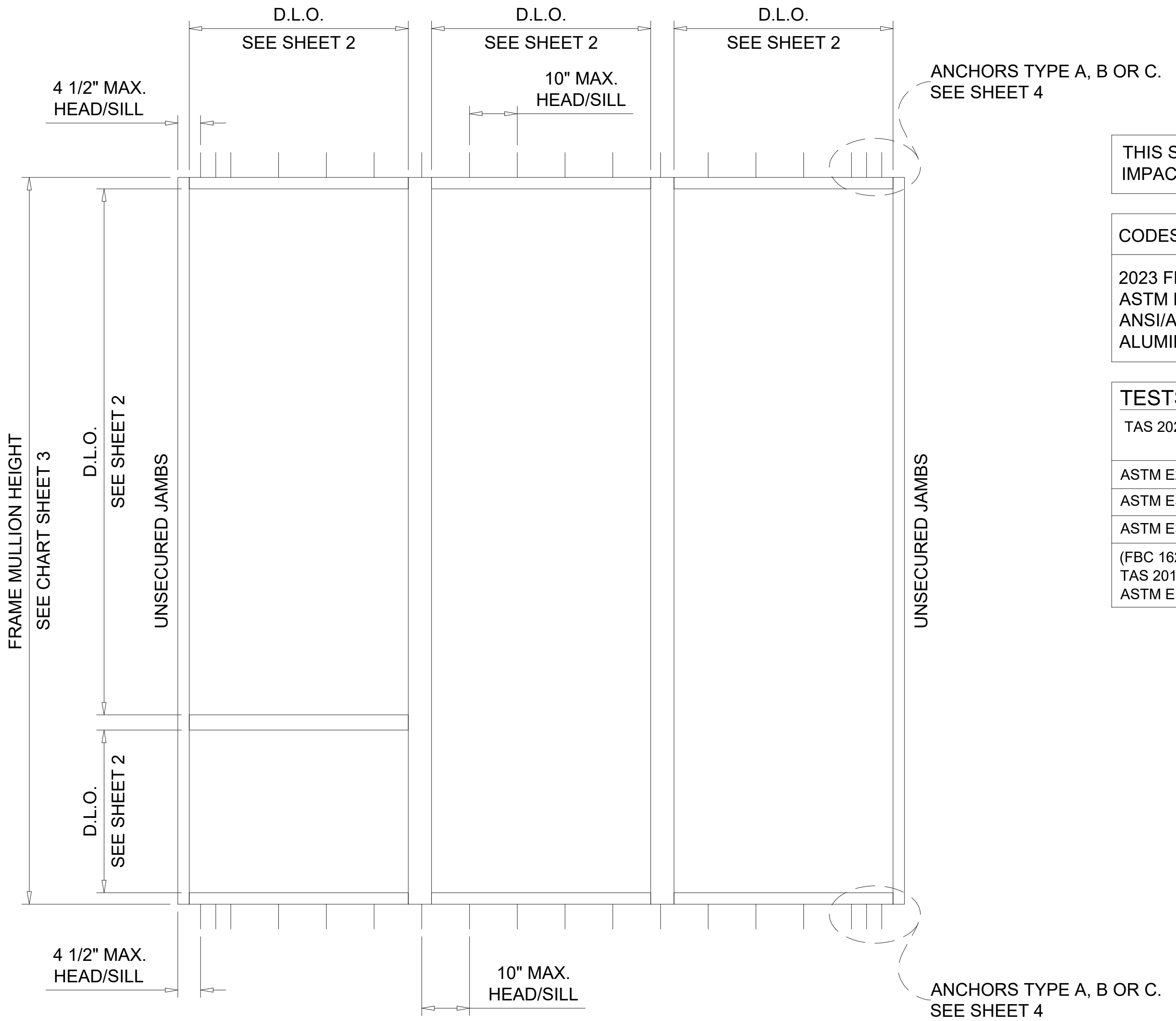
# "450 SERIES" ALUMINUM STOREFRONT SYSTEM

LARGE MISSILE & SMALL MISSILE IMPACT ● +45 / -63

## FL #46902.1



THIS SYSTEM IS RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANT

CODES / STANDARDS USED:

2023 FLORIDA BUILDING CODE (FBC), 8TH EDITION
ASTM E1300-16
ANSI/AF&PA NDS-2015 FOR WOOD CONSTRUCTION
ALUMINUM DESIGN MANUAL, ADM1-2020

### TESTS PERFORMED:

| | |
|---|---|
| TAS 202 | AIR INFILTRATION, WATER PENETRATION, STRUCTURAL |
| ASTM E283 | AIR INFILTRATION LEAKAGE |
| ASTM E331 | WATER PENETRATION |
| ASTM E330 | UNIFORM STATIC AIR PRESS. (STRUCTURAL) |
| (FBC 1626.2 , HVHZ)<br>TAS 201 & 203<br>ASTM E1886/E1996 | LARGE MISSILE IMPACT & CYCLIC LEVEL D |

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

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

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

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF 2023 FLORIDA BLDG. CODE SECTION 2003.8.4.

### 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 2 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE BASED ON APPLICABLE WIND DURATION. |
| STEP 3 | CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 3, THE CAPACITY SHOULD EXCEED THE DESIGN LOAD. |
| STEP 4 | USING CHART ON SHEET 4, SELECT ANCHOR OPTION WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE. |
| STEP 5 | THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM. |

REVISIONS:

| NO. | DATE: | DESCRIPTION: |
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ENGINEER:
STANTON ENGINEERING, INC.
2101 NW BOCA RATON BLVD. SUITE #115
BOCA RATON, FL. 33431
561-393-1003
P.E. #69316

CHRISTOPHER STANTON
No 69316

CHAMPION GLASS
INC
4720 NW 15TH AVENUE, UNIT 4A,
FT. LAUDERDALE, FL. 33309
954-564-3435 · CHAMPION-GLASS.NET

PRODUCT:
"450 SERIES"
ALUM. STOREFRONT SYSTEM
(L.M.I. & S.M.I.)

