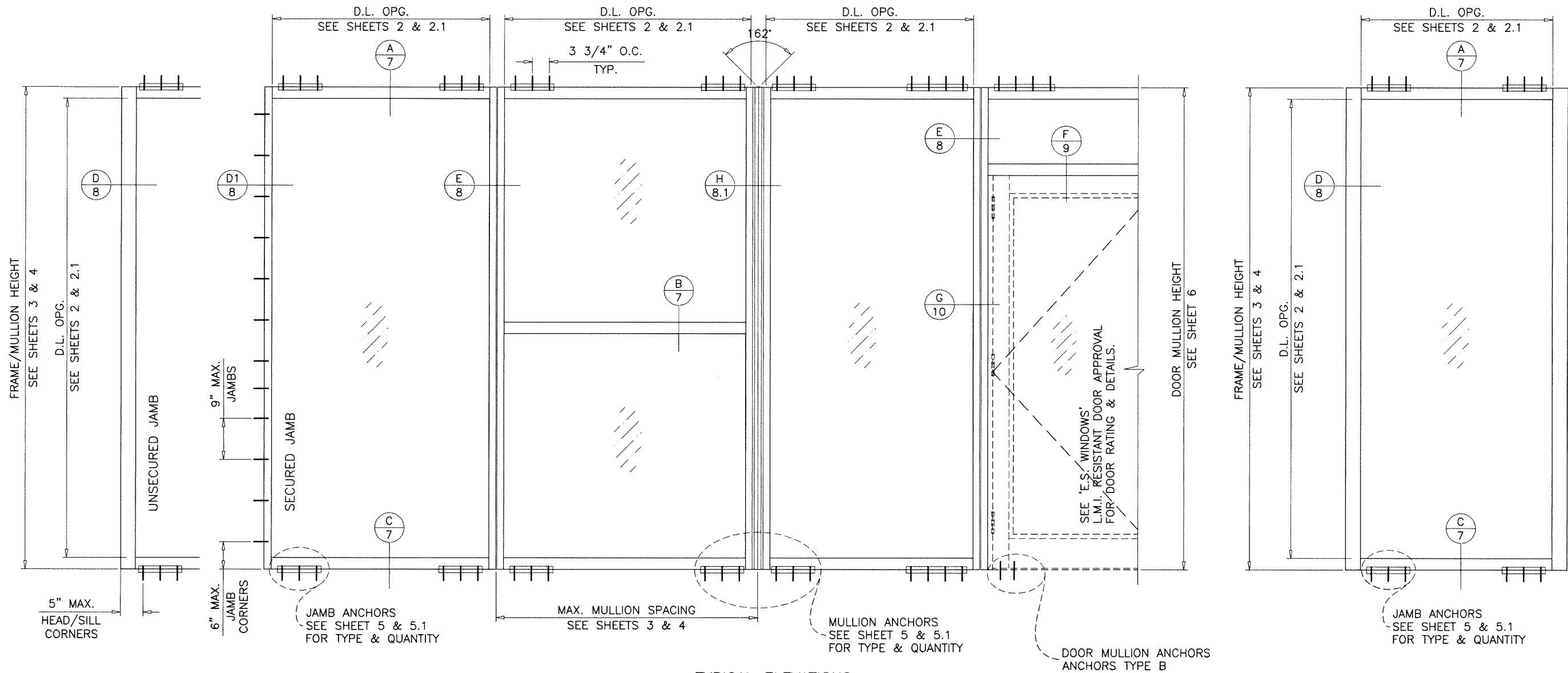




TYPICAL ELEVATIONS

## SERIES 7000 ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH F.B.C. APPR'D LARGE MISSILE IMPACT RESISTANT DOORS. LOWER DESIGN PRESSURE FROM STOREFRONT OR DOOR APPROVAL WILL APPLY TO ENTIRE SYSTEM.

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

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.

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 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.

### INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN WIND PRESSURE REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEETS 2 & 2.1 FOR GLASS DESIGN LOAD CAPACITY.
- STEP 3** CHECK MULLION DESIGN LOAD CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 3, 4 & 6 THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** USING CHARTS ON SHEET 5 SELECT ANCHOR OPTION WITH DESIGN LOAD CAPACITY MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 5** FOR SECURED JAMB OPTION CHECK JAMB ANCHOR CAPACITY USING CHART ON SHEET 8.
- STEP 6** THE LOWEST VALUE RESULTING FROM STEPS 2, 3, 4 AND 5 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.
- STEP 7** FOR SYSTEMS WITH UNANCHORED JAMBS, USING SHEET 11, DETERMINE THE MIN. & MAX. GAP DIMENSIONS.
- STEP 8** WHEN USING THIS SYSTEM WITH DOORS, THE LOWER VALUE OF THE DESIGN PRESSURE RATING FOR THE SYSTEM AND THE DOOR SHALL APPLY.

THIS SYSTEM IS RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

LAMINATED GLASS  
INSUL. LAM. GLASS  
LARGE MISSILE IMPACT

Sealed: 6/26/2024

FL #22244

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 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC  
3550 N.W. 49 STREET  
MIAMI, FL. 33142

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

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

STORE \W17-32ES

| revisions: |          | date | by          | description         |
|------------|----------|------|-------------|---------------------|
| no         | date     | by   | description |                     |
| E          | 08.31.20 |      |             | UPDATED TO 2020 FBC |
| F          | 12.02.20 |      |             | NEW TEST ADDED      |
| G          | 02.22.21 |      |             | NEW TEST ADDED      |
| H          | 07.25.23 |      |             | UPDATED TO 2023 FBC |
| I          | 06.24.24 |      |             | SHEET 1.2 ADDED     |

