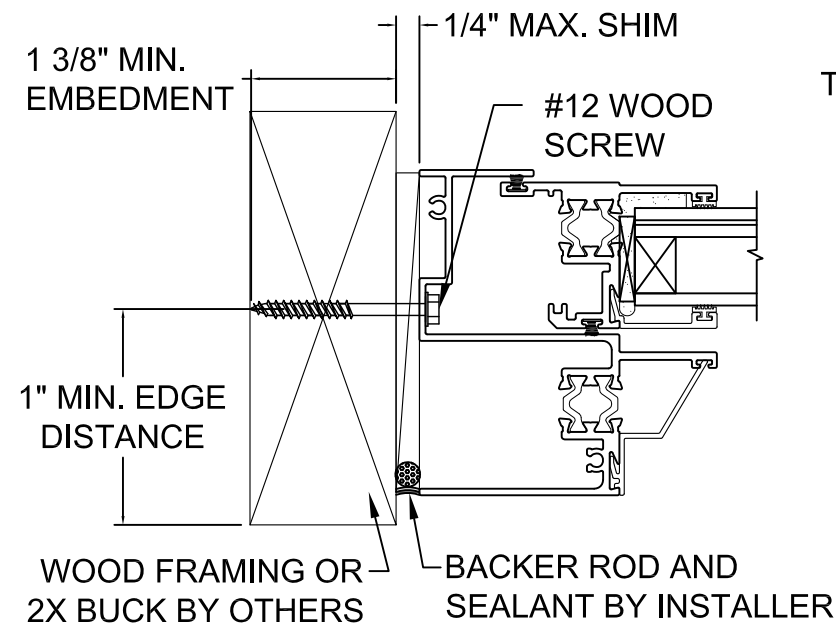
A. LYNN MILLER, P.E.
P.E.# 58705



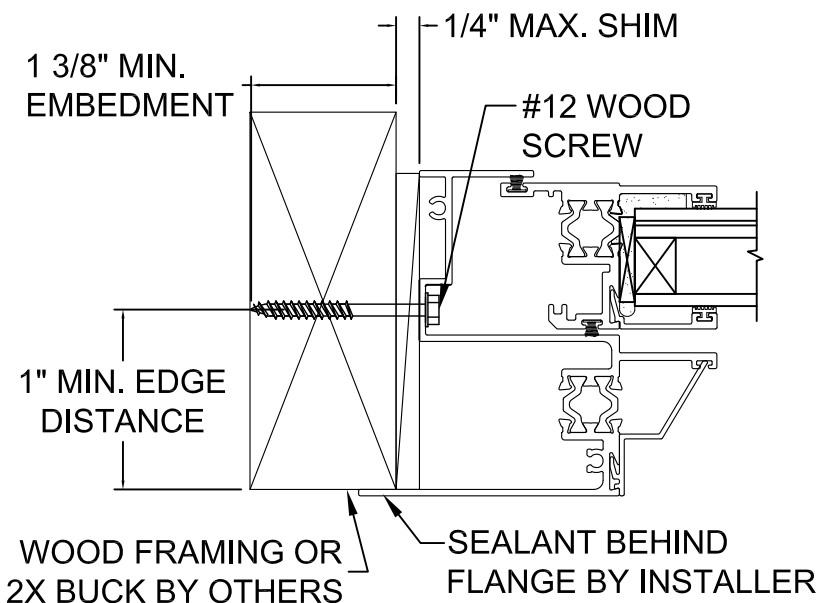
**EQUAL LEG HORIZONTAL JAMB
CROSS SECTION
CONCRETE/MASONRY INSTALLATION**



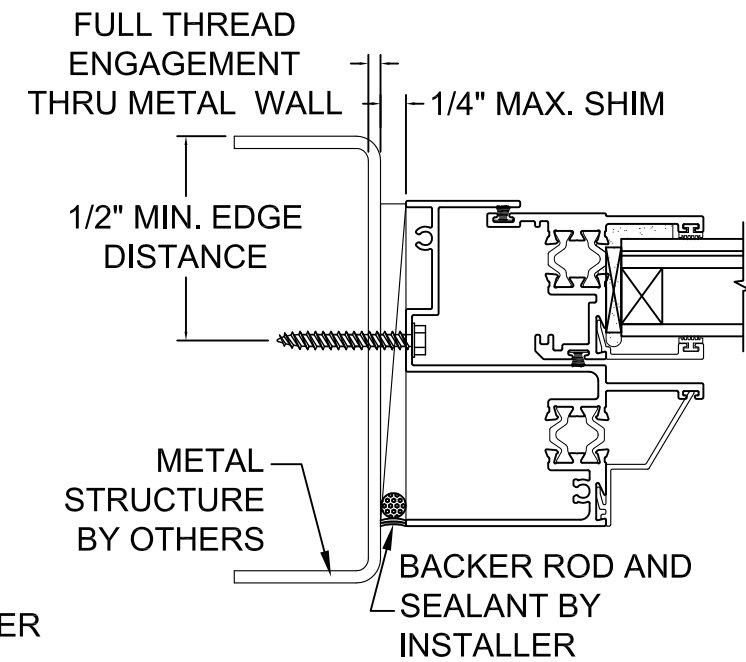
**FLANGE HORIZONTAL JAMB
CROSS SECTION
CONCRETE/MASONRY
INSTALLATION**



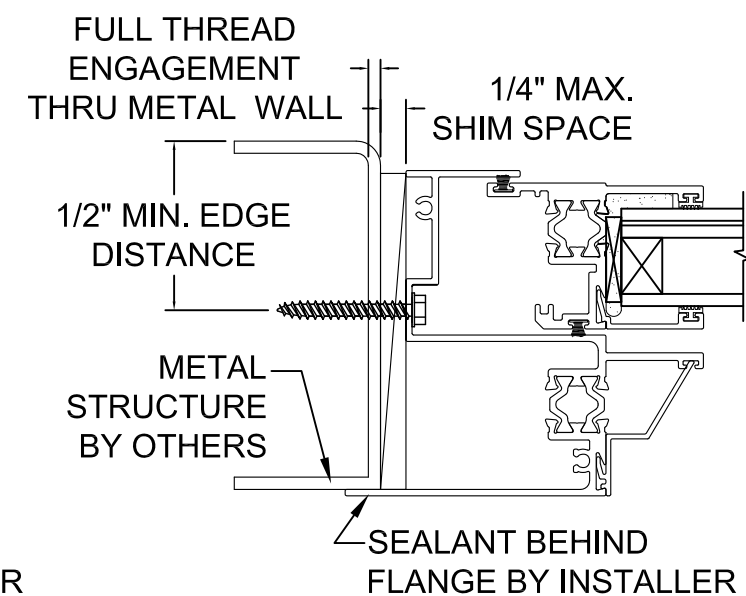
**EQUAL LEG HORIZONTAL JAMB
CROSS SECTION
WOOD FRAMING OR 2X BUCK
INSTALLATION**



**FLANGE HORIZONTAL JAMB
CROSS SECTION
WOOD FRAMING OR 2X BUCK
INSTALLATION**



**EQUAL LEG HORIZONTAL JAMB
CROSS SECTION
METAL STRUCTURE
INSTALLATION**



**FLANGE HORIZONTAL JAMB
CROSS SECTION
