

DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER CHARTS SHOWN ON SHEETS 2.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2023 (8TH EDITION)/2026 (9TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

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

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.

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

ALL SHIMS TO BE LOAD-BEARING, (HIGH DENSITY PLASTIC/COMPOSITE, METAL OR OTHER RIGID MATERIALS).

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2023/2026 FLORIDA BLDG. CODE & ADOPTED STANDARDS.

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, I.E. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR WATER INFILTRATION RESISTANCE ETC.

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

DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION
IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE.
LABELING TO COMPLY WITH SECTION 1709.9.2.



DAYLITE OPENINGS:
D.L.O. HEIGHT = WINDOW HEIGHT - 6.9375"
D.L.O. WIDTH = WINDOW WIDTH - 6.9375"

FASTENERS AND CONNECTORS (AS APPLICABLE) SHOWN IN THIS APPROVAL MAY NOT MEET CORROSION RESISTANCE REQUIREMENTS FOR COASTAL OR SALT WATER EXPOSURE ZONES. COMPLIANCE WITH THESE CONDITIONS TO BE CHECKED PER FBC 1711.

WINDOWS COMPLY WITH REQUIREMENTS OF ANSI Z97.1.

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

Sealed: 7/17/2026

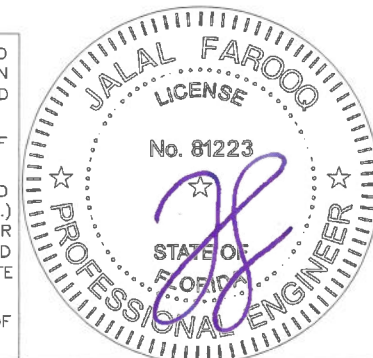
FL #46986

A- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.

B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

C- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

D- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



SERIES 5100 ALUMINUM FIXED WDW. (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX.

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
(C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978

TEL. (305) 638-5151 FAX. (305) 638-5158

date: 08-23-24

scale: 1/2"=1'-0"

dr. by: TARIQ

chk. by:

revisions:

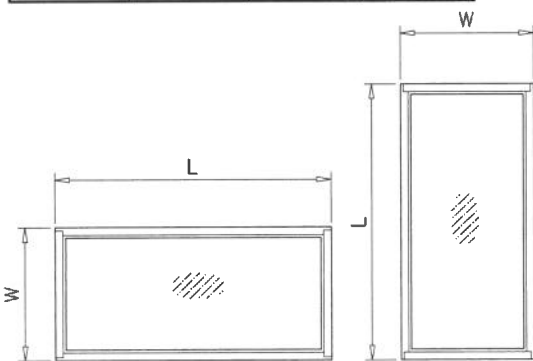
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24-55F

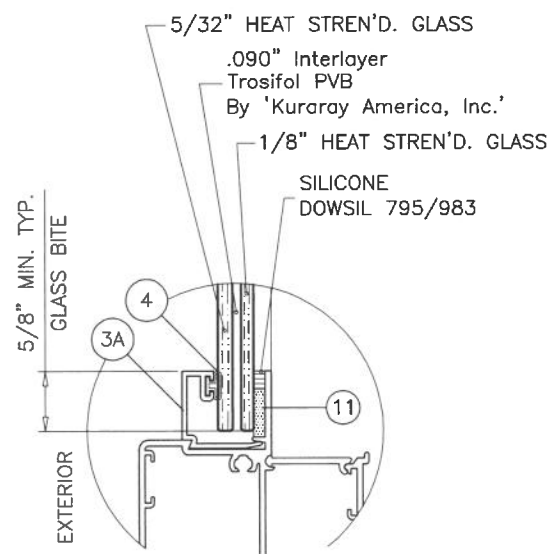
sheet 1 of 7

DESIGN LOAD CAPACITY - PSF			
WINDOW DIMS.		GLASS TYPES 'C', 'D', 'E' & 'F'	
WIDTH (W)	LENGTH (L)	EXT.(+)	INT.(-)
24"	42"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		90.0	90.0
60"		90.0	90.0
62"		90.0	90.0
24"	48"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		90.0	90.0
60"		90.0	90.0
62"		90.0	90.0
24"	54"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		88.5	88.5
60"		88.5	88.5
62"		88.5	88.5
24"	60"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"		88.5	88.5
60"		79.7	79.7
62"		79.7	79.7
24"	66"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"	72"	88.5	88.5
59"		81.0	81.0
24"	76"	90.0	90.0
30"		90.0	90.0
36"		90.0	90.0
42"		90.0	90.0
48"		90.0	90.0
54"	76"	88.5	88.5
59"		81.0	81.0
62"		79.7	79.7