PRODUCT APPROVAL #:
FL #46902.1

SCALE: NOTED
DATE: 06/27/2024
DWG NO. CHGL-450 SF-2024

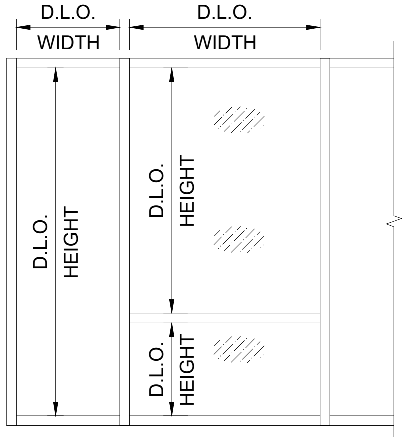
SHEET No:
01 OF 08

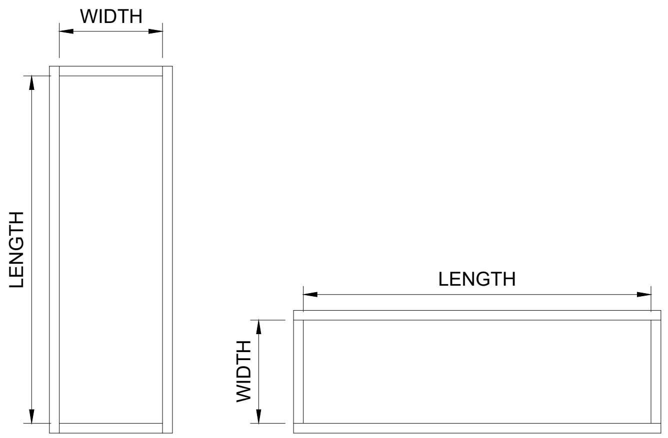
| GLASS LOAD CAPACITY - PSF | | | | | |
|---|---|---|---|---|---|
| NOMINAL DIMS. | | GLASS 'A' | | GLASS 'B' | |
| D.L.O. WIDTH | D.L.O. HEIGHT | EXT. (+) | INT. (-) | EXT. (+) | INT. (-) |
| 20" | 68" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 44" | | 45 | 63 | 45 | 63 |
| 50" | | 45 | 63 | 45 | 63 |
| 56" | | 45 | 63 | 45 | 63 |
| 62" | | 45 | 63 | 45 | 63 |
| 68" | | 45 | 63 | 45 | 63 |
| 20" | 74" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 44" | | 45 | 63 | 45 | 63 |
| 50" | | 45 | 63 | 45 | 63 |
| 56" | | 45 | 63 | 45 | 63 |
| 62" | | 45 | 63 | 45 | 63 |
| 20" | 80" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 44" | | 45 | 63 | 45 | 63 |
| 50" | | 45 | 63 | 45 | 63 |
| 56" | | 45 | 63 | 45 | 63 |
| 20" | 86" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 44" | | 45 | 63 | 45 | 63 |
| 50" | | 45 | 63 | 45 | 63 |
| 20" | 92" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 44" | | 45 | 63 | 45 | 63 |
| 50" | | 45 | 63 | 45 | 63 |

| GLASS LOAD CAPACITY - PSF | | | | | |
|---|---|---|---|---|---|
| NOMINAL DIMS. | | GLASS 'A' | | GLASS 'B' | |
| D.L.O. WIDTH | D.L.O. HEIGHT | EXT. (+) | INT. (-) | EXT. (+) | INT. (-) |
| 20" | 98" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 44" | | 45 | 63 | 45 | 63 |
| 20" | 104" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 44" | | 45 | 63 | 45 | 63 |
| 20" | 110" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 20" | 116" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 20" | 122" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 38" | | 45 | 63 | 45 | 63 |
| 20" | 128" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 20" | 134" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |
| 20" | 140" | 45 | 63 | 45 | 63 |
| 26" | | 45 | 63 | 45 | 63 |
| 32" | | 45 | 63 | 45 | 63 |

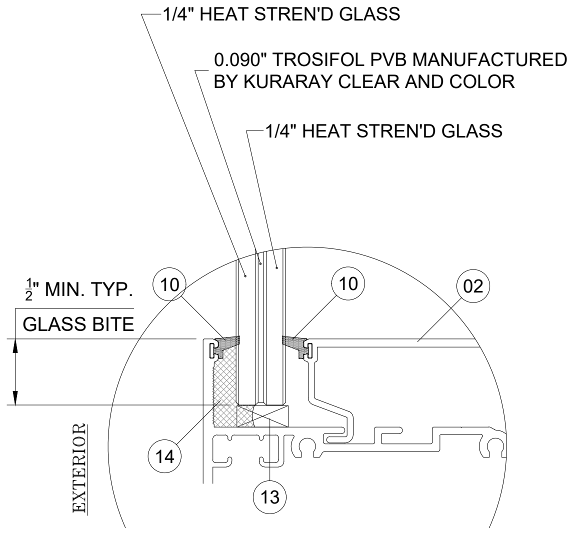
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300-02 (3 SEC. GUSTS).

NOTE:
TESTED GLASS SIZE = 44-7/16" X104-1/4" = 32.2 SQ. FT.; ALTERNATE GLASS SIZES ACCEPTABLE SO LONG AS PROJECT AREA OF GLASS (SQ. FT.) DOES NOT EXCEED TESTED AREA OF GLASS (SQ. FT.)

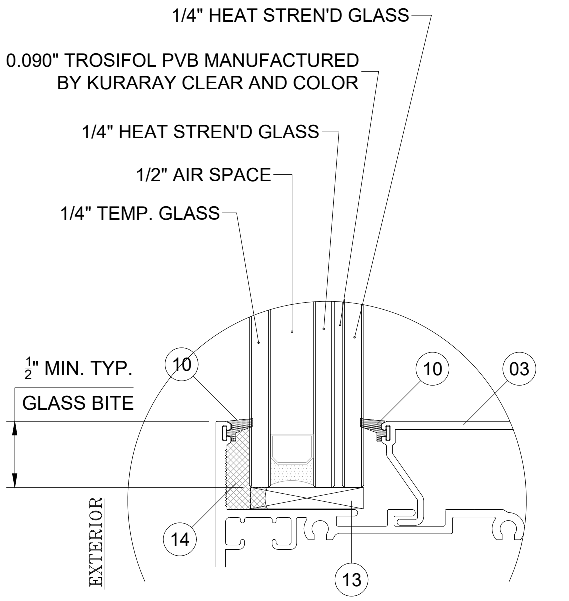




NOTE:
WIDTH AND LEGTH DIMENSIONS CAN BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN ABOVE.



GLASS TYPE 'A'
IMPACT "LAMINATED" GLASS



GLASS TYPE 'B'
IMPACT "LAMINATED INSULATED" GLASS

| REVISIONS: | | |
|---|---|---|
| NO. | DATE: | DESCRIPTION: |
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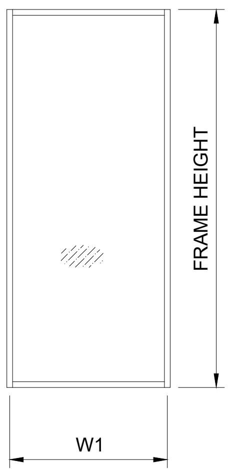
PRODUCT APPROVAL #:
FL #46902.1

SCALE: NOTED
DATE: 06/27/2024
DWG NO. CHGL-450 SF-2024

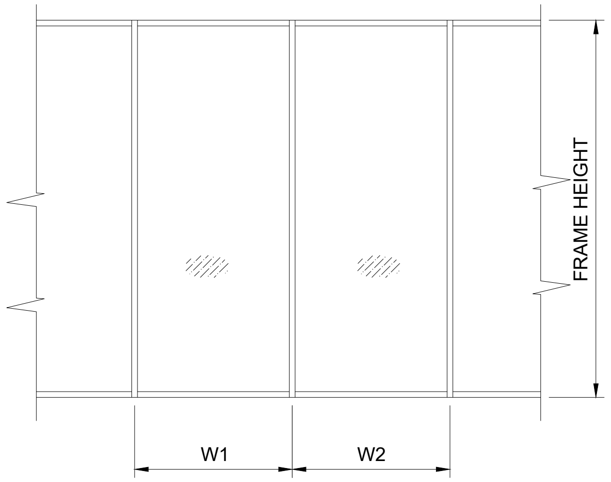
SHEET No:

| JAMB LOAD CAPACITY - PSF | | | |
|---|---|---|---|
| NOMINAL DIMS. | | JAMB 'J1' | |
| WIDTH (W) | FRAME HEIGHT | EXT.(+) | INT.(-) |
| 30" | 78" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 72" | | 45 | 63 |
| 30" | 84" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 72" | | 45 | 63 |
| 30" | 96" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 72" | | 45 | 63 |
| 30" | 102" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 24" | 108" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |

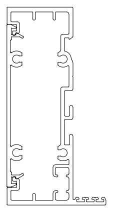
| JAMB LOAD CAPACITY - PSF | | | |
|---|---|---|---|
| NOMINAL DIMS. | | JAMB 'J1' | |
| WIDTH (W) | FRAME HEIGHT | EXT.(+) | INT.(-) |
| 24" | 114" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 61 |
| 60" | | 45 | 55 |
| 24" | 120" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 59 |
| 54" | | 45 | 53 |
| 24" | 126" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 58 |
| 48" | | 45 | 51 |
| 54" | | 45 | 45 |
| 24" | 132" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 59 |
| 42" | | 45 | 50 |
| 48" | | 44 | 44 |
| 24" | 138" | 45 | 63 |
| 30" | | 45 | 62 |
| 36" | | 45 | 52 |
| 42" | | 45 | 45 |
| 48" | | 39 | 39 |
| 24" | 144" | 45 | 63 |
| 30" | | 45 | 55 |
| 36" | | 45 | 46 |
| 42" | | 39 | 39 |
| 48" | | 34 | 34 |



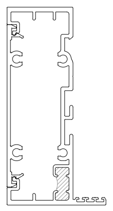
WIDTH (W) = W1 (JAMB)



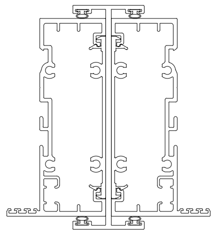
WIDTH (W) = $\frac{W1 + W2}{2}$



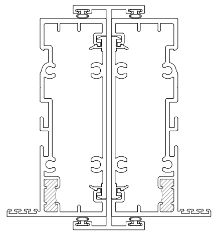
JAMB



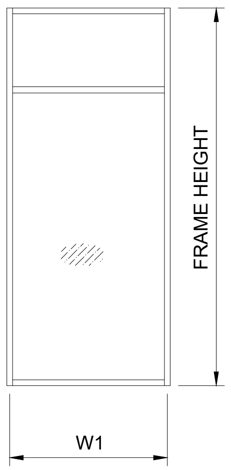
JAMB



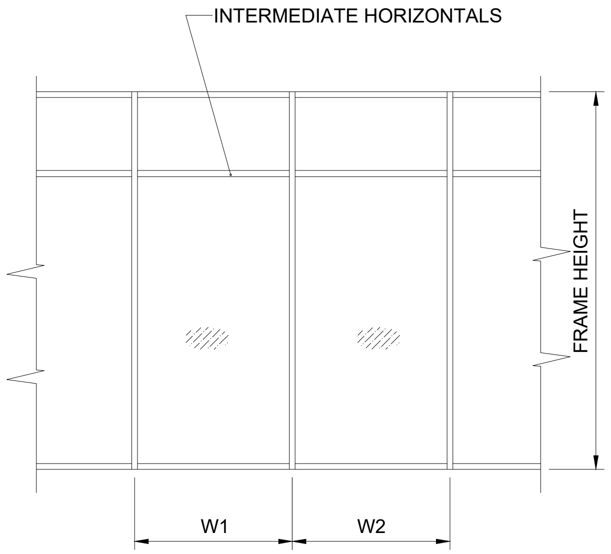
MULLION



MULLION



WIDTH (W) = W1 (JAMB)



WIDTH (W) = $\frac{W1 + W2}{2}$

| MULLION LOAD CAPACITY - PSF | | | |
|---|---|---|---|
| NOMINAL DIMS. | | MULLION 'M1' | |
| WIDTH (W) | FRAME HEIGHT | EXT.(+) | INT.(-) |
| 30" | 78" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 72" | | 45 | 63 |
| 30" | 84" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 72" | | 45 | 63 |
| 30" | 96" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 72" | | 45 | 63 |
| 30" | 102" | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 66" | | 45 | 63 |
| 24" | 108" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |

| MULLION LOAD CAPACITY - PSF | | | |
|---|---|---|---|
| NOMINAL DIMS. | | MULLION 'M1' | |
| WIDTH (W) | FRAME HEIGHT | EXT.(+) | INT.(-) |
| 24" | 114" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 60" | | 45 | 63 |
| 24" | 120" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 24" | 126" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 54" | | 45 | 63 |
| 24" | 132" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 63 |
| 24" | 138" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 63 |
| 48" | | 45 | 55.8 |
| 24" | 144" | 45 | 63 |
| 30" | | 45 | 63 |
| 36" | | 45 | 63 |
| 42" | | 45 | 56 |
| 48" | | 45 | 48.9 |

| REVISIONS: | | |
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| NO. | DATE: | DESCRIPTION: |
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SCALE: NOTED
DATE: 06/27/2024
DWG NO. CHGL-450 SF-2024

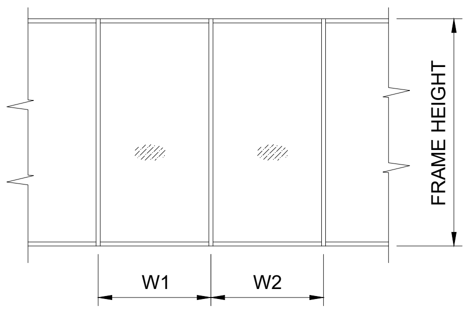
SHEET No:
03 OF 08

## MULLION LOAD CAPACITY - PSF

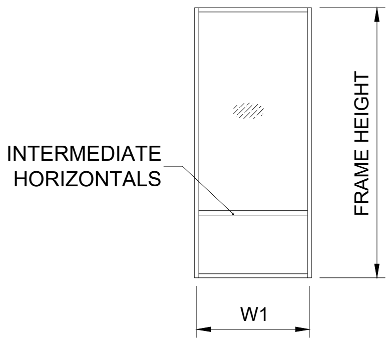
| NOMINAL DIMS. | | ANCHORS TYPES | | | |
|---|---|---|---|---|---|
| WIDTH (W) | FRAME HEIGHT | 'A2' | 'AA2' | 'B2' | 'C2' |
| 24" | 78" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 52.2 | 63 | 63 | 63 |
| 48" | | 54.5 | 63 | 63 | 63 |
| 54" | | 48.4 | 58 | 63 | 63 |
| 60" | | 43.6 | 52.2 | 63 | 63 |
| 66" | | 39.6 | 47.4 | 63 | 63 |
| 72" | | 36.3 | 43.5 | 63 | 61.9 |
| 24" | 84" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 57.8 | 63 | 63 | 63 |
| 48" | | 50.6 | 56.5 | 63 | 63 |
| 54" | | 45 | 50.3 | 63 | 63 |
| 60" | | 40.5 | 45.2 | 63 | 63 |
| 66" | | 36.8 | 41.1 | 63 | 58.6 |
| 72" | | 33.7 | 37.7 | 63 | 53.7 |
| 24" | 90" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 62.9 | 63 | 63 | 63 |
| 42" | | 53.9 | 63 | 63 | 63 |
| 48" | | 47.2 | 56.5 | 63 | 63 |
| 54" | | 42 | 50.3 | 63 | 63 |
| 60" | | 37.8 | 45.2 | 63 | 63 |
| 66" | | 34.3 | 41.1 | 63 | 58.6 |
| 72" | | 31.5 | 37.7 | 63 | 53.7 |
| 24" | 96" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 59 | 63 | 63 | 63 |
| 42" | | 50.6 | 60.6 | 63 | 63 |
| 48" | | 44.3 | 53 | 63 | 63 |
| 54" | | 39.9 | 47.1 | 63 | 63 |
| 60" | | 35.4 | 42.4 | 63 | 60.4 |
| 66" | | 32.2 | 38.5 | 63 | 54.9 |
| 72" | | 29.5 | 35.3 | 63 | 50.3 |
| 24" | 102" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 55.5 | 63 | 63 | 63 |
| 42" | | 47.6 | 57 | 63 | 63 |
| 48" | | 41.6 | 49.9 | 63 | 63 |
| 54" | | 37 | 44.3 | 63 | 63 |
| 60" | | 33.3 | 39.9 | 63 | 56.8 |
| 66" | | 30.3 | 36.3 | 63 | 51.7 |
| 24" | 108" | 63 | 63 | 63 | 63 |
| 30" | | 62.9 | 63 | 63 | 63 |
| 36" | | 52.4 | 62.8 | 63 | 63 |
| 42" | | 45 | 53.8 | 63 | 63 |
| 48" | | 39.3 | 47.1 | 63 | 63 |
| 54" | | 35 | 41.9 | 63 | 59.7 |
| 60" | | 31.5 | 37.7 | 63 | 53.7 |