METAL STRUCTURE
INSTALLATION**

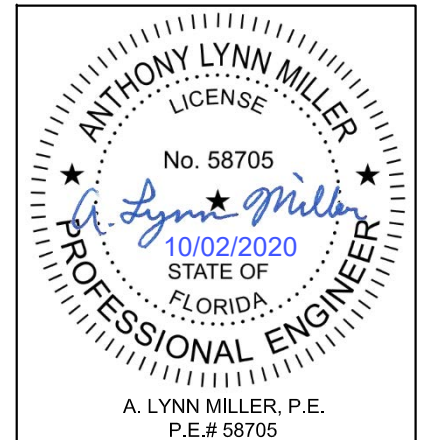
GENERAL ANCHOR NOTES:

1. INSTALL ONE ANCHOR AS INDICATED IN DETAILS ON THIS SHEET AT EACH LOCATION SHOWN IN THE ELEVATIONS ON SHEET 1.
2. INSTALL SHIMS AT EACH ANCHOR LOCATION WHERE A GAP OF 1/16" OR GREATER EXISTS BETWEEN PRODUCT FRAME AND SUBSTRATE.
3. SHIMS SHALL BE LOAD-BEARING (PLASTIC OR METALLIC) AND CAPABLE OF TRANSFERRING LOADS TO SUBSTRATE.
4. SPECIFIED ANCHOR EMBEDMENT TO SUBSTRATE SHALL BE BEYOND WALL FINISH OR STUCCO, BY OTHERS.
5. 1" MIN. EDGE DIST. FOR ULTRACON OR CRETE-FLEX INTO CONCRETE, 1-3/16" MIN. EDGE DIST. FOR ULTRACON+ INTO CONCRETE.

