

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

# SERIES 2500 ALUMINUM SINGLE HUNG WINDOW

DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER CHART SHOWN ON SHEETS 2, 2.1 & 2.2.

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE COMBINATIONS OF S.H./S.H. OR SINGLE HUNG WITH OTHER F.B.C. APPR'D WINDOWS USING F.B.C. APPROVED MULLIONS IN BETWEEN.

LOWER DESIGN PRESSURE FROM WINDOW OR MULLION APPROVAL WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2020 (7TH EDITION)/2023 (8TH 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 HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2020/2023 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.

# TYPICAL ELEVATION

TESTED UNITS

LAMINATED GLASS LARGE MISSILE IMPACT

#### 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

Sealed: 7/20/2023

- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF
- 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.

FL #21857



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	date:	08-22-15		revisions:		
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	scale:	scale: 1/2" = 1"	ပ	C 12.07.17		NEW GLASS TYPE ADI
			۵	D 07.18.18		UPDATED TO 2017 FE
	dr. by:	dr. by: TARIQ	ш	E 09.23.20		UPDATED TO 2020 FE
			<u>L</u>	F 09.14.22		JINUO INTERLAYER AD
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CORPORATION
ODUCT DEVELOPMENT
INE, SUITE 220

AL-FAROOQ COR ENGINEERS & PRODUCT I 9360 SUNSET DRIVE, SUI MIAMI, FLORIDA 33173 TEL. (305) 264-8100

(L.M.I.) LLC.

HUNG WINDOW Doors,

SINGLE

ALUM

2500

SERIES

**&** L Road . 33069

Windows
Powerline I
Beach, FL

Assura Wir 1543 N. Pov Pompano Be Tel. (954) 781-

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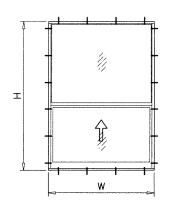
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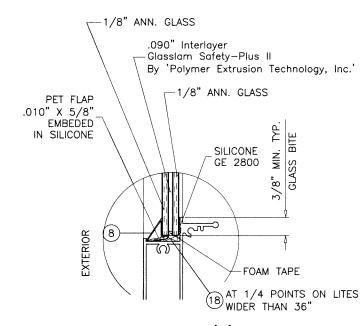
sheet 1 of 5

	DESIGN LOAD CAPACITY - PSF WINDOWS WITH SILL ANCHORS				
		W DIMS.	GLASS TYPES 'A', 'B' & 'D'		
	WIDTH	HEIGHT	EXT.(+)	1NT.(-)	
	19-1/8"		70.0	90.0	
	26-1/2"		70.0	90.0	
	37"	26"	70.0	90.0	
	42"	(3)	70.0	90.0	
	48"		70.0	90.0	
	53-1/8"		70.0	90.0	
	19-1/8"		70.0	90.0	
	26-1/2"		70.0	90.0	
	37"	38-3/8"	70.0	90.0	
	42"	(4)	70.0	90.0	
	48"		70.0	90.0	
	53-1/8"		70.0	90.0	
	19-1/8"		70.0	90.0	
	26-1/2"		70.0	90.0	
	37"	50-5/8"	70.0	90.0	
	42"	(4)	70.0	90.0	
Ш	48"		70.0	90.0	
	53-1/8"		60.0	65.0	
П	19-1/8"		70.0	90.0	
	26-1/2"		70.0	90.0	
	37"	59"	70.0	90.0	
	42"	(5)	60.0	65.0	
	48"		60.0	65.0	
	53-1/8"		60.0	65.0	
	19-1/8"		70.0	90.0	
	26-1/2"		70.0	90.0	
	37"	63"	70.0	90.0	
	42"	(6)	60.0	65.0	
	48"		60.0	65.0	
	53-1/8"		60.0	65.0	
	19-1/8"		70.0	90.0	
	26-1/2"	74 4 /4"	70.0	90.0	
	37"	74-1/4" (6)	60.0	65.0	
	42"		60.0	65.0	
	48" 53-1/8"		60.0 60.0	65.0 64.5	
	19-1/8"		70.0	90.0	
	26-1/2"		70.0	90.0	
	37"	76"	60.0	65.0	
	42"	(6)	60.0	65.0	
	48"	(0)	60.0	65.0	
	51"		60.0	65.0	
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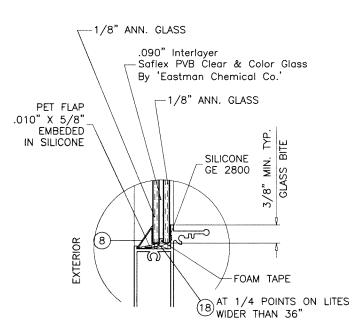
EQUAL LITES WINDOWS

GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS) AND FLORIDA BUILDING COMMISSION DECLARATORY STATEMENT DCA05-DEC-219

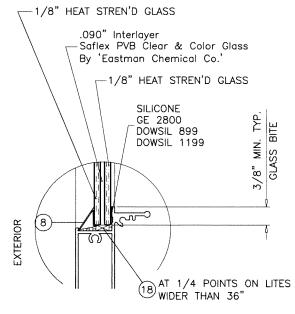




GLASS TYPE 'A'



GLASS TYPE 'B'



GLASS TYPE 'D'

**GLAZING OPTIONS** 

Sealed: 7/20/2023

#### WINDOWS WITH SILL ANCHORS GLASS TYPES 'A', 'B' & 'D' WINDOW DIMS. WIDTH HEIGHT EXT.(+)1NT.(-) 19-1/8" 70.0 90.0 26-1/2" 70.0 90.0 37" 50-5/8 70.0 90.0 42" (4) 60.0 65.0 48" 65.0 53-1/8" 65.0 19-1/8" 70.0 90.0 26-1/2" 70.0 90.0 60.0 65.0 37" 59" (5) 60.0 65.0 42" 48" 60.0 65.0 53-1/8" 60.0 65.0 19-1/8" 70.0 90.0 26-1/2" 70.0 90.0 65.0 37" 63" 60.0

65.0

65.0

65.0

90.0

65.0

65.0

90.0

65.0

65.0

\* NO. IN PARENTHESIS INDICATE NO. OF ANCHORS PER JAMB.

60.0

60.0

70.0

60.0

60.0

70.0

60.0

60.0

42"

48"

51"

19-1/8"

26-1/2"

37"

19-1/8"

26-1/2"

(6)

74-1/4"

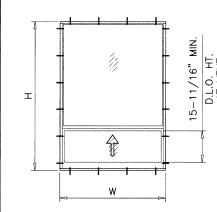
(6)

76"

(6)

UNEQUAL LITES (ORIEL TYPES) WINDOWS

DESIGN LOAD CAPACITY - PSF



date WINDOWS WITH SILL ANCHORS 08-22-15 1/2"

SERIES 2500 ALUM SINGLE HUNG WINDOW (L.M.I.)

 AL-FAROOQ CORPORATION

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& Doors, Road 1L. 33069

Windows & L Powerline Road 5 Beach, FL. 33 781–4430 www.o

Assura W 1543 N. P Pompano E Tel. (954) 78

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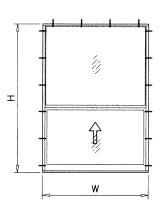
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<sup>\*</sup> NO. IN PARENTHESIS INDICATE NO. OF ANCHORS PER JAMB.