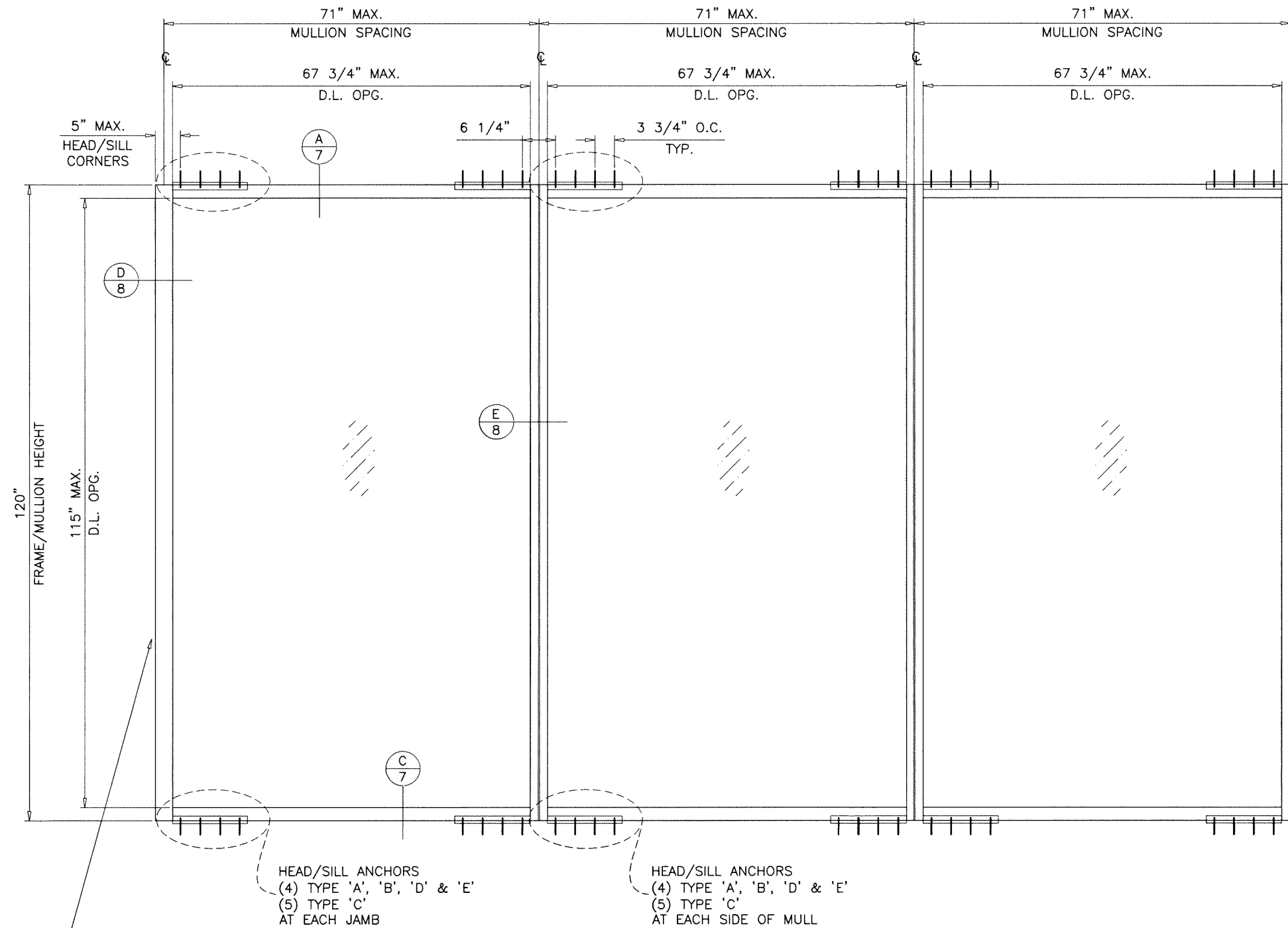
  

|          |            |
|----------|------------|
| date:    | 03-28-17   |
| scale:   | 1/2"=1'-0" |
| dr. by:  | TARIQ      |
| chk. by: |            |

|             |         |
|-------------|---------|
| drawing no. | W17-32  |
| sheet       | 1 of 13 |





MAXIMUM DESIGN LOAD RATING = +60.0 PSF  
-60.0 PSF

FOR SIZES AND CONFIGURATIONS SHOWN ABOVE  
LIMITED ONLY TO  
GLASS TYPE 'A' (SEE SHEET 2.1)  
JAMBS TYPE 'J1' (SEE SHEET 3)  
MULLION TYPE 'M1' (SEE SHEET 3)

Sealed: 6/26/2024



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
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STORE\W17-32ES

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3550 N.W. 49 STREET  
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| revisions: |                     |
|------------|---------------------|
| no         | date by description |
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date: 03-28-17

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

dr. by: TARIQ

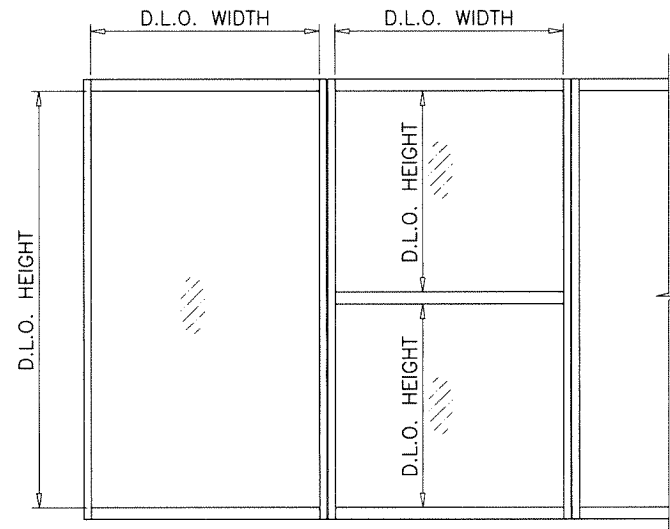
chk. by:

drawing no.  
**W17-32**

sheet **1.2** of **13**

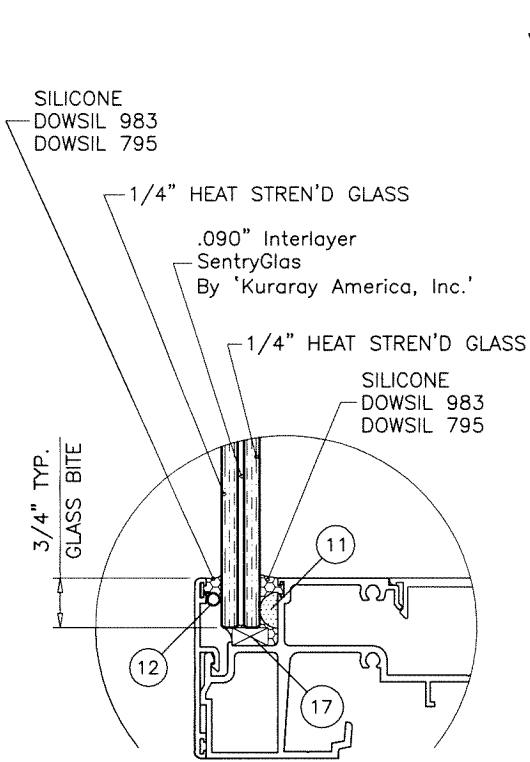
| GLASS DESIGN LOAD CAPACITY - PSF |               |                      |                      |                      |
|----------------------------------|---------------|----------------------|----------------------|----------------------|
| NOMINAL DIMS.                    |               | GLASS TYPE 'A'       | GLASS TYPE 'B'       | GLASS 'C' & 'C1'     |
| D.L.O. WIDTH                     | D.L.O. HEIGHT | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) |
| 36                               | 96"           | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 178.1                | 150.0                | 80.0                 |
| 48                               |               | 169.4                | 150.0                | 80.0                 |
| 51                               |               | 160.0                | 150.0                | 80.0                 |
| 54                               |               | 151.6                | 140.0                | 80.0                 |
| 57                               |               | 144.0                | 140.0                | 80.0                 |
| 36"                              | 100"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 178.1                | 150.0                | 80.0                 |
| 48"                              |               | 169.4                | 150.0                | 80.0                 |
| 51                               |               | 160.0                | 140.0                | 80.0                 |
| 54                               |               | 151.6                | 140.0                | 80.0                 |
| 57                               |               | 144.0                | 140.0                | 80.0                 |
| 36"                              | 104"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 178.1                | 150.0                | 80.0                 |
| 48"                              |               | 169.0                | 150.0                | 80.0                 |
| 51                               |               | 159.0                | 140.0                | 80.0                 |
| 54                               |               | 151.6                | 140.0                | 80.0                 |
| 57                               |               | 144.0                | 140.0                | -                    |
| 36                               | 108"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 177.0                | 150.0                | 80.0                 |
| 48"                              |               | 165.0                | 140.0                | 80.0                 |
| 51                               |               | 156.0                | 140.0                | 80.0                 |
| 54                               |               | 147.0                | 140.0                | 80.0                 |
| 57                               |               | 140.0                | 110.0                | -                    |
| 36                               | 112"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 172.0                | 140.0                | 80.0                 |
| 48"                              |               | 162.0                | 140.0                | 80.0                 |
| 51                               |               | 153.0                | 140.0                | 80.0                 |
| 54                               |               | 144.0                | 140.0                | -                    |
| 36                               | 115"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 44 3/4                           |               | 174.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 170.0                | 140.0                | 80.0                 |
| 48"                              |               | 160.0                | 140.0                | 80.0                 |
| 51                               |               | 150.0                | 140.0                | 80.0                 |
| 54                               |               | 141.0                | 110.0                | -                    |
| 36                               | 116"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 169.0                | 140.0                | 80.0                 |
| 48"                              |               | 159.0                | 140.0                | 80.0                 |
| 51                               |               | 149.0                | 140.0                | -                    |
| 54                               |               | 140.0                | 110.0                | -                    |

| GLASS DESIGN LOAD CAPACITY - PSF |               |                      |                      |                      |
|----------------------------------|---------------|----------------------|----------------------|----------------------|
| NOMINAL DIMS.                    |               | GLASS TYPE 'A'       | GLASS TYPE 'B'       | GLASS 'C' & 'C1'     |
| D.L.O. WIDTH                     | D.L.O. HEIGHT | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) |
| 36                               | 120"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 150.0                | 80.0                 |
| 45 1/2                           |               | 167.0                | 140.0                | 80.0                 |
| 48"                              |               | 156.0                | 140.0                | 80.0                 |
| 51                               |               | 146.0                | 110.0                | -                    |
| 36                               | 124"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 140.0                | 80.0                 |
| 45 1/2                           |               | 166.0                | 140.0                | 80.0                 |
| 48"                              |               | 155.0                | 140.0                | -                    |
| 51                               |               | 140.0                | 110.0                | -                    |
| 36                               | 128"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 150.0                | 80.0                 |
| 42                               |               | 180.0                | 140.0                | 80.0                 |
| 45 1/2                           |               | 165.0                | 133.4                | 80.0                 |
| 48"                              |               | 153.0                | 110.0                | -                    |
| 36                               | 132"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 140.0                | 80.0                 |
| 42                               |               | 180.0                | 140.0                | 80.0                 |
| 45 1/2                           |               | 163.0                | 140.0                | -                    |
| 48"                              |               | 140.0                | 110.0                | -                    |
| 36                               | 136"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 140.0                | 80.0                 |
| 42                               |               | 180.0                | 140.0                | 80.0                 |
| 45 1/2                           |               | 162.0                | 110.0                | -                    |
| 36                               | 139"          | 180.0                | 150.0                | 80.0                 |
| 39                               |               | 180.0                | 140.0                | 80.0                 |
| 42                               |               | 180.0                | 140.0                | 80.0                 |
| 45 1/2                           |               | 162.0                | 110.0                | -                    |