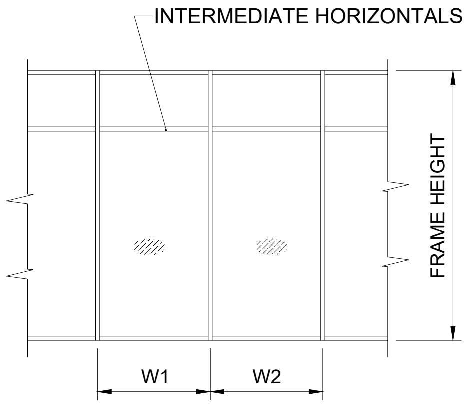
## MULLION LOAD CAPACITY - PSF

| NOMINAL DIMS. | | ANCHORS TYPES | | | |
|---|---|---|---|---|---|
| WIDTH (W) | FRAME HEIGHT | 'A2' | 'AA2' | 'B2' | 'C2' |
| 24" | 114" | 63 | 63 | 63 | 63 |
| 30" | | 59.6 | 63 | 63 | 63 |
| 36" | | 49.7 | 59.5 | 63 | 63 |
| 42" | | 42.6 | 51 | 63 | 63 |
| 48" | | 37.3 | 44.6 | 63 | 63 |
| 54" | | 33.1 | 39.7 | 63 | 56.5 |
| 60" | | 29.8 | 35.7 | 63 | 50.9 |
| 24" | 120" | 63 | 63 | 63 | 63 |
| 30" | | 56.6 | 63 | 63 | 63 |
| 36" | | 47.2 | 56.5 | 63 | 63 |
| 42" | | 40.5 | 48.5 | 63 | 63 |
| 48" | | 35.4 | 42.4 | 63 | 60.4 |
| 54" | | 31.5 | 37.7 | 63 | 53.7 |
| 24" | 126" | 63 | 63 | 63 | 63 |
| 30" | | 53.9 | 63 | 63 | 63 |
| 36" | | 45 | 53.8 | 63 | 63 |
| 42" | | 38.5 | 46.1 | 63 | 63 |
| 48" | | 33.7 | 40.4 | 63 | 57.5 |
| 54" | | 30 | 35.9 | 63 | 51.1 |
| 24" | 132" | 63 | 63 | 63 | 63 |
| 30" | | 51.5 | 61.7 | 63 | 63 |
| 36" | | 24.9 | 51.4 | 63 | 63 |
| 42" | | 36.8 | 44.1 | 63 | 62.8 |
| 48" | | 32.2 | 38.5 | 63 | 54.9 |
| 24" | 138" | 61.6 | 63 | 63 | 63 |
| 30" | | 49.3 | 59 | 63 | 63 |
| 36" | | 41 | 49.2 | 63 | 63 |
| 42" | | 35.2 | 42.1 | 63 | 60 |
| 48" | | 30.8 | 36.9 | 63 | 52.5 |
| 24" | 144" | 59 | 63 | 63 | 63 |
| 30" | | 47.2 | 56.5 | 63 | 63 |
| 36" | | 39.3 | 47.1 | 63 | 63 |
| 42" | | 33.7 | 40.4 | 63 | 57.5 |
| 48" | | 29.5 | 35.3 | 63 | 50.3 |

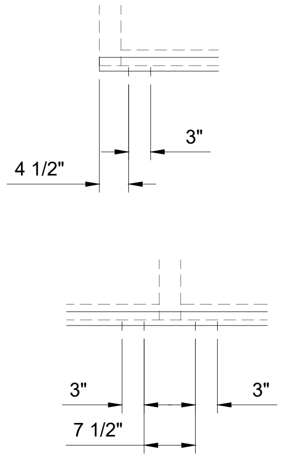


WIDTH (W) = $\frac{W1 + W2}{2}$

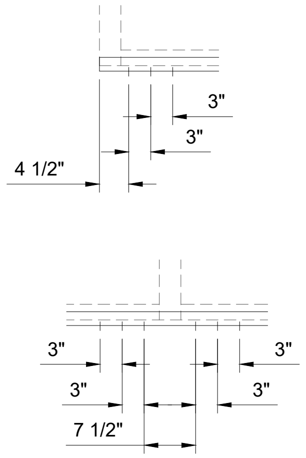




WIDTH (W) = $\frac{W1 + W2}{2}$



A2, B2, C2



A3, B3, C3

NOTE:
ALTERNATE ANCHOR TYPES/ CONDITIONS SHALL BE DESIGNED BY A FLORIDA LICENSED ENGINEER FOR PROJECT SPECIFIC DESIGN CRITERIA BASED ON SEALANT MANUFACTURERS' TECHNICAL DATA.

WOOD BUCKS AND METAL STRUCTURES, NOT BY CHAMPION GLASS, MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE. FRAME BITE INSIDE RECEPTORS MIN. $\frac{7}{16}$".

## TYPICAL ANCHORS: SEE ELEV. FOR SPACING

| | |
|---|---|
| TYPE 'A' | 1/4" ITW TAPCONS OR DEWALT ULTRACON+<br>INTO 2BY WOOD BUCKS OR WOOD STRUCTURES<br>(NO. 2 SOUTHERN YELLOW PINE)<br>1-1/2" MIN. PENETRATION INTO WOOD |
| TYPE 'AA' | 1/4" ITW TAPCONS OR DEWALT ULTRACON+<br>DIRECTLY INTO CBS (GROUT FILLED OR HOLLOW)<br>1-3/4" MIN. EMBEDMENT<br>OR<br>THRU 1BY WOOD BUCKS INTO CBS<br>1-1/4" MIN. EMBED INTO HOLLOW BLOCK<br>1-3/4" MIN. EMBED INTO GROUT FILLED BLOCK |
| TYPE 'B' | 1/4" ITW TAPCONS OR DEWALT ULTRACON+<br>DIRECTLY INTO 3000 PSI MIN. CONCRETE<br>1-3/4" MIN. EMBED INTO CONC.<br>OR<br>THRU 1BY WOOD BUCKS INTO CONC.<br>1-3/4" MIN. EMBED INTO CONCRETE |
| TYPE 'C' | #14 SMS OR 1/4" SELF DRILLING SCREWS<br>INTO METAL STRUCTURES (STEEL OR ALUMINUM)<br>MIN. (3) THREADS THROUGH METAL THICKNESS<br>STEEL : 18 GA MIN.<br>ALUMINUM : .080" THICK, 6063-T6 MIN. |

TYPICAL ANCHOR EDGE DISTANCE
INTO CONCRETE AND MASONRY = 2-1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.
INTO METAL STRUCTURE = 1/2" MIN.