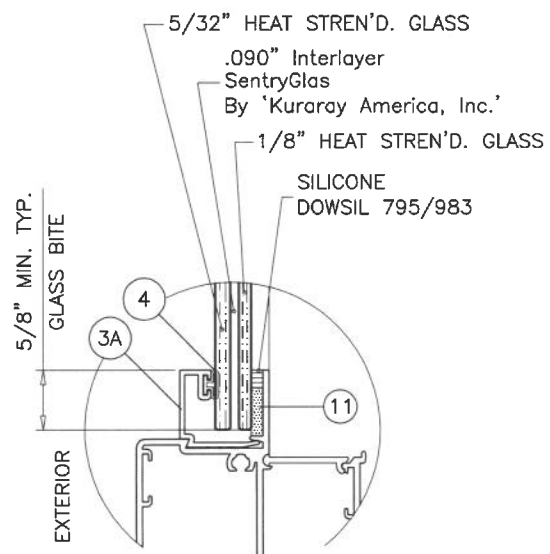
DESIGN LOAD CAPACITY - PSF			
WINDOW DIMS.		GLASS TYPES 'C', 'D', 'E' & 'F'	
WIDTH (W)	LENGTH (L)	EXT.(+)	INT.(-)
19-1/8"	26"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
19-1/8"	38-3/8"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
19-1/8"	50-5/8"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
19-1/8"	63"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		77.1	77.1
19-1/8"	74-1/4"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
53-1/8"		90.0	90.0
62"		90.0	90.0
19-1/8"	76"	90.0	90.0
26-1/2"		90.0	90.0
37"		90.0	90.0
48"		90.0	90.0
51"		90.0	90.0



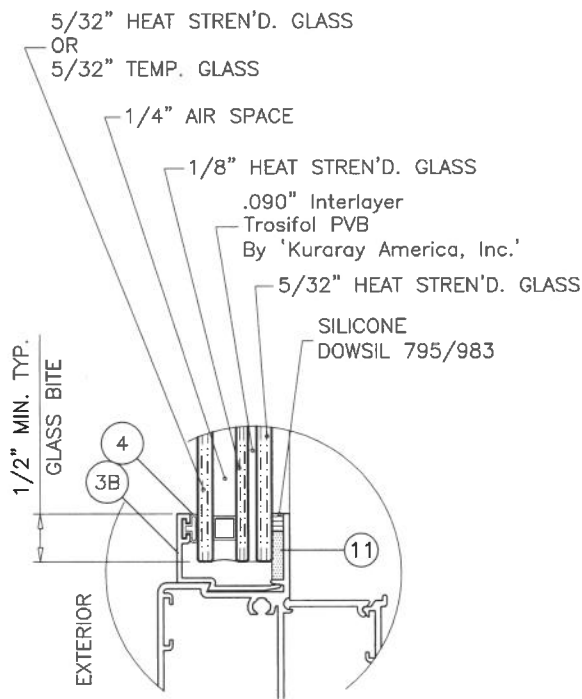
NOTE:
WIDTH AND LENGTH DIMENSIONS CAN BE ORIENTED
VERTICALLY OR HORIZONTALLY AS SHOWN ABOVE.



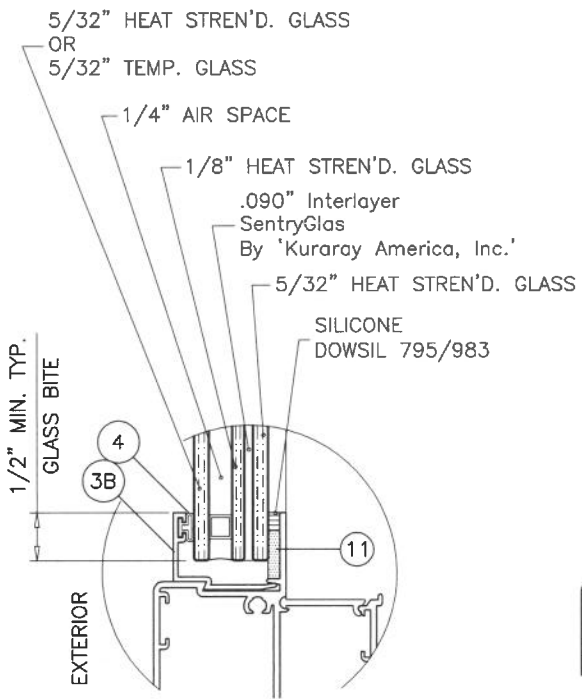
GLASS TYPE 'C'



GLASS TYPE 'D'



GLASS TYPE 'E'



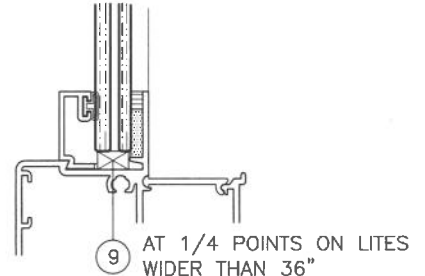
GLASS TYPE 'F'

GLAZING OPTIONS

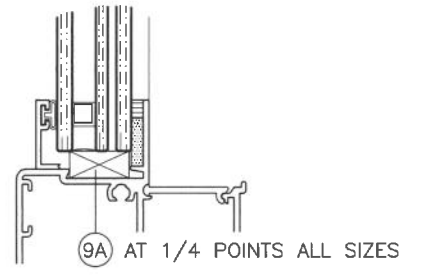
NOTE:
TO QUALIFY FOR SMALL MISSILE IMPACT RATING
EXTERIOR PLY OF GLASS TYPES 'E' & 'F' MUST BE TEMPERED.