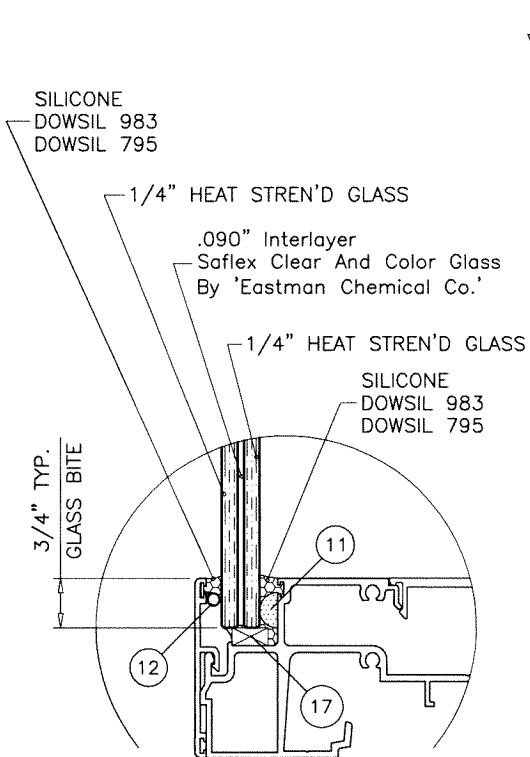


NOTE:  
GLASS CAPACITIES ON THIS SHEET ARE  
BASED ON ASTM E1300-09 (3 SEC. GUSTS).

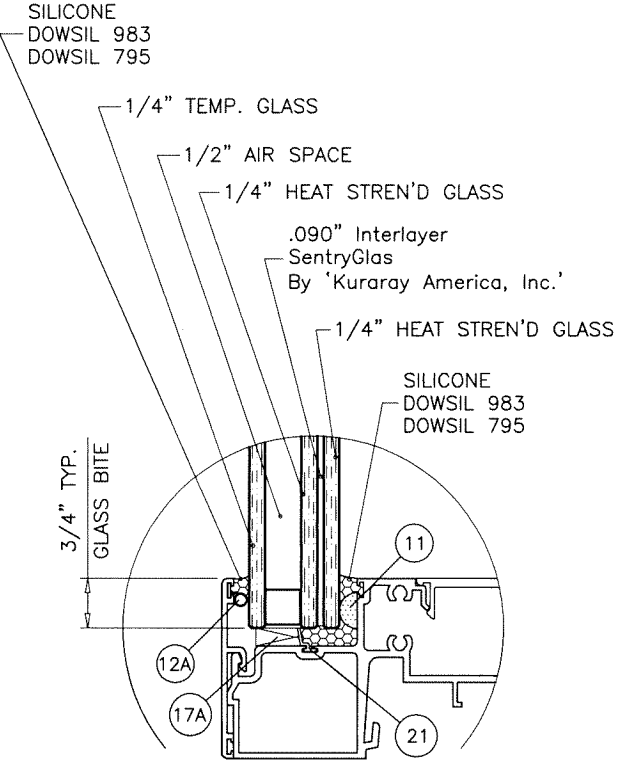
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



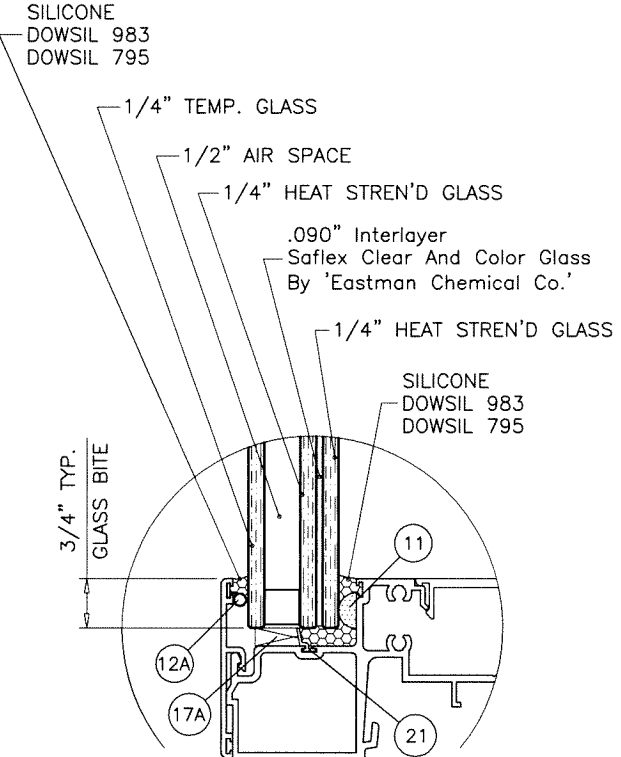
GLASS TYPE 'A'



GLASS TYPE 'C'



GLASS TYPE 'B'



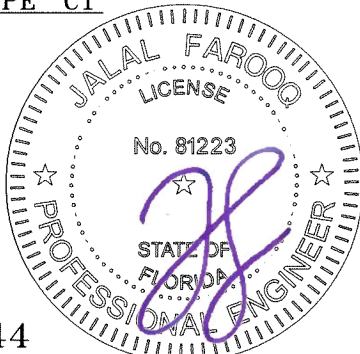
GLASS TYPE 'C1'

1/2" 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

GLAZING OPTIONS  
LEVEL 'D' IMPACT

Sealed: 6/26/2024

FL #22244



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
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STORE W17-32ES

SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)  
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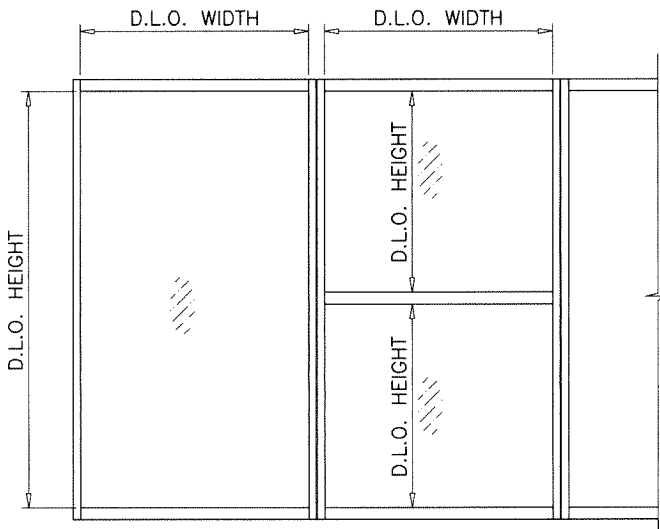
Revisions:  
no date by description  
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no date by description

date: 03-28-17  
scale: 3/8" = 1"  
dr. by: TARIQ  
chk. by:  
drawing no.  
**W17-32**  
sheet 2 of 13

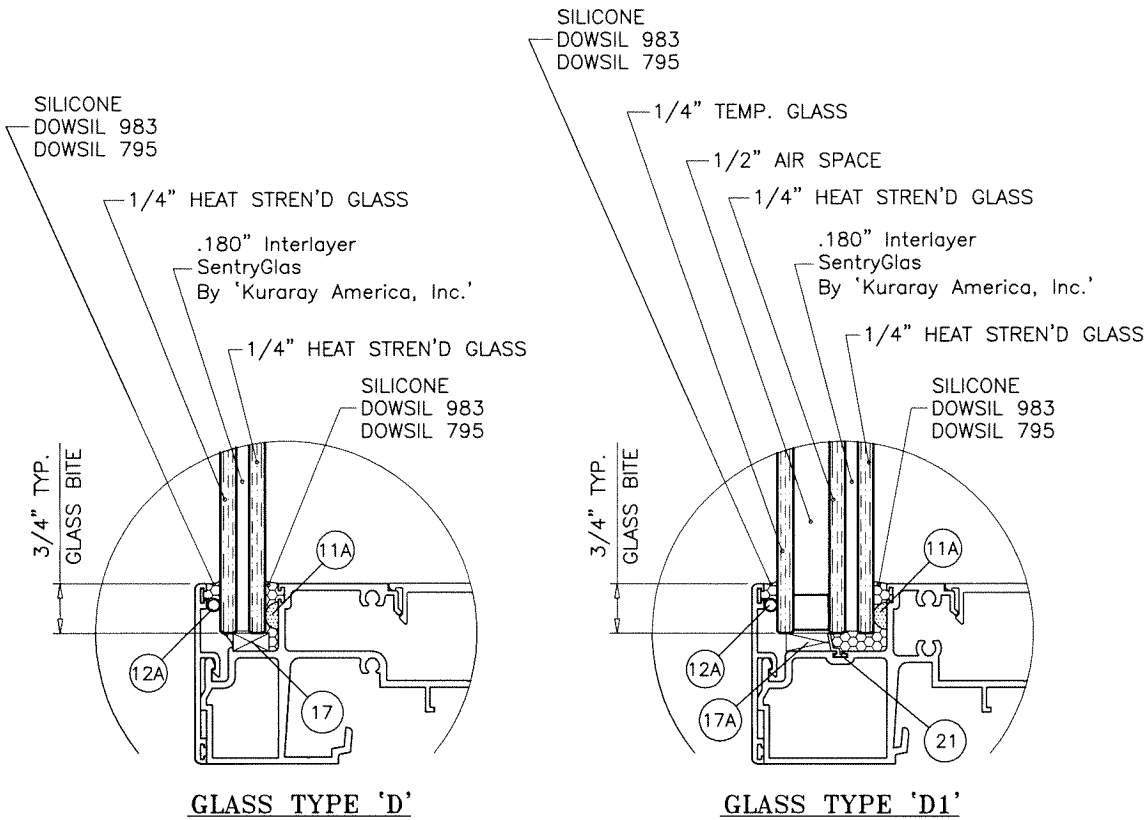
| GLASS DESIGN LOAD CAPACITY - PSF |               |                      |                      |
|----------------------------------|---------------|----------------------|----------------------|
| NOMINAL DIMS.                    |               | GLASS TYPE 'D'       | GLASS TYPE 'D1'      |
| D.L.O. WIDTH                     | D.L.O. HEIGHT | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) |
| 36                               | 96"           | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 45 1/2                           |               | 178.1                | 150.0                |
| 48                               |               | 169.4                | 150.0                |
| 51                               |               | 160.0                | 150.0                |
| 54                               |               | 151.6                | 140.0                |
| 57                               |               | 144.0                | 140.0                |
| 36"                              | 100"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 45 1/2                           |               | 178.1                | 150.0                |
| 48"                              |               | 169.4                | 150.0                |
| 51                               |               | 160.0                | 140.0                |
| 54                               |               | 151.6                | 140.0                |
| 57                               |               | 144.0                | 140.0                |
| 36"                              | 104"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 45 1/2                           |               | 178.1                | 150.0                |
| 48"                              |               | 169.0                | 150.0                |
| 51                               |               | 159.0                | 140.0                |
| 54                               |               | 151.6                | 140.0                |
| 57                               |               | 144.0                | 140.0                |
| 36                               | 108"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 45 1/2                           |               | 177.0                | 150.0                |
| 48"                              |               | 165.0                | 140.0                |
| 51                               |               | 156.0                | 140.0                |
| 54                               |               | 147.0                | 140.0                |
| 57                               |               | 140.0                | 110.0                |
| 36                               | 112"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 45 1/2                           |               | 172.0                | 140.0                |
| 48"                              |               | 162.0                | 140.0                |
| 51                               |               | 153.0                | 140.0                |
| 54                               |               | 144.0                | 140.0                |
| 36                               | 115"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 44 3/4                           |               | 174.0                | 150.0                |
| 45 1/2                           |               | 170.0                | 140.0                |
| 48"                              |               | 160.0                | 140.0                |
| 51                               |               | 150.0                | 140.0                |
| 54                               |               | 141.0                | 110.0                |
| 36                               | 116"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 45 1/2                           |               | 169.0                | 140.0                |
| 48"                              |               | 159.0                | 140.0                |
| 51                               |               | 149.0                | 140.0                |
| 54                               |               | 140.0                | 110.0                |