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ENGINEER:
STANTON ENGINEERING, INC.
2101 NW BOCA RATON BLVD. SUITE #115
BOCA RATON, FL. 33431
P.E. #69316
No 69316

CHAMPION GLASS
INC
4720 NW 15TH AVENUE, UNIT 4A,
FT. LAUDERDALE, FL. 33309
954-564-3435 · CHAMPION-GLASS.NET

PRODUCT:
"450 SERIES"
ALUM. STOREFRONT SYSTEM
(L.M.I. & S.M.I.)

PRODUCT APPROVAL #:
FL #46902.1

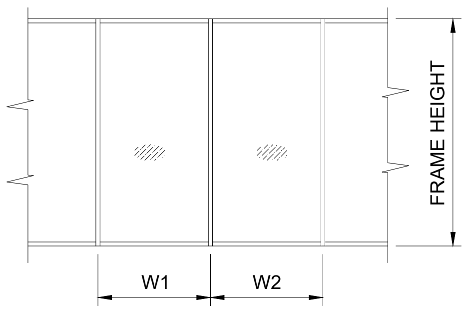
SCALE: NOTED
DATE: 06/27/2024
DWG NO. CHGL-450 SF-2024
SHEET No: 04 OF 08

## MULLION LOAD CAPACITY - PSF

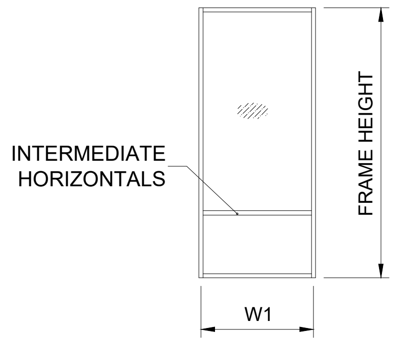
| NOMINAL DIMS. | | ANCHORS TYPES | | | |
|---|---|---|---|---|---|
| WIDTH (W) | FRAME HEIGHT | 'A3' | 'AA3' | 'B3' | 'C3' |
| 24" | 78" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 63 | 63 | 63 | 63 |
| 48" | | 63 | 63 | 63 | 63 |
| 54" | | 63 | 63 | 63 | 63 |
| 60" | | 63 | 63 | 63 | 63 |
| 66" | | 59.4 | 63 | 63 | 63 |
| 72" | | 54.5 | 63 | 63 | 63 |
| 24" | 84" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 63 | 63 | 63 | 63 |
| 48" | | 63 | 63 | 63 | 63 |
| 54" | | 63 | 63 | 63 | 63 |
| 60" | | 60.7 | 63 | 63 | 63 |
| 66" | | 55.2 | 63 | 63 | 63 |
| 72" | | 50.6 | 60.6 | 63 | 63 |
| 24" | 90" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 63 | 63 | 63 | 63 |
| 48" | | 63 | 63 | 63 | 63 |
| 54" | | 62.9 | 63 | 63 | 63 |
| 60" | | 56.6 | 63 | 63 | 63 |
| 66" | | 51.5 | 61.7 | 63 | 63 |
| 72" | | 47.2 | 56.5 | 63 | 63 |
| 24" | 96" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 63 | 63 | 63 | 63 |
| 48" | | 63 | 63 | 63 | 63 |
| 54" | | 59 | 63 | 63 | 63 |
| 60" | | 53.1 | 63 | 63 | 63 |
| 66" | | 48.3 | 57.8 | 63 | 63 |
| 72" | | 44.3 | 53 | 63 | 63 |
| 24" | 102" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 63 | 63 | 63 | 63 |
| 48" | | 62.5 | 63 | 63 | 63 |
| 54" | | 55.5 | 63 | 63 | 63 |
| 60" | | 50 | 59.9 | 63 | 63 |
| 66" | | 45.4 | 54.4 | 63 | 63 |
| 24" | 108" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 63 | 63 | 63 | 63 |
| 48" | | 59 | 63 | 63 | 63 |
| 54" | | 52.4 | 62.8 | 63 | 63 |
| 60" | | 47.2 | 56.5 | 63 | 63 |

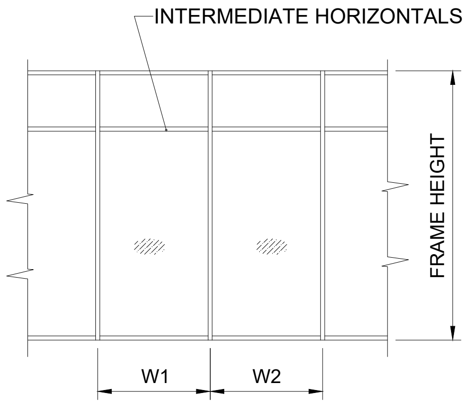
## MULLION LOAD CAPACITY - PSF

| NOMINAL DIMS. | | ANCHORS TYPES | | | |
|---|---|---|---|---|---|
| WIDTH (W) | FRAME HEIGHT | 'A3' | 'AA3' | 'B3' | 'C3' |
| 24" | 114" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 63 | 63 | 63 | 63 |
| 48" | | 55.9 | 63 | 63 | 63 |
| 54" | | 49.7 | 59.5 | 63 | 63 |
| 60" | | 44.7 | 53.6 | 63 | 63 |
| 24" | 120" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 60.7 | 63 | 63 | 63 |
| 48" | | 53.1 | 63 | 63 | 63 |
| 54" | | 47.2 | 56.5 | 63 | 63 |
| 24" | 126" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 57.8 | 63 | 63 | 63 |
| 48" | | 50.6 | 60.6 | 63 | 63 |
| 54" | | 45 | 53.8 | 63 | 63 |
| 24" | 132" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 63 | 63 | 63 | 63 |
| 42" | | 55.2 | 63 | 63 | 63 |
| 48" | | 48.3 | 57.8 | 63 | 63 |
| 24" | 138" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 61.6 | 63 | 63 | 63 |
| 42" | | 52.8 | 63 | 63 | 63 |
| 48" | | 46.2 | 55.3 | 63 | 63 |
| 24" | 144" | 63 | 63 | 63 | 63 |
| 30" | | 63 | 63 | 63 | 63 |
| 36" | | 59 | 63 | 63 | 63 |
| 42" | | 50.6 | 60.6 | 63 | 63 |
| 48" | | 44.3 | 53 | 63 | 63 |

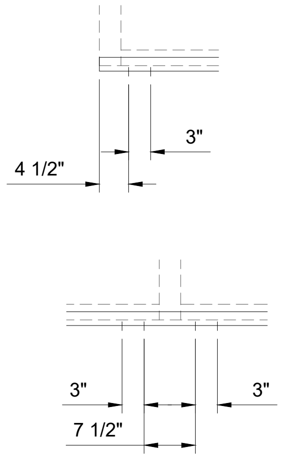


$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

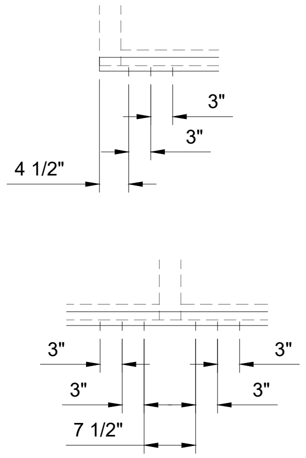




$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



A2, B2, C2



A3, B3, C3

NOTE:
ALTERNATE ANCHOR TYPES/ CONDITIONS SHALL BE DESIGNED BY A FLORIDA LICENSED ENGINEER FOR PROJECT SPECIFIC DESIGN CRITERIA BASED ON SEALANT MANUFACTURERS' TECHNICAL DATA.