1/4" AIR SPACE CONSISTING OF:
SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
SILICONE
DOWSIL 791
GE 2000

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS).



SETTING BLOCKS AT LAM. GLASS
NOTCH GLAZING BEAD LEG
TO CLEAR BLOCKS



SETTING BLOCKS AT INSUL. LAM. GLASS
NOTCH GLAZING BEAD LEG
TO CLEAR BLOCKS



Sealed: 7/17/2026

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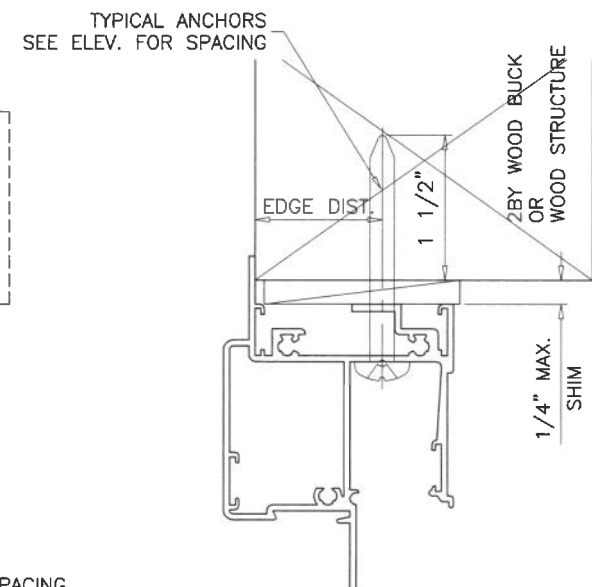
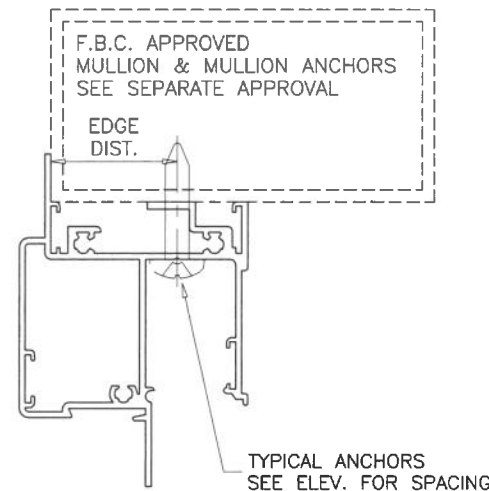
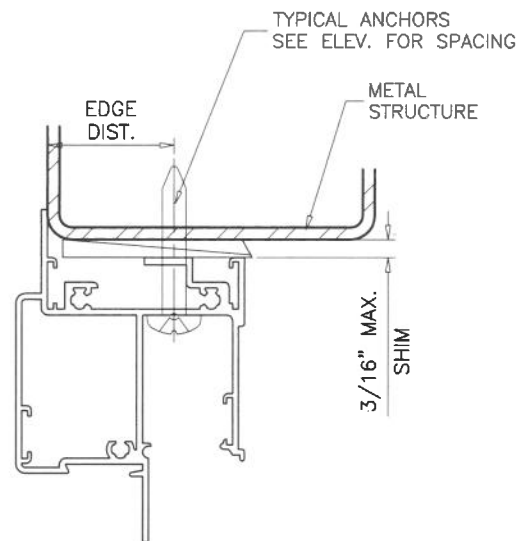
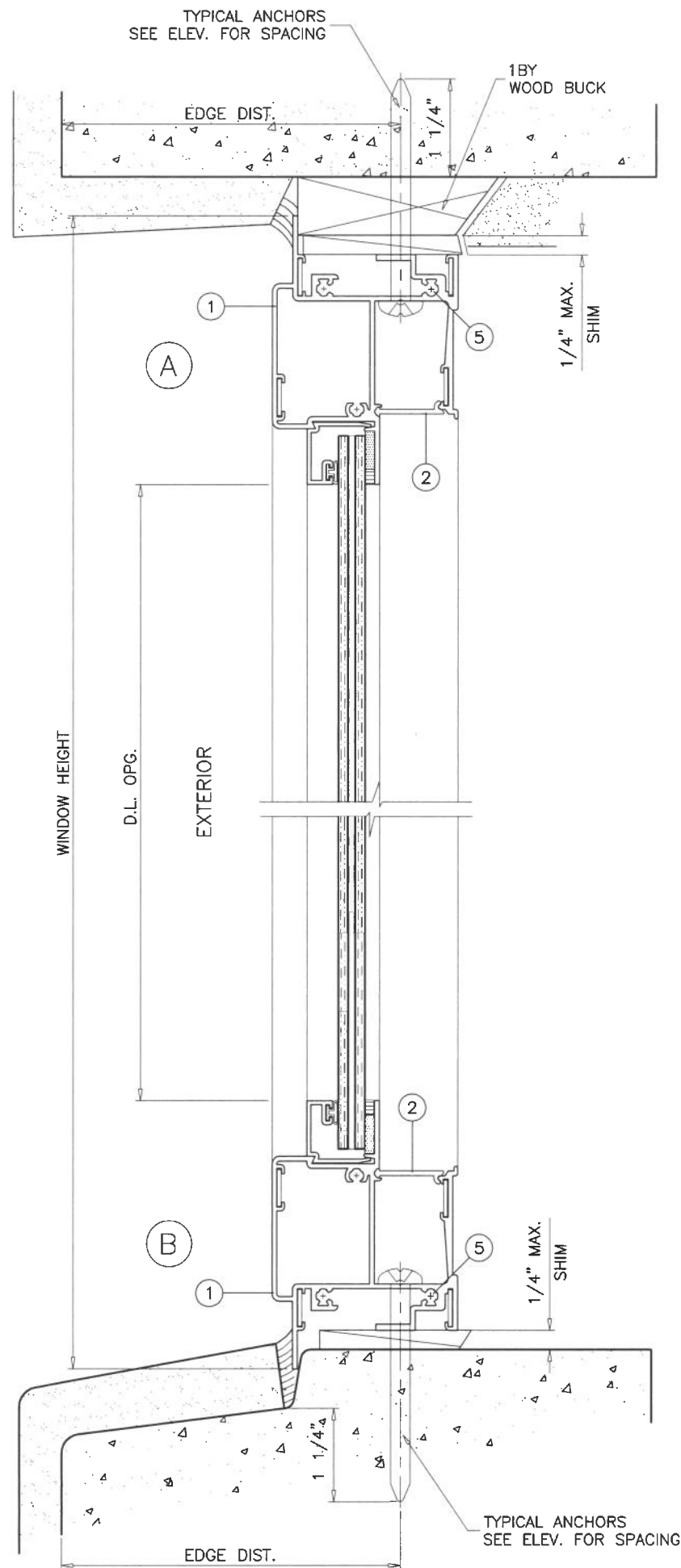
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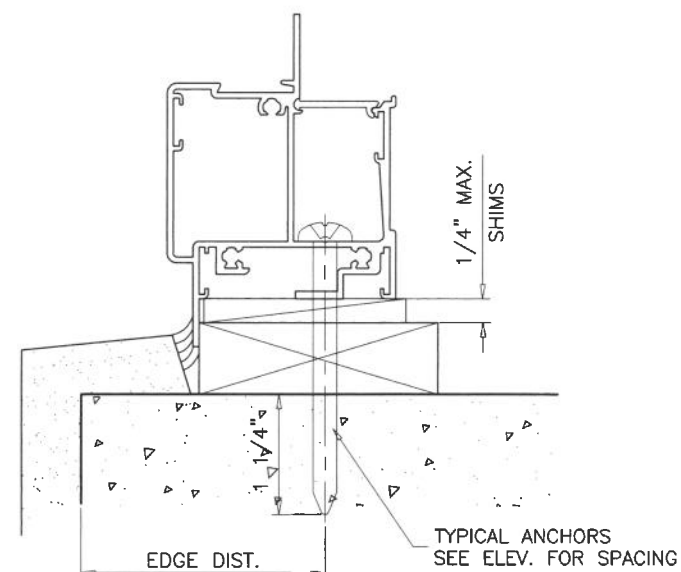
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date: 08-23-24
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

drawing no.
24-55F
sheet 2 of 7



WOOD BUCKS AND METAL STRUCTURE NOT BY 'E.S. WINDOWS' MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES

1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

THRU 1BY BUCKS INTO CONC. OR BLOCKS

1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

DIRECTLY INTO CONCRETE OR BLOCKS

1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)

1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

1-3/4" MIN. EMBED INTO CONC. (FOR MULLION CLIPS ONLY)

#14 SMS OR SELF DRILLING SCREWS (GRADE 2 CRS)

INTO F.B.C. APPROVED MULLIONS

OR

INTO METAL STRUCTURES (HEAD/SILL/JAMBS)

(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE

ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)

STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)

(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

INTO CONCRETE AND MASONRY = 2-1/2" MIN.

INTO CONCRETE = 1-1/2" MIN. (INTERIOR ANCHORS AT MULL CLIP)

INTO WOOD STRUCTURE = 1" MIN.