| GLASS DESIGN LOAD CAPACITY - PSF |               |                      |                      |
|----------------------------------|---------------|----------------------|----------------------|
| NOMINAL DIMS.                    |               | GLASS TYPE 'D'       | GLASS TYPE 'D1'      |
| D.L.O. WIDTH                     | D.L.O. HEIGHT | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) |
| 36                               | 120"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 150.0                |
| 45 1/2                           |               | 167.0                | 140.0                |
| 48"                              |               | 156.0                | 140.0                |
| 51                               |               | 146.0                | 110.0                |
| 36                               | 124"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 140.0                |
| 45 1/2                           |               | 166.0                | 140.0                |
| 48"                              |               | 155.0                | 140.0                |
| 51                               |               | 140.0                | 110.0                |
| 36                               | 128"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 150.0                |
| 42                               |               | 180.0                | 140.0                |
| 45 1/2                           |               | 165.0                | 133.4                |
| 48"                              |               | 153.0                | 110.0                |
| 36                               | 132"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 140.0                |
| 42                               |               | 180.0                | 140.0                |
| 45 1/2                           |               | 163.0                | 140.0                |
| 48"                              |               | 140.0                | 110.0                |
| 36                               | 136"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 140.0                |
| 42                               |               | 180.0                | 140.0                |
| 45 1/2                           |               | 162.0                | 110.0                |
| 36                               | 139"          | 180.0                | 150.0                |
| 39                               |               | 180.0                | 140.0                |
| 42                               |               | 180.0                | 140.0                |
| 45 1/2                           |               | 162.0                | 110.0                |

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



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



**GLAZING OPTIONS  
LEVEL 'E' IMPACT**

**1/2" 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



Sealed: 6/26/2024

FL #22244

**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
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Revisions:  
no date by description  
no date by description  
no date by description  
no date by description  
no date by description  
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date: 03-28-17  
scale: 3/8" = 1"  
dr. by: TARIQ  
chk. by:  
drawing no.  
**W17-32**  
sheet 2.1 of 13

| MULLION DESIGN LOAD CAPACITY - PSF<br>CHART FOR LAMINATED GLASS MULLIONS |              |                        |          |
|--------------------------------------------------------------------------|--------------|------------------------|----------|
| NOMINAL DIMS.                                                            |              | JAMB 'J1'<br>MULL 'M1' |          |
| WIDTH (W)                                                                | FRAME HEIGHT | EXT. (+)               | INT. (-) |
| 30"                                                                      | 108"         | 125.0                  | 125.0    |
| 36"                                                                      |              | 125.0                  | 125.0    |
| 42"                                                                      |              | 125.0                  | 125.0    |
| 48"                                                                      |              | 125.0                  | 125.0    |
| 54"                                                                      |              | 125.0                  | 125.0    |
| 60"                                                                      |              | 116.7                  | 116.7    |
| 30"                                                                      | 114"         | 125.0                  | 125.0    |
| 36"                                                                      |              | 125.0                  | 125.0    |
| 42"                                                                      |              | 125.0                  | 125.0    |
| 48"                                                                      |              | 125.0                  | 125.0    |
| 54"                                                                      |              | 115.4                  | 115.4    |
| 60"                                                                      |              | 103.9                  | 103.9    |
| 30"                                                                      | 120"         | 125.0                  | 125.0    |
| 36"                                                                      |              | 125.0                  | 125.0    |
| 42"                                                                      |              | 125.0                  | 125.0    |
| 48"                                                                      |              | 115.1                  | 115.1    |
| 54"                                                                      |              | 102.3                  | 102.3    |
| 60"                                                                      |              | 92.1                   | 92.1     |
| 30"                                                                      | 126"         | 125.0                  | 125.0    |
| 36"                                                                      |              | 125.0                  | 125.0    |
| 42"                                                                      |              | 113.6                  | 113.6    |
| 48"                                                                      |              | 99.4                   | 99.4     |
| 54"                                                                      |              | 88.4                   | 88.4     |
| 57"                                                                      |              | 83.7                   | 83.7     |
| 30"                                                                      | 132"         | 125.0                  | 125.0    |
| 36"                                                                      |              | 115.3                  | 115.3    |
| 42"                                                                      |              | 98.8                   | 98.8     |
| 48"                                                                      |              | 86.5                   | 86.5     |
| 54"                                                                      |              | 76.9                   | 76.9     |
| 60"                                                                      |              |                        |          |
| 30"                                                                      | 138"         | 121.1                  | 121.1    |
| 36"                                                                      |              | 100.9                  | 100.9    |
| 42"                                                                      |              | 86.5                   | 86.5     |
| 48"                                                                      |              | 75.7                   | 75.7     |
| 50"                                                                      |              | 72.7                   | 72.7     |
| 60"                                                                      |              |                        |          |
| 30"                                                                      | 144"         | 106.6                  | 106.6    |
| 36"                                                                      |              | 88.8                   | 88.8     |
| 42"                                                                      |              | 76.1                   | 76.1     |
| 48"                                                                      |              | 66.6                   | 66.6     |