WOOD BUCKS AND METAL STRUCTURES, NOT BY CHAMPION GLASS, MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE. FRAME BITE INSIDE RECEPTORS MIN. $^{7}/_{16}$".

## TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A' 1/4" ITW TAPCONS OR DEWALT ULTRACON+
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
(NO. 2 SOUTHERN YELLOW PINE)
1-1/2" MIN. PENETRATION INTO WOOD

TYPE 'AA' 1/4" ITW TAPCONS OR DEWALT ULTRACON+
DIRECTLY INTO CBS (GROUT FILLED OR HOLLOW)
1-3/4" MIN. EMBEDMENT
OR

THRU 1BY WOOD BUCKS INTO CBS
1-1/4" MIN. EMBED INTO HOLLOW BLOCK
1-3/4" MIN. EMBED INTO GROUT FILLED BLOCK

TYPE 'B' 1/4" ITW TAPCONS OR DEWALT ULTRACON+
DIRECTLY INTO 3000 PSI MIN. CONCRETE
1-3/4" MIN. EMBED INTO CONC.

OR

THRU 1BY WOOD BUCKS INTO CONC.
1-3/4" MIN. EMBED INTO CONCRETE

TYPE 'C' #14 SMS OR 1/4" SELF DRILLING SCREWS
INTO METAL STRUCTURES (STEEL OR ALUMINUM)
MIN. (3) THREADS THROUGH METAL THICKNESS
STEEL : 18 GA MIN.
ALUMINUM : .080" THICK, 6063-T6 MIN.

TYPICAL ANCHOR EDGE DISTANCE
INTO CONCRETE AND MASONRY = 2-1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.
INTO METAL STRUCTURE = 1/2" MIN.

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ENGINEER:
STANTON ENGINEERING, INC.
2101 NW BOCA RATON BLVD SUITE #115
BOCA RATON, FL. 33431
561-393-1003
P.E. #69316

CHRISTOPHER STANTON
No 69316

CHAMPION GLASS INC
4720 NW 15TH AVENUE, UNIT 4A,
FT. LAUDERDALE, FL. 33309
954-564-3435 · CHAMPION-GLASS.NET

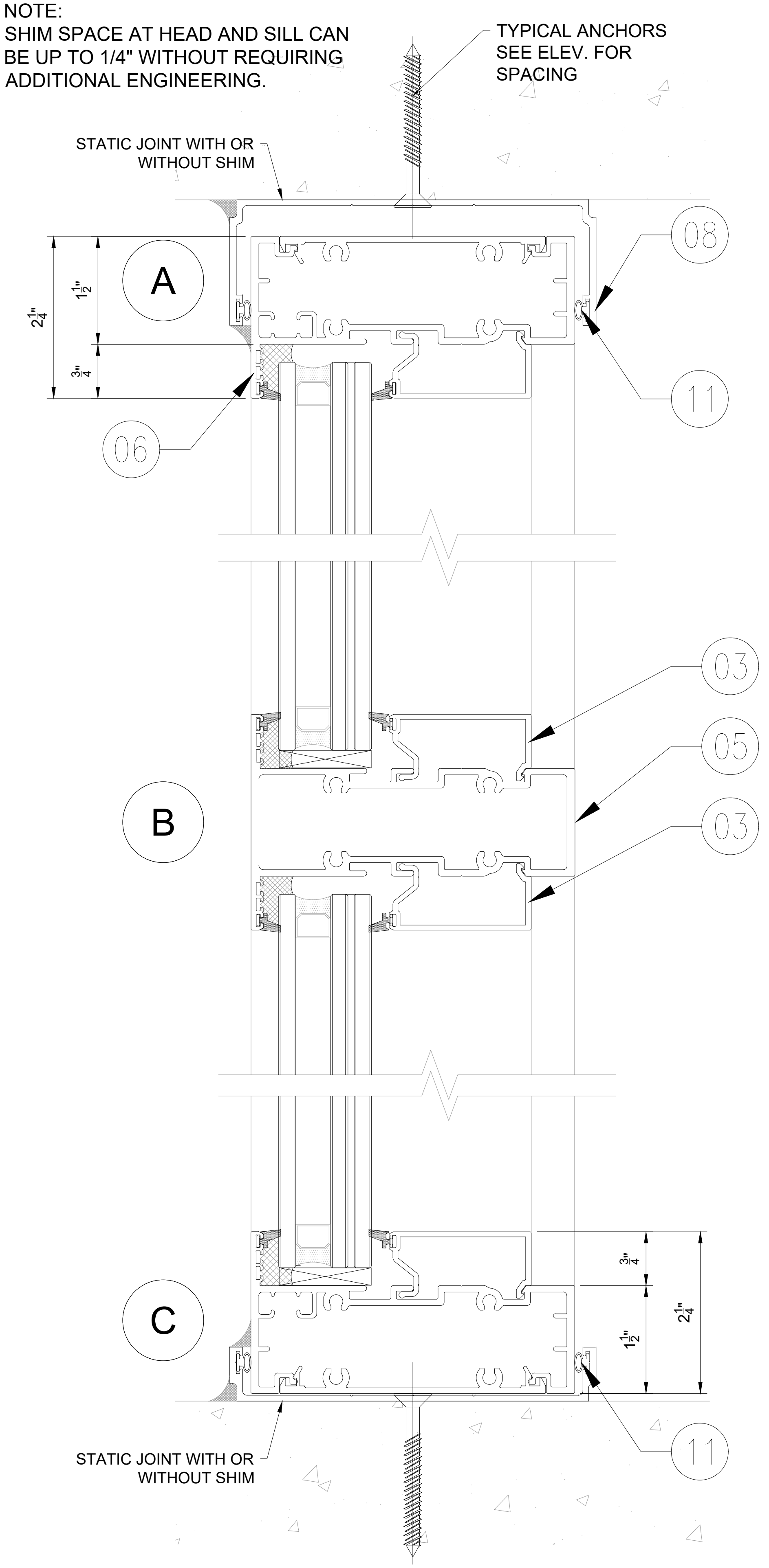
PRODUCT:
"450 SERIES"
ALUM. STOREFRONT SYSTEM
(L.M.I. & S.M.I.)