	DESIGN LOAD CAPACITY - PSF WINDOWS WITHOUT SILL ANCHORS						
WINDOW DIMS.		GLASS TYPE 'C'		GLASS TYPE 'D'			
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	26"	60.0	65.0	70.0	90.0		
42"	(3)	60.0	65.0	70.0	90.0		
48"		60.0	65.0	70.0	90.0		
53-1/8"		60.0	65.0	70.0	83.1		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	38-3/8"	60.0	65.0	70.0	90.0		
42"	(4)	60.0	65.0	70.0	90.0		
48"		60.0	65.0	70.0	83.1		
53-1/8"		60.0	65.0	70.0	75.1		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	50-5/8"	60.0	65.0	70.0	81.7		
42"	(4)	60.0	65.0	70.0	72.0		
48"		60.0	63.0	60.0	63.0		
53-1/8"		56.9	56.9	56.9	56.9		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	59"	60.0	65.0	70.0	87.7		
42"	(5)	60.0	65.0	60.0	65.0		
48"		60.0	65.0	60.0	65.0		
53-1/8"		60.0	61.1	60.0	61.1		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	63"	60.0	65.0	70.0	90.0		
42"	(6)	60.0	65.0	60.0	65.0		
48"		60.0	65.0	60.0	65.0		
53-1/8"		60.0	65.0	60.0	65.0		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	74-1/4"	60.0	65.0	60.0	65.0		
42"	(6)	60.0	65.0	60.0	65.0		
48"		60.0	64.4	60.0	64.4		
53-1/8"		58.2	58.2	58.2	58.2		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	76"	60.0	65.0	60.0	65.0		
42"	(6)	60.0	65.0	60.0	65.0		
48"		60.0	63.0	60.0	63.0		
51"		59.2	59.2	59.2	59.2		

EQUAL LITES WINDOWS

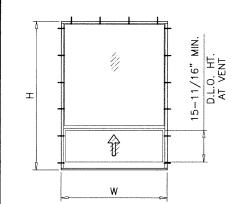
GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS) AND FLORIDA BUILDING COMMISSION DECLARATORY STATEMENT DCA05-DEC-219



UNEQUAL	LITES (ORIEL TYPES)	WINDOWS
DESIG	N LOAD CAPACITY -	PSF
WINDOV	WS WITHOUT SILL AN	CHORS
WINDOW DIMS.	GLASS TYPE 'C'	GLASS TYPE

WINDOWS WITHOUT SILL ANCHORS							
WINDOW DIMS.		GLASS TYPE 'C'		GLASS TYPE 'D'			
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	50-5/8"	60.0	65.0	70.0	81.7		
42"	(4)	60.0	65.0	60.0	65.0		
48"		60.0	63.0	60.0	63.0		
53-1/8"		56.9	56.9	56.9	56.9		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	59"	60.0	65.0	60.0	65.0		
42"	(5)	60.0	65.0	60.0	65.0		
48"		60.0	65.0	60.0	65.0		
53-1/8"		60.0	61.1	60.0	61.1		
19-1/8"		60.0	65.0	70.0	90.0		
26-1/2"		60.0	65.0	70.0	90.0		
37"	63"	60.0	65.0	60.0	65.0		
42"	(6)	60.0	65.0	60.0	65.0		
48"		60.0	65.0	60.0	65.0		
51"		60.0	65.0	60.0	65.0		
19-1/8"	74 1 /4"	60.0	65.0	70.0	90.0		
26-1/2"	74-1/4"	60.0	65.0	60.0	65.0		
37"	(6)	60.0	65.0	60.0	65.0		
19-1/8"	70"	60.0	65.0	70.0	90.0		
26-1/2"	76"	60.0	65.0	60.0	65.0		
37"	(6)	60.0	65.0	60.0	65.0		

<sup>\*</sup> NO. IN PARENTHESIS INDICATE NO. OF ANCHORS PER JAMB.



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SERIES 2500 ALUM SINGLE HUNG WINDOW (L.M.I.) LLC. Assura Windows & Doors, 1543 N. Powerline Road Pompano Beach, FL. 33069
Tel. (954) 781-4430 www.assurawind

by description revisions:

> by: TARIQ 1/2"

sheet 2.1of 5

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.090" Interlayer -Saflex PVB Clear & Color Glass By 'Eastman Chemical Co.' -1/8" HEAT STREN'D GLASS GE 2800 DOWSIL 899 DOWSIL 1199 EXTERIOR AT 1/4 POINTS ON LITES WIDER THAN 36"

GLASS TYPE 'D'

1/8" HEAT STREN'D GLASS

WINDOWS WITHOUT

SILL ANCHORS

drawing no. W15 - 60

Sealed: 7/20/2023 FL #21857

.090" Interlayer -Saflex PVB Ćlear & Color Glass By 'Eastman Chemical Co.' -1/8" ANN. GLASS /8" MIN. GLASS BI SILICONE GE 2800 EXTERIOR

-1/8" ANN. GLASS

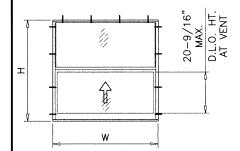
GLASS TYPE 'C' **GLAZING OPTIONS** 

AT 1/4 POINTS ON LITES WIDER THAN 36"

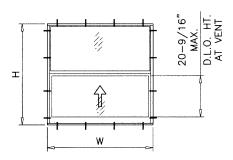
<sup>\*</sup> NO. IN PARENTHESIS INDICATE NO. OF ANCHORS PER JAMB.