| MULLION DESIGN LOAD CAPACITY - PSF<br>CHART FOR LAMINATED GLASS MULLIONS |              |                        |          |                        |          |  |  |
|--------------------------------------------------------------------------|--------------|------------------------|----------|------------------------|----------|--|--|
| NOMINAL DIMS.                                                            |              | JAMB 'J2'<br>MULL 'M2' |          | JAMB 'J3'<br>MULL 'M3' |          |  |  |
| WIDTH (W)                                                                | FRAME HEIGHT | EXT. (+)               | INT. (-) | EXT. (+)               | INT. (-) |  |  |
| 30"                                                                      | 96"          | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 36"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 42"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 48"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 54"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 58"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 60"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 30"                                                                      | 102"         | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 36"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 42"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 48"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 54"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 55"                                                                      |              | 176.9                  | 176.9    | 180.0                  | 180.0    |  |  |
| 60"                                                                      |              | 140.0                  | 140.0    | 140.0                  | 140.0    |  |  |
| 30"                                                                      | 108"         | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 36"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 42"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 48"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 52"                                                                      |              | 163.8                  | 163.8    | 180.0                  | 180.0    |  |  |
| 54"                                                                      |              | 140.0                  | 140.0    | 140.0                  | 140.0    |  |  |
| 60"                                                                      |              | 140.0                  | 140.0    | 140.0                  | 140.0    |  |  |
| 30"                                                                      | 114"         | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 36"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 42"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 48"                                                                      |              | 162.3                  | 162.3    | 180.0                  | 180.0    |  |  |
| 49"                                                                      |              | 158.9                  | 158.9    | 180.0                  | 180.0    |  |  |
| 54"                                                                      |              | 140.0                  | 140.0    | 140.0                  | 140.0    |  |  |
| 60"                                                                      |              | 129.8                  | 129.8    | 140.0                  | 140.0    |  |  |
| 30"                                                                      | 120"         | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 36"                                                                      |              | 180.0                  | 180.0    | 180.0                  | 180.0    |  |  |
| 42"                                                                      |              | 167.4                  | 167.4    | 180.0                  | 180.0    |  |  |
| 47"                                                                      |              | 149.6                  | 149.6    | 180.0                  | 180.0    |  |  |
| 48"                                                                      |              | 146.4                  | 146.4    | 180.0                  | 180.0    |  |  |
| 54"                                                                      |              | 130.2                  | 130.2    | 140.0                  | 140.0    |  |  |
| 57"                                                                      |              | 123.3                  | 123.3    | 140.0                  | 140.0    |  |  |
| 30"                                                                      | 126"         | 150.0                  | 150.0    | 150.0                  | 150.0    |  |  |
| 36"                                                                      |              | 150.0                  | 150.0    | 150.0                  | 150.0    |  |  |
| 42"                                                                      |              | 150.0                  | 150.0    | 150.0                  | 150.0    |  |  |
| 44"                                                                      |              | 144.9                  | 144.9    | 150.0                  | 150.0    |  |  |
| 48"                                                                      |              | 132.8                  | 132.8    | 140.0                  | 140.0    |  |  |
| 54"                                                                      |              | 118.1                  | 118.1    | 140.0                  | 140.0    |  |  |
| 30"                                                                      | 132"         | 150.0                  | 150.0    | 150.0                  | 150.0    |  |  |
| 36"                                                                      |              | 150.0                  | 150.0    | 150.0                  | 150.0    |  |  |
| 42"                                                                      |              | 138.3                  | 138.3    | 150.0                  | 150.0    |  |  |
| 48"                                                                      |              | 121.0                  | 121.0    | 140.0                  | 140.0    |  |  |
| 52"                                                                      |              | 111.7                  | 111.7    | 140.0                  | 140.0    |  |  |
| 60"                                                                      |              |                        |          |                        |          |  |  |
| 30"                                                                      | 138"         | 150.0                  | 150.0    | 150.0                  | 150.0    |  |  |
| 36"                                                                      |              | 147.6                  | 147.6    | 150.0                  | 150.0    |  |  |
| 40"                                                                      |              | 132.9                  | 132.9    | 150.0                  | 150.0    |  |  |
| 42"                                                                      |              | 126.5                  | 126.5    | 140.0                  | 140.0    |  |  |
| 48"                                                                      |              | 110.7                  | 114.0    | 140.0                  | 140.0    |  |  |
| 50"                                                                      |              | 106.3                  | 114.0    | 140.0                  | 140.0    |  |  |
| 30"                                                                      | 144"         | 150.0                  | 150.0    | 150.0                  | 150.0    |  |  |
| 36"                                                                      |              | 135.6                  | 135.6    | 150.0                  | 150.0    |  |  |
| 39"                                                                      |              | 125.2                  | 125.2    | 150.0                  | 150.0    |  |  |
| 42"                                                                      |              | 116.2                  | 116.2    | 140.0                  | 140.0    |  |  |
| 48"                                                                      |              | 101.7                  | 114.0    | 140.0                  | 140.0    |  |  |
| 50"                                                                      |              | 66.0                   | 114.0    | -                      | -        |  |  |

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

**JAMB 'J1' & 'J2'**

| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|--------------------|--------------------|
| 14.6111            | 4.6414             |

**JAMB 'J3'**

| Ix IN <sup>4</sup>     | Sx IN <sup>3</sup> |
|------------------------|--------------------|
| 14.6111                | 4.6414             |
| STEEL                  | 3.797              |
| TOTAL                  | 25.622             |
| Ix ALUM + Ix STL X 2.9 |                    |

**MULLION 'M1'**

| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|--------------------|--------------------|
| 15.385             | 4.546              |

**MULLION 'M2'**

| Ix IN <sup>4</sup>     | Sx IN <sup>3</sup> |
|------------------------|--------------------|
| 15.385                 | 4.546              |
| STEEL                  | 1.6875             |
| TOTAL                  | 26.396             |
| Ix ALUM + Ix STL X 2.9 |                    |

**MULLION 'M3'**

| Ix IN <sup>4</sup>     | Sx IN <sup>3</sup> |
|------------------------|--------------------|
| 15.385                 | 4.546              |
| STEEL                  | 7.594              |
| TOTAL                  | 37.407             |
| Ix ALUM + Ix STL X 2.9 |                    |

MALE AND FEMALE MULLION ORIENTATION SHOWN (MALE LEFT & FEMALE RIGHT) CAN BE REVERSED (FEMALE LEFT & MALE RIGHT) WITHOUT AFFECTING STRUCTURAL FUNCTIONALITY OF THE SYSTEM.