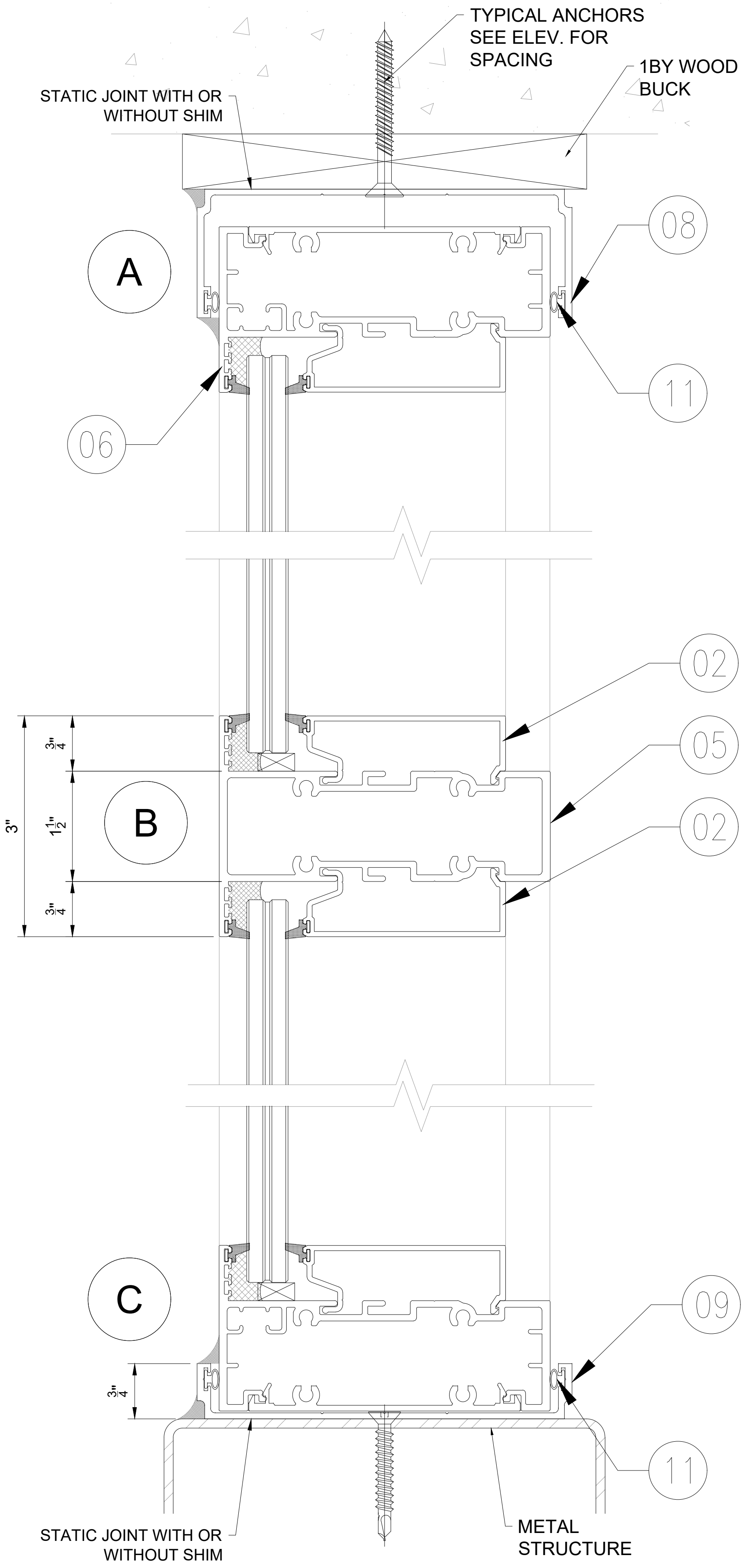
PRODUCT APPROVAL #:
FL #46902.1

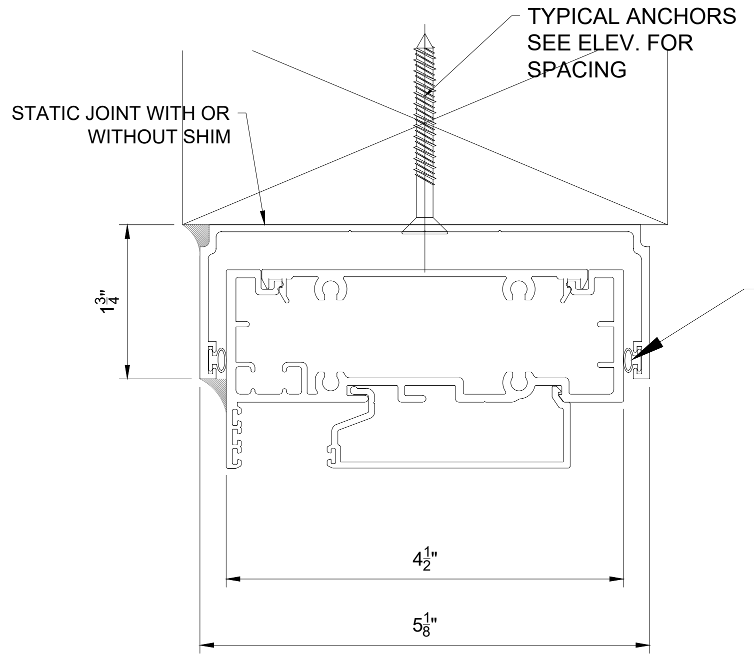
SCALE: NOTED
DATE: 06/27/2024
DWG NO. CHGL-450 SF-2024

SHEET No:
05 OF 08

NOTE:
SHIM SPACE AT HEAD AND SILL CAN BE UP TO 1/4" WITHOUT REQUIRING ADDITIONAL ENGINEERING.







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ENGINEER:
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2101 NW BOCA RATON BLVD. SUITE #115
BOCA RATON, FL. 33431
P.E. #69316
CHRISTOPHER STANTON
No 69316

CHAMPION GLASS
INC
4720 NW 15TH AVENUE, UNIT 4A,
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954-564-3435 · CHAMPION-GLASS.NET

PRODUCT:
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ALUM. STOREFRONT SYSTEM
(L.M.I. & S.M.I.)