INTO METAL STRUCTURE = 3/4" MIN.

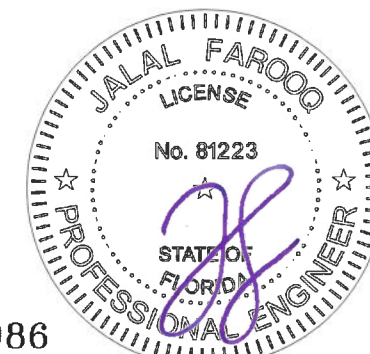
WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.

CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.

C-90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

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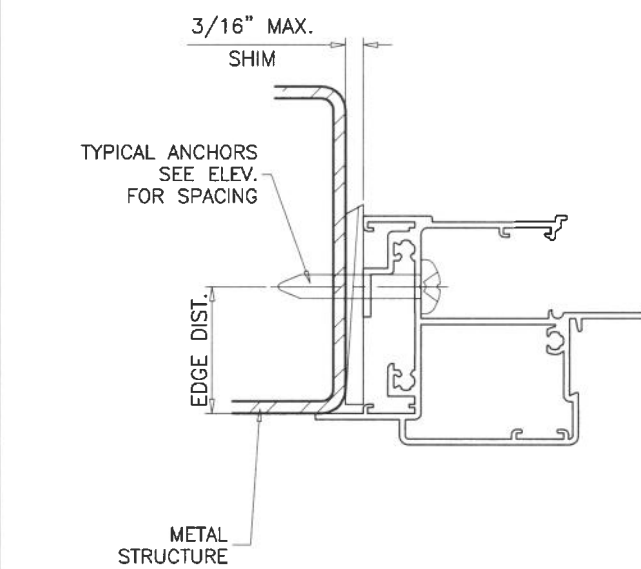
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24-55F

sheet 3 of 7

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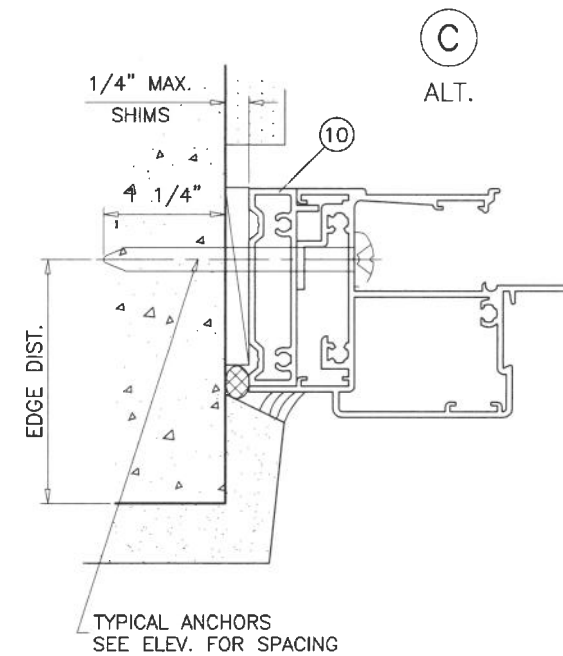
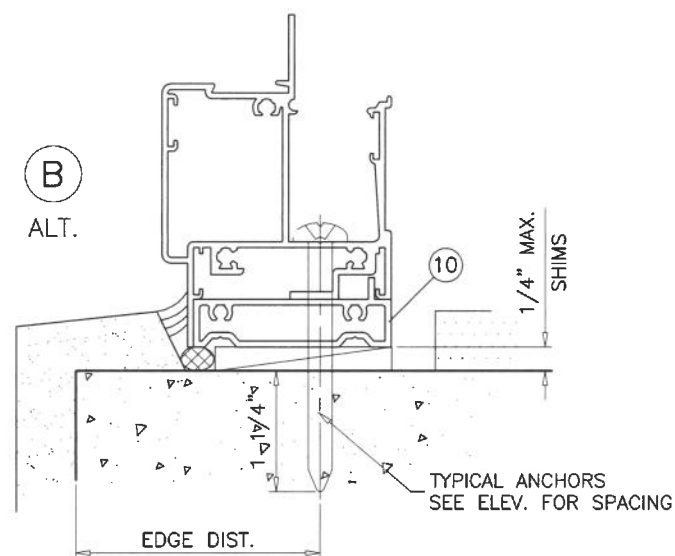
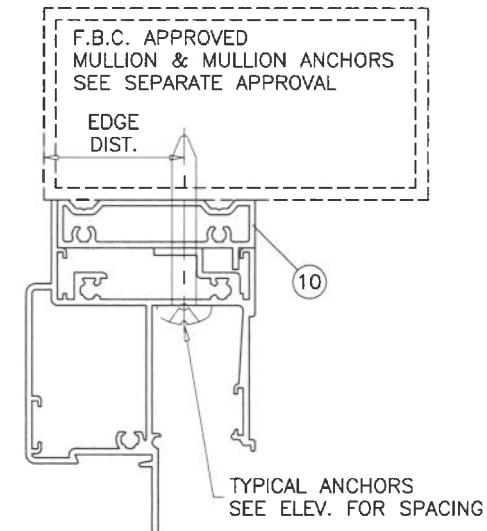
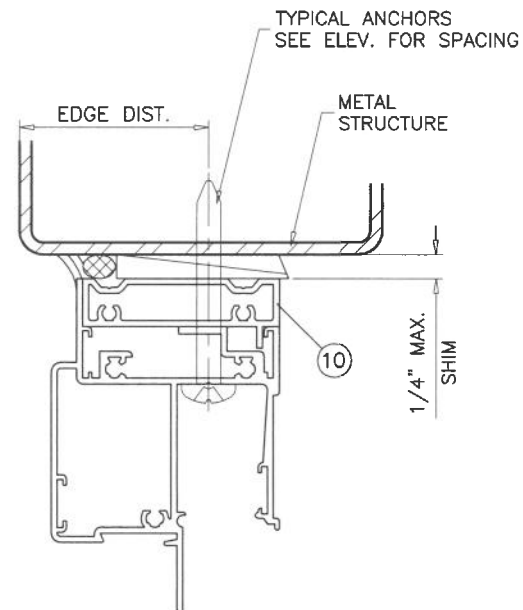
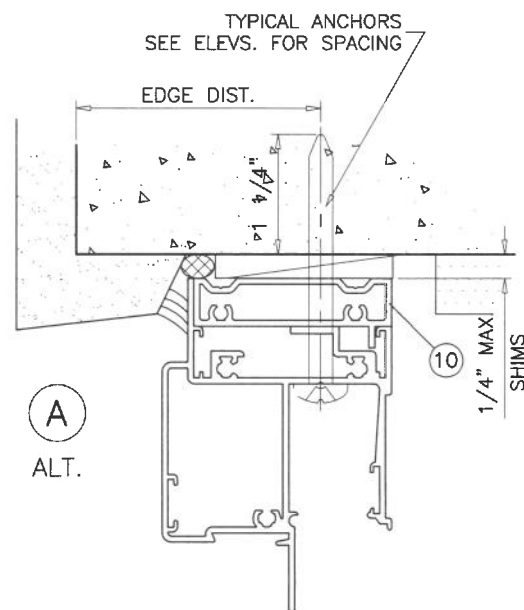
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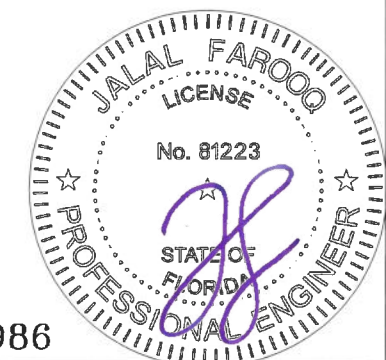
FL #46986