EQUAL LITES WINDOWS DESIGN LOAD CAPACITY - PSF						
		GLASS TYPE 'E'				
WINDO	W DIMS.	WITHOUT SILL ANCHORS   WITH SILL ANCHOR			ANCHORS	
WIDTH	HEIGHT	EXT.(+)	1NT.(-)	EXT.(+)	1NT.(-)	
19-1/8"		60.0	65.0	60.0	65.0	
26-1/2"		60.0	65.0	60.0	65.0	
37"	26"	60.0	65.0	60.0	65.0	
42"	(3)	60.0	65.0	60.0	65.0	
48"		60.0	65.0	60.0	65.0	
53-1/8"		60.0	65.0	60.0	65.0	
19-1/8"		60.0	65.0	60.0	65.0	
26-1/2"		60.0	65.0	60.0	65.0	
37"	38-3/8"	60.0	65.0	60.0	65.0	
42"	(4)	60.0	65.0	60.0	65.0	
48"		60.0	65.0	60.0	65.0	
53-1/8"		60.0	65.0	60.0	65.0	
19-1/8"		60.0	65.0	60.0	65.0	
26-1/2"		60.0	65.0	60.0	65.0	
37"	50-5/8"	60.0	65.0	60.0	65.0	
42"	(4)	60.0	65.0	60.0	65.0	
48"		60.0	63.0	60.0	65.0	
53-1/8"		56.9	56.9	60.0	65.0	

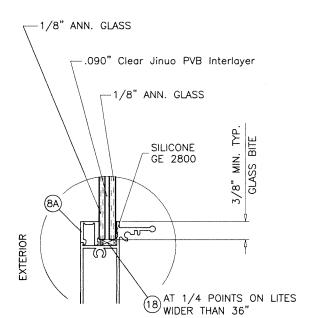
<sup>\*</sup> NO. IN PARENTHESIS INDICATE NO. OF ANCHORS PER JAMB.



WDW. WITHOUT SILL ANCHORS SEE CHART ABOVE FOR CAPACITY



WDW. WITH SILL ANCHORS SEE CHART ABOVE FOR CAPACITY



GLASS TYPE 'E'

GLAZING DETAIL

Qingdao Jiahua 'Jinuo' PVB Glass Interlayer

qiigaab sianaa siirab 175 diabb iirteriayer							
MATERIAL PROPERTIES SUMMARY							
TEST DESCRIPTION	TEST METHOD	TEST RESULT RANGE	FBC CRITERIA				
SELF/FLASH IGNITION TEMPERATURE (F)	ASTM D1929	710 / 690	>650°				
SMOKE DENSITY (%)	ASTM D2843	43.95	<75				
BURN RATE (INCHES PER MINUTE)	ASTM D635	1.94	<2.5 (CLASS CC2)				
XENON WEATHERING 1	ASTM D638/G155	5.1% <sup>2</sup>	±10%				

1. Weathering as per the Florida Building Code.

WINDOWS WITH OR WITHOUT SILL ANCHORS

Sealed: 7/20/2023

FL #21857

drawing no. W15 - 60sheet 2.2 of 5

SERIES 2500 ALUM SINGLE HUNG WINDOW (L.M.I.) LLC. Assura Windows & Doors, L 1543 N. Powerline Road Pompano Beach, FL. 33069 Tel. (954) 781-4430 www.assurawindow by description revisions: no date