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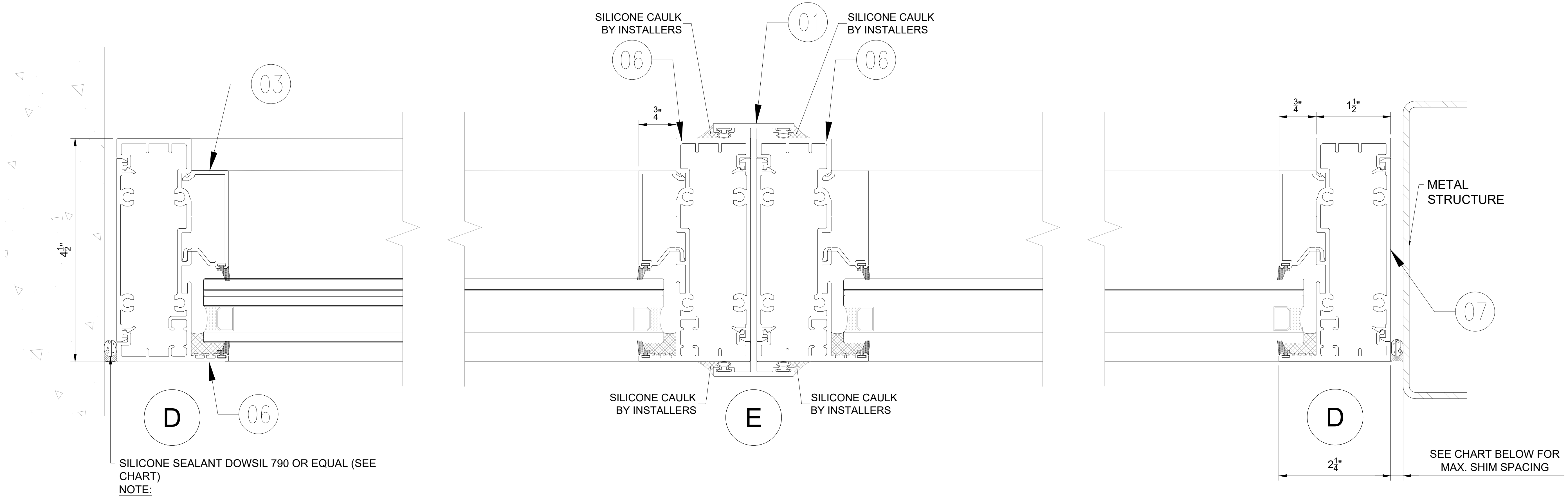
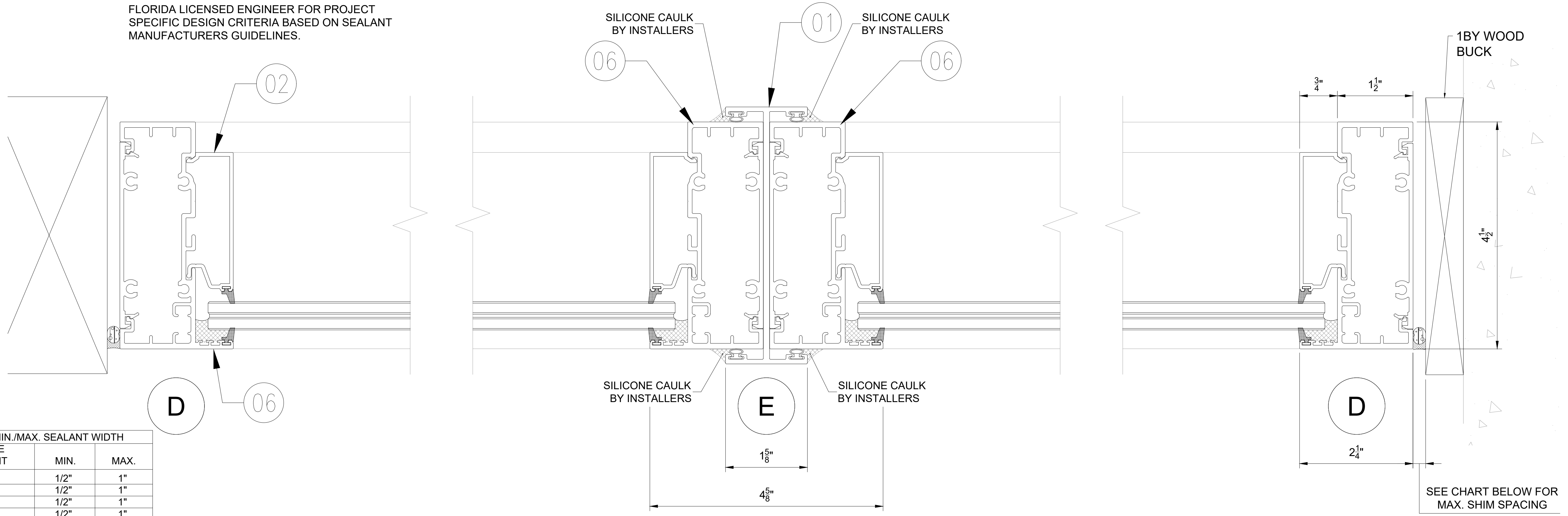
06 OF 08



SILICONE SEALANT DOWSIL 790 OR EQUAL (SEE CHART)

NOTE:

ALTERNATE SEALANT SHALL BE DESIGNED BY A FLORIDA LICENSED ENGINEER FOR PROJECT SPECIFIC DESIGN CRITERIA BASED ON SEALANT MANUFACTURERS GUIDELINES.



| MIN./MAX. SEALANT WIDTH | | |
|---|---|---|
| FRAME HEIGHT | MIN. | MAX. |
| 144" | 1/2" | 1" |
| 138" | 1/2" | 1" |
| 132" | 1/2" | 1" |
| 126" | 1/2" | 1" |
| 120" | 1/2" | 1" |
| 114" | 3/8" | 1" |
| 108" | 3/8" | 1" |
| 102" | 3/8" | 1" |
| 96" | 3/8" | 1" |
| 84" | 1/4" | 1" |
| 72" | 1/4" | 1" |

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ENGINEER:
STANTON ENGINEERING, INC.
2101 NW BOCA RATON BLVD. SUITE #115
BOCA RATON, FL. 33431
561-393-1003
P.E. #69316

CHRISTOPHER STANTON
No. 69316

CHAMPION GLASS INC
4720 NW 15TH AVENUE, UNIT 4A,
FT. LAUDERDALE, FL. 33309
954-564-3435 · CHAMPION-GLASS.NET

PRODUCT:
"450 SERIES"
ALUM. STOREFRONT SYSTEM
(L.M.I. & S.M.I.)

PRODUCT APPROVAL #:
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DATE: 06/27/2024
DWG NO. CHGL-450 SF-2024

SHEET No:
07 OF 08

# BILL OF MATERIALS

| NO. | NO. | DESCRIPTION | MATERIAL | MANUFACTURER |
|---|---|---|---|---|
| 01 | CHGL-25 | VERTICAL H MULLION | ALLOY 6063-T6 | CHAMPION GLASS |
| 02 | CHGL-27 | GLASS STOP FOR 9/16 GLASS | ALLOY 6063-T6 | CHAMPION GLASS |
| 03 | CHGL-28 | GLASS STOP FOR 1-5/16 GLASS | ALLOY 6063-T6 | CHAMPION GLASS |
| 04 | CHGL-29 | GLASS STOP FOR 1 GLASS | ALLOY 6063-T6 | CHAMPION GLASS |
| 05 | CHGL-30 | HORIZONTAL MULLION W/3 VINYL SLOTS | ALLOY 6063-T6 | CHAMPION GLASS |
| 05.1 | CHGL-30 | HORIZONTAL MULLION W/1 VINYL SLOT | ALLOY 6063-T6 | CHAMPION GLASS |
| 06 | CHGL-31 | HEAD/SILL/JAMB | ALLOY 6063-T6 | CHAMPION GLASS |
| 07 | CHGL-32 | SNAP-IN | ALLOY 6063-T6 | CHAMPION GLASS |
| 08 | CHGL-9 | HEAD RECEPTOR (PATENT # 11,414,914 B2) | ALLOY 6063-T6 | CHAMPION GLASS |
| 09 | CHGL-21 | SILL RECEPTOR (PATENT # 11,414,914 B2) | ALLOY 6063-T6 | CHAMPION GLASS |
| 10 | CHGL-G33 | GLAZING VINYL | SANTOPRENE_PROPOLENE | MELTPOINT |
| 11 | CHGL-G36 | RECEPTOR VINYL | TPV_PROPOLENE | MELTPOINT |
| 12 | CHGL-S34 | FABRICATION SCREWS | ST. STEEL | 12X1.5 |
| 13 | CHGL-SB35 | SETTING BLOCKS | TPV | .25 X 1.25 X 4 |
| 14 | - | 983 DOW CORNING | - | - |
|  |  |  |  |  |

NOTE:
THE RECEPTORS AND INSTALLATION PROCESS IS COVERED UNDER THE PATENT #11,414,914 B2

REVISIONS:

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ENGINEER:
STANTON ENGINEERING, INC.
2101 NW BOCA RATON BLVD. SUITE #115
BOCA RATON, FL. 33431
561-3930031

CHRISTOPHER STANTON
No 69316
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08 OF 08