sheet 4 of 7



Sealed: 7/17/2026



INSTALLATION DETAILS WITH FLUSH FRAME ADAPTER

FL #46986

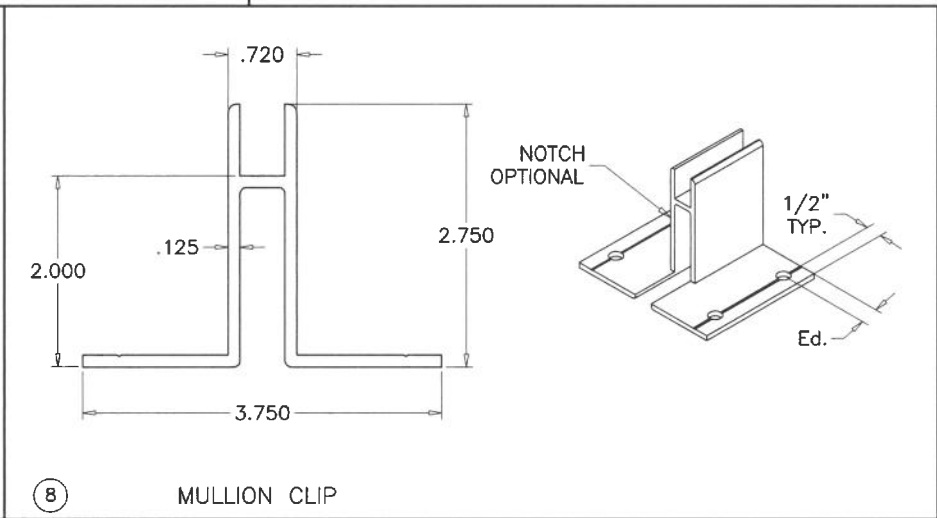
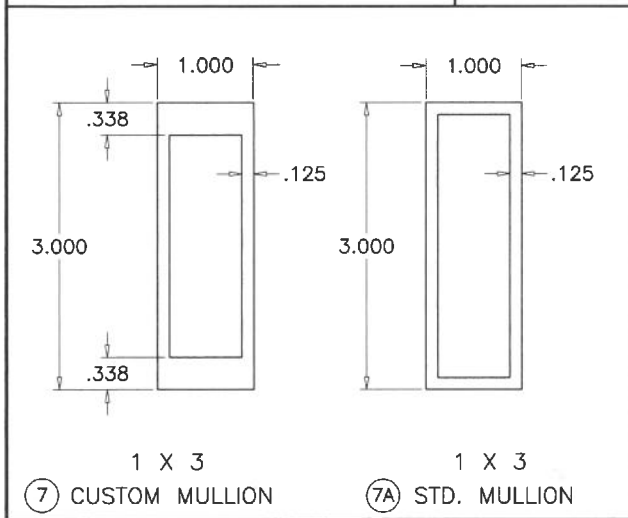
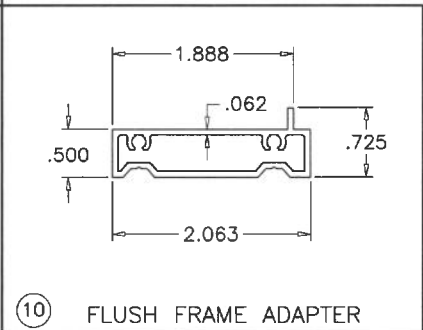
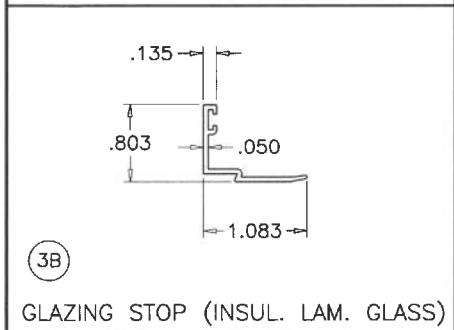