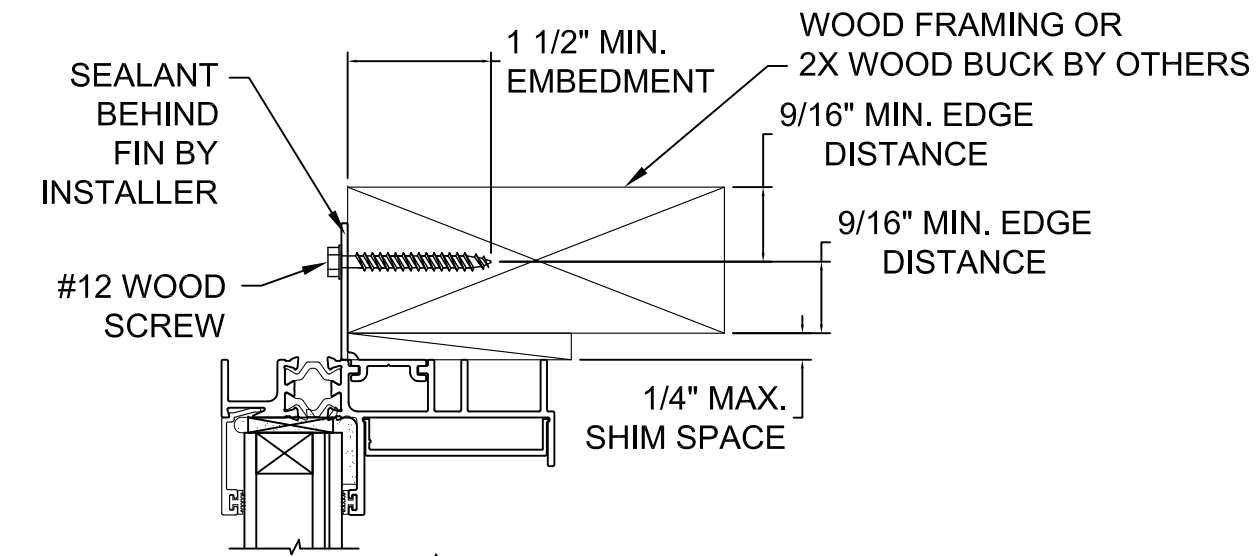
EXTERIOR
↓

Revision:
ADDED 1/4" ELCO ULTRACON+

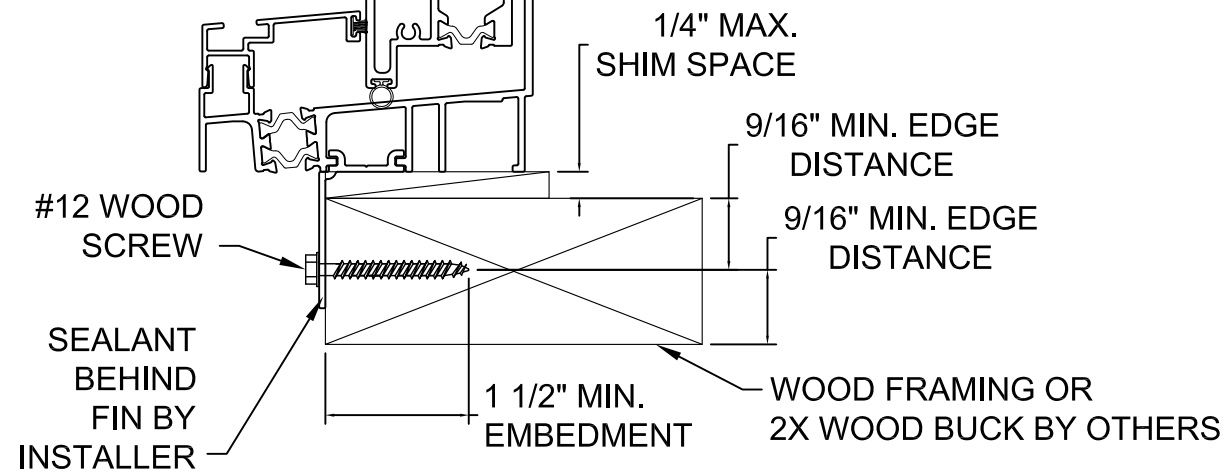
WinDoor® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Date	09/30/20	Rev.	B
		By	ERIN KOSS	DWG	9400 LMI HVHZ
		Sheet	8 OF 11	No.	
		Series	SH9400T	Desc.	INSTALLATION DETAILS - JAMBS