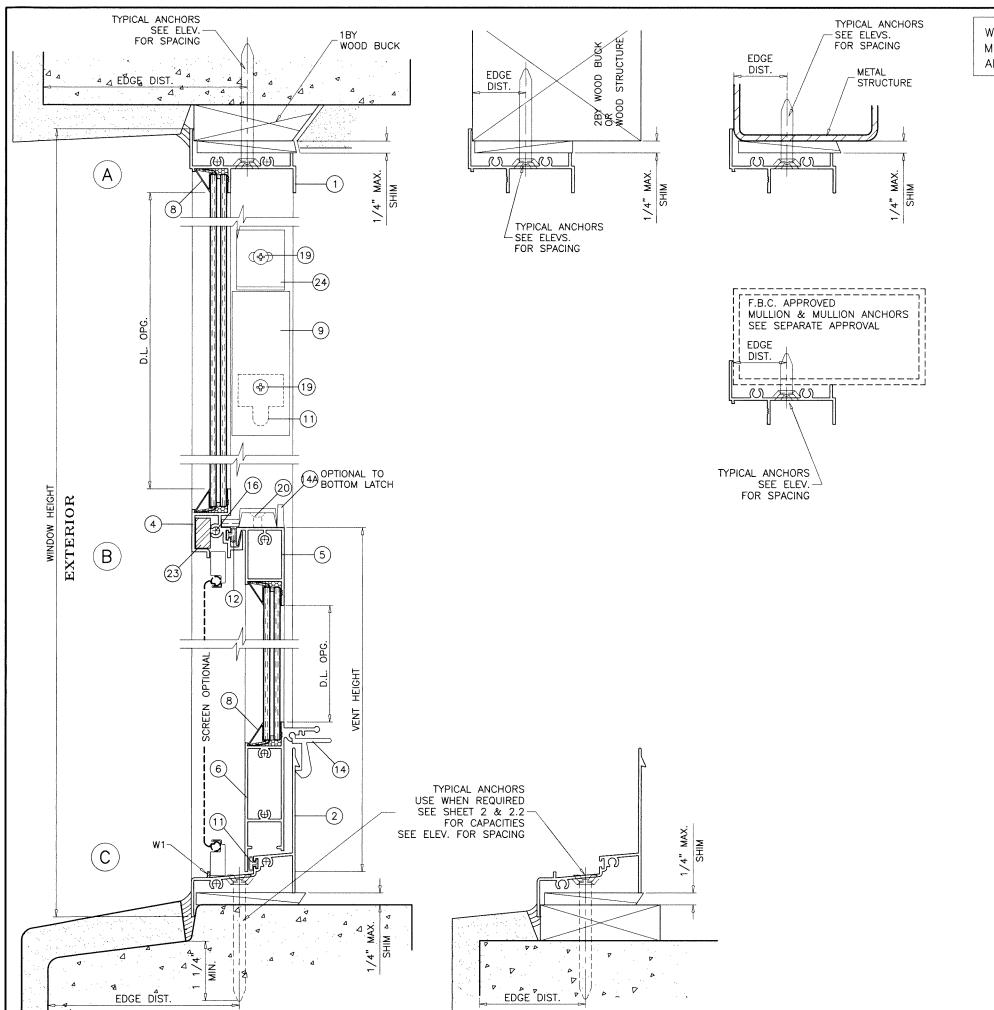
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NOTE: GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-09 (3 SEC. GUSTS) AND FLORIDA BUILDING COMMISSION

DECLARATORY STATEMENT DCA05-DEC-219

<sup>2.</sup> Percent difference between control and weathered specimens as per FBC 2615.



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

TYPICAL ANCHORS: SEE ELEV. FOR SPACING 1/4" DIA. TAPCON BY 'ITW' (Fu=125 KSI, Fy=100 KSI) 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)

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

INTO METAL STRUCTURES (HEAD/SILL/JAMBS) (3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS 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)

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

INTO F.B.C. APPROVED MULLIONS (3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.) (NO SHIMS) STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.) (NO SHIMS) (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

### TYPICAL EDGE DISTANCE

INTO CONCRETE AND BLOCKS = 2" MIN. 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.

## **SEALANTS:**

ALL JOINTS AND FRAME CONNECTIONS SEALED WITH SCHNEE MOREHEAD SEAM SEALER SM5555.

#### **WEEPHOLES:**

W1 = 3/4" WEEP NOTCH AT EACH END

Sealed: 7/20/2023

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