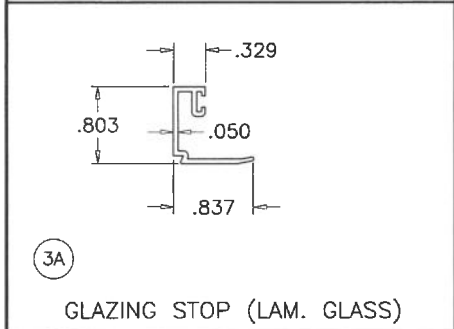
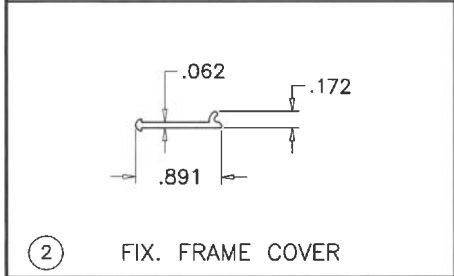
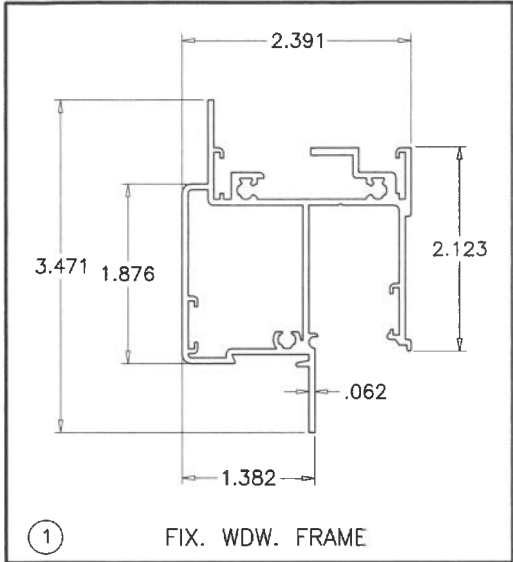
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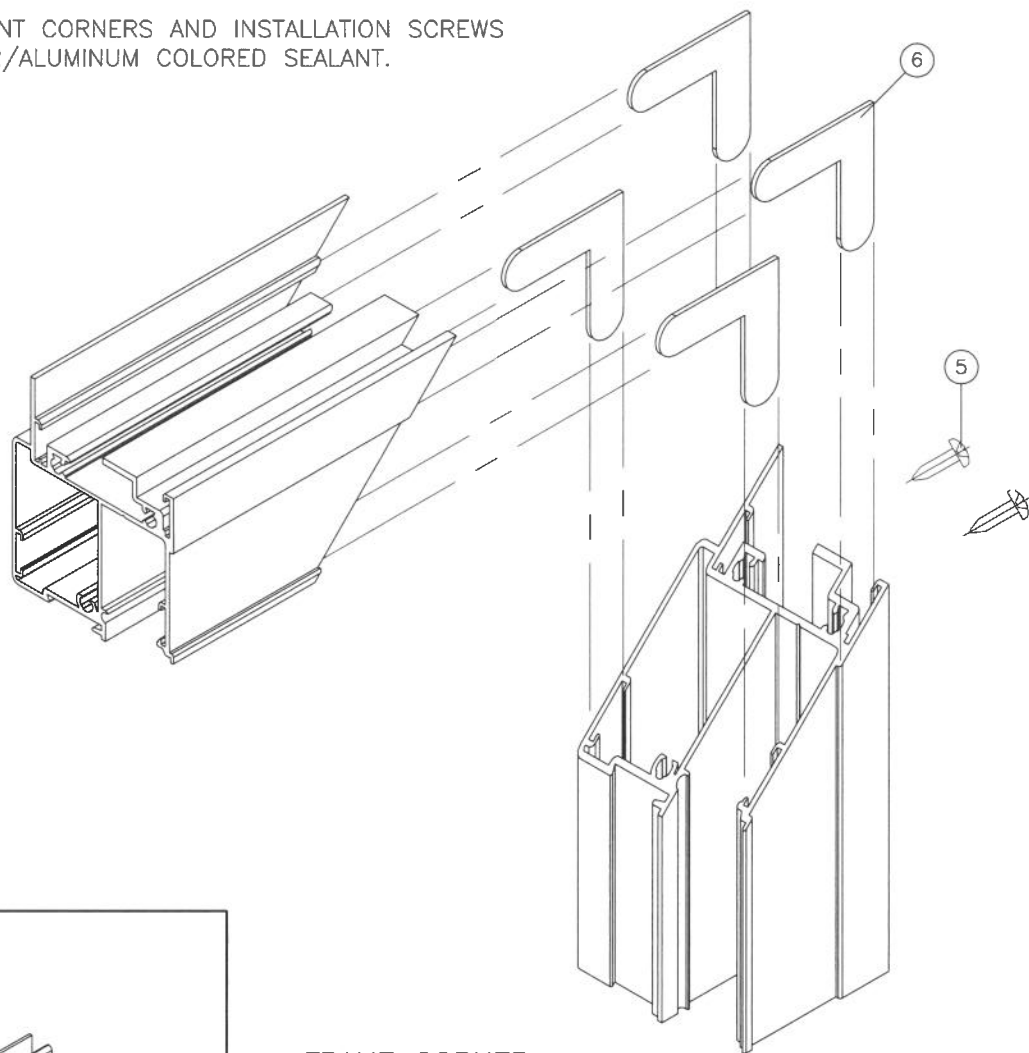
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24-55F
sheet 5 of 7