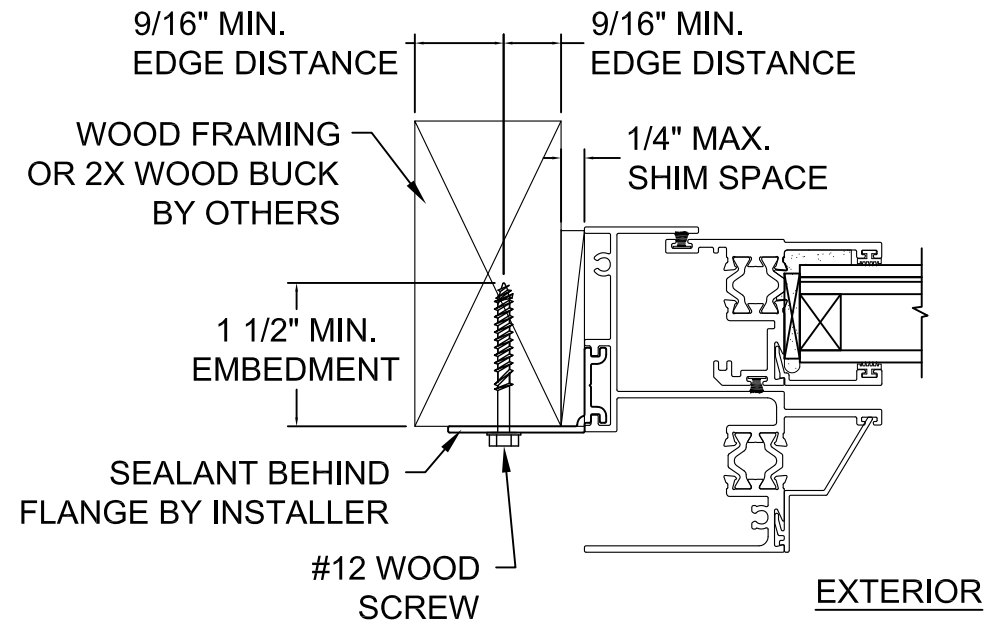
A. LYNN MILLER, P.E.
P.E.# 58705



EXTERIOR



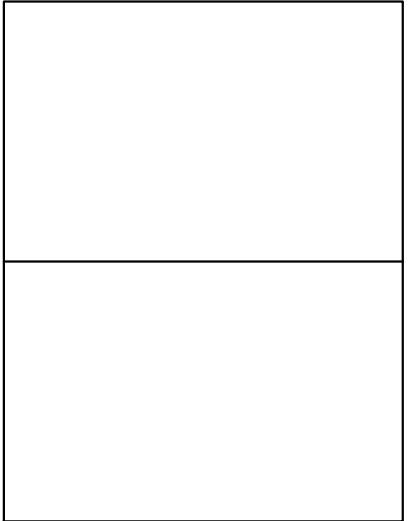
FIN VERTICAL CROSS SECTION
WOOD FRAMING OR
2X WOOD BUCK INSTALLATION



FIN HORIZONTAL CROSS SECTION
WOOD FRAMING OR
2X WOOD BUCK INSTALLATION

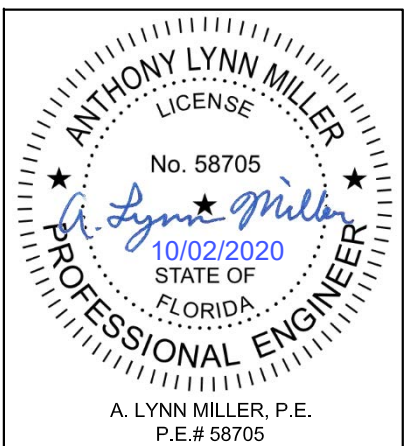
GENERAL ANCHOR NOTES:

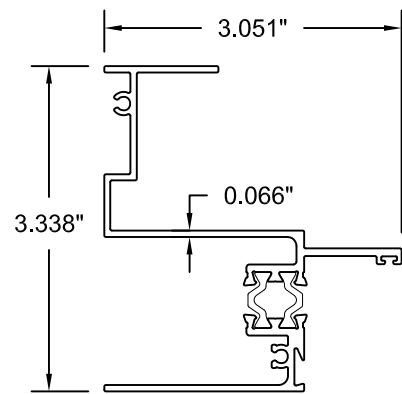
1. FIN WINDOWS SHALL BE INSTALLED ONLY TO WOOD SUBSTRATES AS SHOWN ON THIS SHEET.
2. INSTALL ONE ANCHOR AS INDICATED IN DETAILS ON THIS SHEET AT EACH LOCATION SHOWN IN THE ELEVATION ON SHEET 2.
3. INSTALL SHIMS AT EACH ANCHOR LOCATION WHERE A GAP OF 1/16" OR GREATER EXISTS BETWEEN PRODUCT FRAME AND SUBSTRATE.
4. SHIMS SHALL BE LOAD-BEARING (PLASTIC OR METALLIC) AND CAPABLE OF TRANSFERRING LOADS TO SUBSTRATE.
5. SPECIFIED ANCHOR EMBEDMENT TO SUBSTRATE SHALL BE BEYOND WALL FINISH OR STUCCO, BY OTHERS.



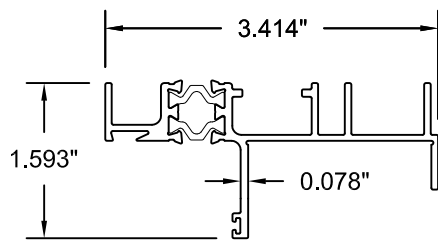
Revision: NO CHANGES THIS SHEET.

WINDOOR® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Date	09/30/20	Rev.	B
		By	ERIN KOSS	DWG No.	9400 LMI HVHZ
		Sheet	9 OF 11		
		Series	SH9400T	Desc.	INSTALLATION DETAILS - FIN