ITEM	PART #	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	ES5015	4	FIX. WDW. FRAME	6063-T6	-
2	ES5016	4	FIX. FRAME COVER	6063-T6	-
3A	ES1103	AS REQD.	GLAZING BEAD (LAM. GLASS)	6063-T5	-
3B	ES1017	AS REQD.	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T5	-
4	27-425	AS REQD.	GLAZING GASKET	EPDM	DUROMETER 60 SHORE 'A'
5	-	AS REQD.	FRAME ASSEMBLY SCREWS	-	#10 X 1" PH SMS
6	PJS40-SS	AS REQD.	CORNER LOCK	ST. STEEL	SULLIVAN & ASSOCIATES
7	-	AS REQD.	1X3 CUSTOM MULLION	6063-T6	-
7A	-	AS REQD.	1X3 STANDARD MULLION	6063-T6	-
8	-	AS REQD.	MULLION CLIP	6063-T6	-
9	27-372	2/ LITE	SETTING BLOCK, 7/16" X 3/16" X 3-1/2" LONG	EPDM	AT 6" FROM EACH END, DUROMETER 75±5 SHORE A
9A	-	2/ LITE	SETTING BLOCK, 5/16" X 5/8" X 4" LONG	EPDM	AT 6" FROM EACH END, DUROMETER 75±5 SHORE A
10	ES-5017	AS REQD.	FLUSH FRAME ADAPTER	6063-T5	OPTIONAL
11	-	AS REQD.	GLAZING TAPE (1/4" X 1/2")	FOAM	-

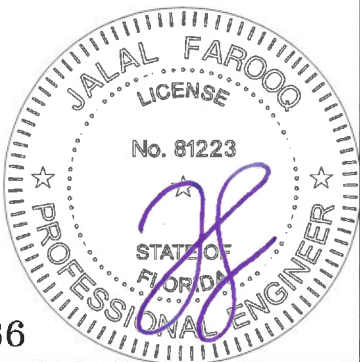
SEALANTS:

ALL FRAME AND VENT CORNERS AND INSTALLATION SCREWS SEALED WITH CLEAR/ALUMINUM COLORED SEALANT.



FRAME CORNER

Sealed: 7/17/2026



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sheet 6 of 7