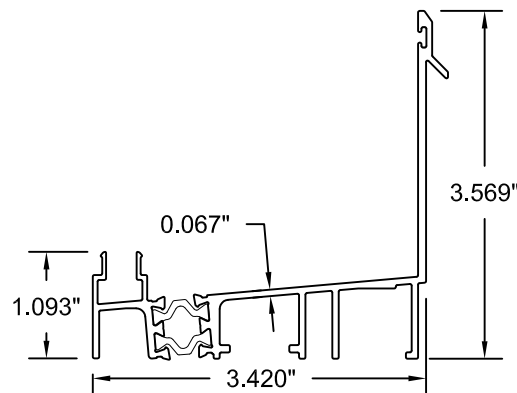




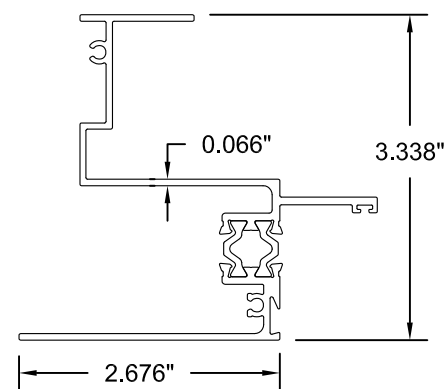
① FRAME JAMB EQUAL LEG
1349X004



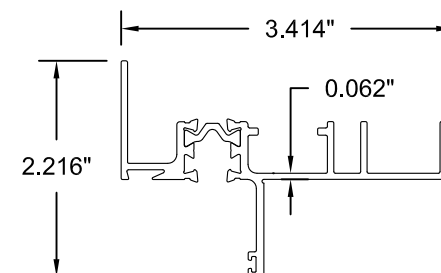
② FRAME HEAD EQUAL LEG
1394X001



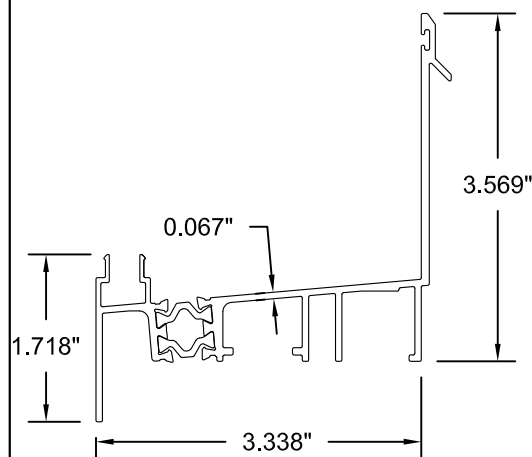
③ FRAME SILL EQUAL LEG
13940001



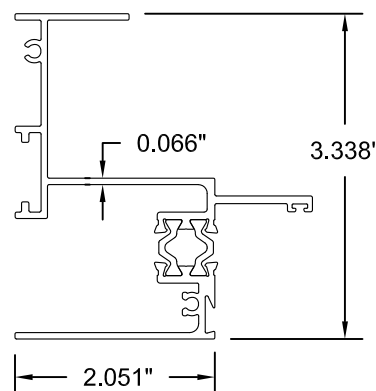
④ FRAME JAMB FLANGE
1394X005



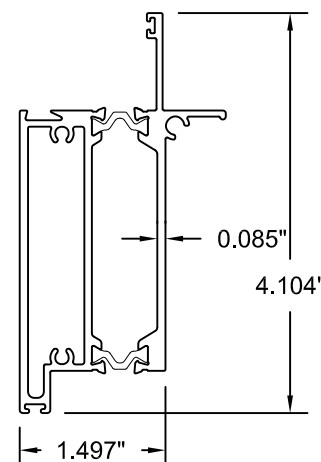
⑤ FRAME HEAD FLANGE
1394X002



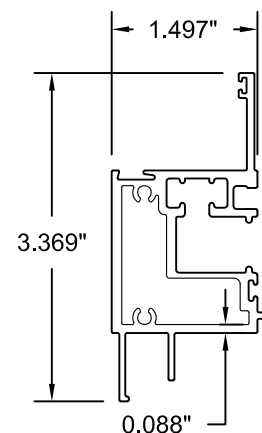
⑥ FRAME SILL FLANGE
13940002



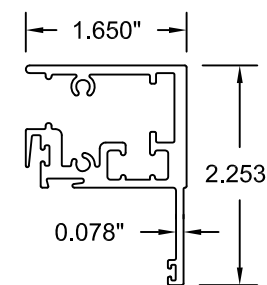
⑦ FRAME JAMB FIN
1349X006



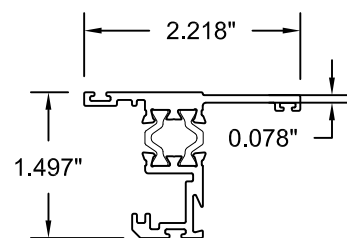
⑧ SASH BOTTOM RAIL
13940004



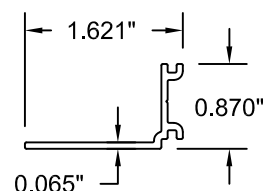
⑨ FIXED MEETING RAIL
1394X007



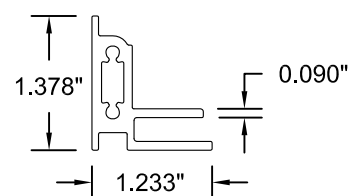
⑩ SASH MEETING RAIL
1394X010



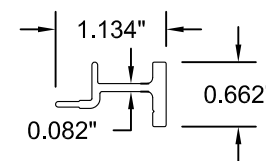
⑪ SASH STILE ASSEMBLY
13940005



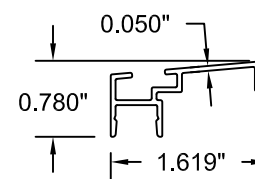
⑫ FIN ADAPTER
S-49332



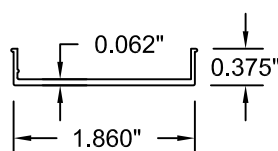
⑬ FIXED MTG. RAIL
REINFORCEMENT
1294X029



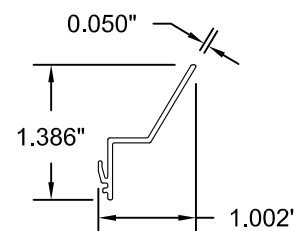
⑭ SASH TOP RAIL
REINFORCEMENT
1194X011



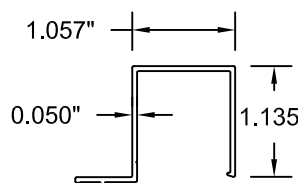
⑮ SILL SCREEN RETAINER
1194X009



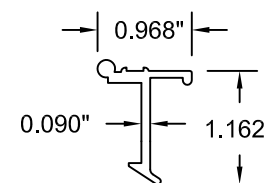
⑯ FRAME HEAD
SCREW COVER
1194X013



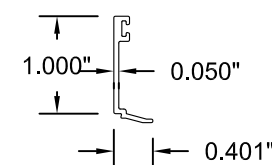
⑰A SCREEN ADAPTOR
17010415



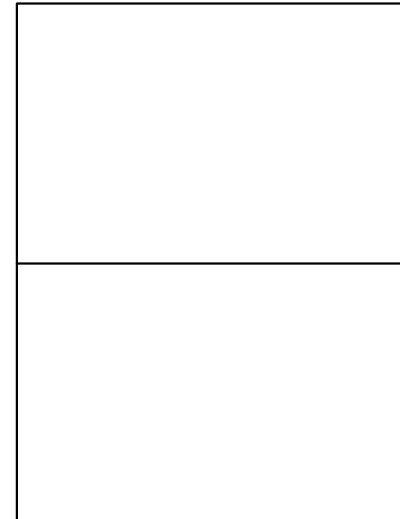
⑰B SCREEN ADAPTOR
1194X014



⑱ SILL SNAP LOCK
11007327



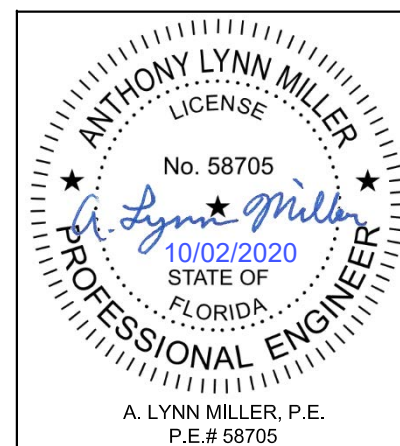
⑳ GLASS STOP
1194X012



Revision:

NO CHANGES THIS SHEET.

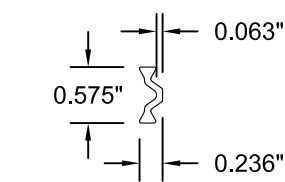
WINDOOR® INCORPORATED WINDOOR INCORPORATED 104 TRIPLE DIAMOND BLVD. NORTH VENICE, FL 34275 (833) 554-5432		PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296		
		Title		Date
		THERMALLY BROKEN ALUM. SINGLE HUNG (LM)		09/30/20
		EXTRUSIONS		By Drawn
SH9400T	10 OF 11	DWG No.	9400 LMI HVHZ	Rev.
Series	Sheet	B		



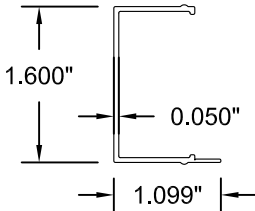
BILL OF MATERIALS			
NO.	PART NUMBER	DESCRIPTION	MANUFACTURER (MAT.)
1	1349X004	FRAME JAMB EQUAL LEG	KEYMARK (ALUM. 6063-T6)
2	1394X001	FRAME HEAD EQUAL LEG	KEYMARK (ALUM. 6063-T6)
3	13940001	FRAME SILL EQUAL LEG	KEYMARK (ALUM. 6063-T6)
4	1394X005	FRAME JAMB FLANGE	KEYMARK (ALUM. 6063-T6)
5	1394X002	FRAME HEAD FLANGE	KEYMARK (ALUM. 6063-T6)
6	13940002	FRAME SILL FLANGE	KEYMARK (ALUM. 6063-T6)
7	1349X006	FRAME JAMB FIN	KEYMARK (ALUM. 6063-T6)
8	13940004	SASH BOTTOM RAIL	KEYMARK (ALUM. 6063-T6)
9	1394X007	FIXED MEETING RAIL	KEYMARK (ALUM. 6063-T6)
10	1394X010	SASH MEETING RAIL	KEYMARK (ALUM. 6063-T6)
11	13940005	SASH STILE ASSEMBLY	KEYMARK (ALUM. 6063-T6)
12	S-49332	FIN ADAPTER	KEYMARK (ALUM. 6063-T6)
13	1294X029	FIXED MTG. RAIL REINFORCEMENT	KEYMARK (ALUM. 6063-T6)
14	1194X011	SASH TOP RAIL REINFORCEMENT	KEYMARK (ALUM. 6063-T6)
15	1194X009	SILL SCREEN RETAINER	KEYMARK (ALUM. 6063-T6)
16	1194X013	FRAME HEAD SCREW COVER	KEYMARK (ALUM. 6063-T6)
17A	17010415	VERTICAL SCREEN ADAPTER	Team Plastics (VINYL)
17B	1194X014	SCREEN ADAPTER	KEYMARK (ALUM. 6063-T6)
18	11007327	SILL SNAP LOCK (OPTIONAL)	KEYMARK (ALUM. 6063-T6)
19	H4000-XX-SL202	SASH LOCK	
20		1" INSULATED GLASS - SEE SHEET 2	
21	15075	SASH GUIDE LEFT	
22	15074	SASH GUIDE RIGHT	
23	WA2L	WEEP GATE	PREFERRED ENGINEERING
24	15176	FOAM PAD - SILL AT JAMBS	
25	263400	9/16" THERMAL STRUT INSULBAR	ENSINGER (TECATHERM 66 GF)
26	1194X012	GLASS STOP	KEYMARK (ALUM. 6063-T6)
27	121005	GLAZING VINYL #5	TEAM PLASTICS (VINYL)
28	15071	SASH STOP	TEAM PLASTICS (VINYL)
29	15070	BALANCE COVER	TEAM PLASTICS (VINYL)
30	15072	DEBRIDGE COVER	TEAM PLASTICS (VINYL)

BILL OF MATERIALS			
NO.	PART NUMBER	DESCRIPTION	MANUFACTURER (MAT.)
31	15073	THERMAL ISOLATOR	TEAM PLASTICS (VINYL)
32		ULTRA LIFT SPIRAL BALANCE	CALDWELL
33	218237	BALANCE CARRIER	CALDWELL
34	11940006	ECO BALANCE SASH BRACKET	SELJAN
35	S4000-XX-150	SCREEN FRAME	KEYMARK (ALUM. 6063-T6)
36	S4000-BL-SC	SCREEN CORNERS	
37	S4000-SS-027	SCREEN WIRE LIFT	
38	900187	SCREEN TENSION SPRING	
39	SBVXX-BL-0600Z	SCREEN MESH	
40	S0010-BL-2200R	SCREEN SPLINE	
41	121998	0.187" W X 0.200" H FIN WEATHERSTRIP	ULTRAFAB
42	W4000-BL-20218	0.187" W X 0.300" H PROLON WEATHERSTRIP	ULTRAFAB
43	W4070-BL-W2	CLOSED CELL FOAM PAD	FRANK LOWE
44	122023	0.810" W X 0.700" L X 0.240" H WOOLPILE PAD	ULTRAFAB
45	131096	#6 X 3/4" FLAT HEAD TYPE A PAINTED SASH LOCK SCREWS	
46	131014	#8 X 1" PAN HEAD SQUARE DRIVE LEAD POINT CORNER ASSEMBLY SCREWS	
47	131085	#8 X 1" FLAT HEAD BALANCE SCREWS TYPE A	
48		#12 PAN HEAD INSTALLATION SCREWS	
49	121104	GLASS SHIM DUROMETER 85	FRANK LOWE (2RB-89-0250-024-032)
50		SIKA 552, DOW 791, DOW 983	SIKA / DOW (POLYURETHANE/SILICONE)
51	TP990	SPACER SYSTEM (SEE NOTE BELOW)	HELIMA (ALUMINUM AW-3000)

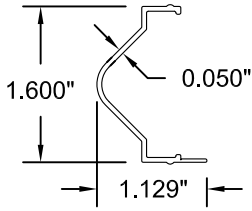
NOTE: SPACER MATERIAL TENSILE ULTIMATE STRENGTH FTU= 17KSI
TENSILE YIELD STRENGTH FTY= 12KSI



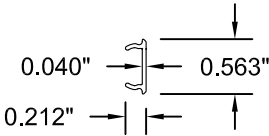
25 THERMAL STRUT
263400



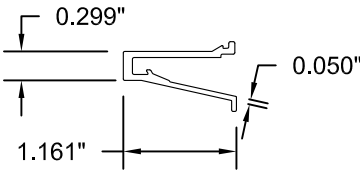
28 SASH STOP
15071



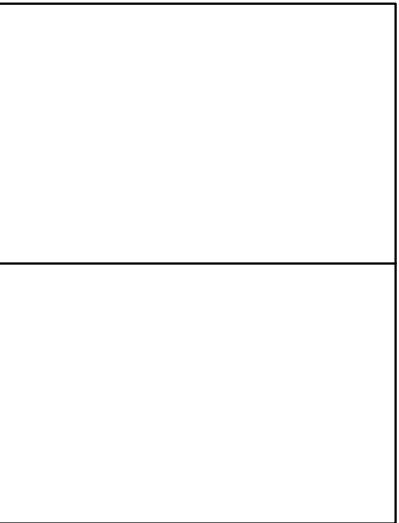
29 BALANCE COVER
15070



30 DEBRIDGE COVER
15072



31 THERMAL ISOLATOR
15073



Revision: ADDED DOW 791 & DOW 983 TO BOM.

PREPARED BY A. LYNN MILLER
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Date

ERIN KOSS

By

11 OF 11

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9400 LMI HVHZ

DWG

No.

Rev.

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THERMALLY BROKEN ALUM. SINGLE HUNG (LM)

BOM & EXTRUSIONS

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