**E.S. WINDOWS DOOR**  
SEE SEPARATE APPROVAL

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

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

SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

| revisions: | no | date | by | description |
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date: 03-28-17

scale: 3/8" = 1"

dr. by: TARIQ

chk. by:

drawing no. **W17-32**

sheet **3** of **13**

Sealed: 6/26/2024

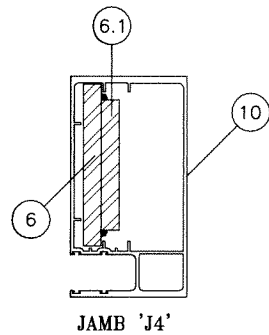
FL #22244



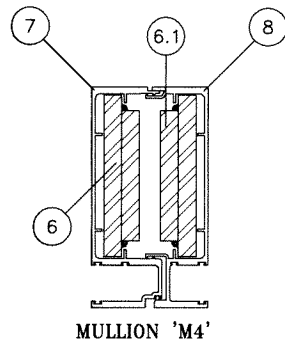
MULLION DESIGN LOAD CAPACITY - PSF  
CHART FOR LAMINATED GLASS MULLIONS

| NOMINAL DIMS. |              | JAMB 'J4' |          |
|---------------|--------------|-----------|----------|
| WIDTH (W)     | FRAME HEIGHT | EXT. (+)  | INT. (-) |
| 30"           | 120"         | 180.0     | 180.0    |
| 36"           |              | 180.0     | 180.0    |
| 42"           |              | 180.0     | 180.0    |
| 47"           |              | 180.0     | 180.0    |
| 48"           |              | 180.0     | 180.0    |
| 54"           |              | 180.0     | 180.0    |
| 60"           |              | 180.0     | 180.0    |
| 30"           | 126"         | 180.0     | 180.0    |
| 36"           |              | 180.0     | 180.0    |
| 42"           |              | 180.0     | 180.0    |
| 44"           |              | 180.0     | 180.0    |
| 48"           |              | 180.0     | 180.0    |
| 59"           |              | 180.0     | 180.0    |
| 30"           | 132"         | 180.0     | 180.0    |
| 36"           |              | 180.0     | 180.0    |
| 42"           |              | 180.0     | 180.0    |
| 48"           |              | 180.0     | 180.0    |
| 56"           |              | 180.0     | 180.0    |
| 60"           |              | 180.0     | 180.0    |
| 30"           | 138"         | 180.0     | 180.0    |
| 36"           |              | 180.0     | 180.0    |
| 40"           |              | 180.0     | 180.0    |
| 42"           |              | 180.0     | 180.0    |
| 48"           |              | 180.0     | 180.0    |
| 54"           |              | 180.0     | 180.0    |
| 30"           | 144"         | 180.0     | 180.0    |
| 36"           |              | 180.0     | 180.0    |
| 39"           |              | 180.0     | 180.0    |
| 42"           |              | 180.0     | 180.0    |
| 48"           |              | 180.0     | 180.0    |
| 60"           |              | 180.0     | 180.0    |

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

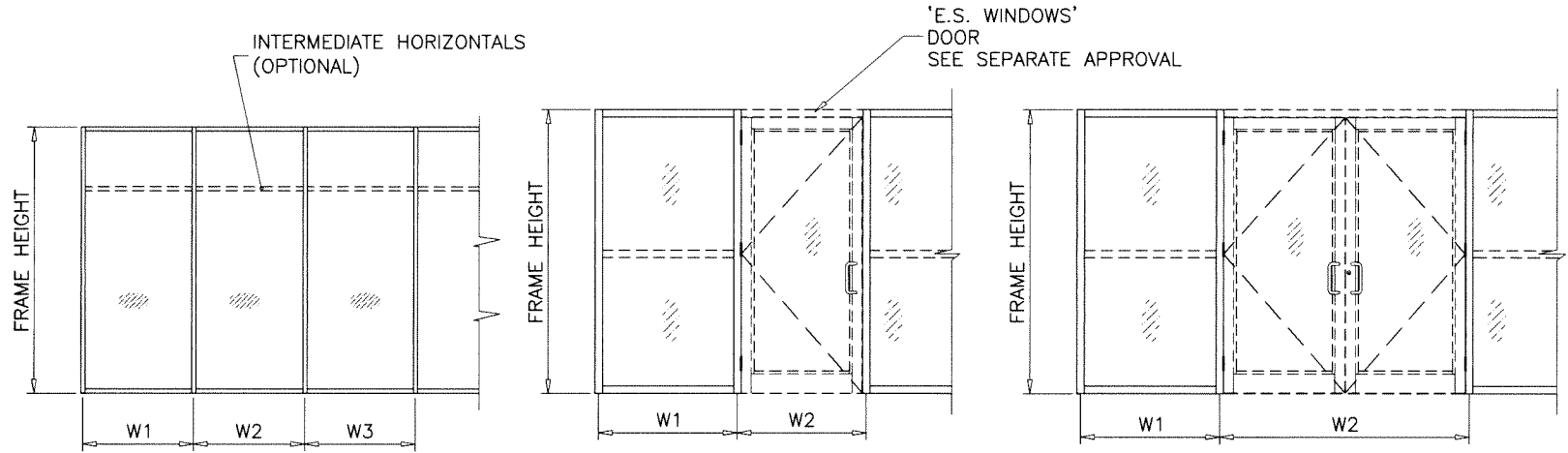


|                                 | Ix IN^4 | Sx IN^3 |
|---------------------------------|---------|---------|
| ALUMINUM                        | 14.6111 | 4.6414  |
| STEEL                           | 5.782   | 2.569   |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 31.207  |         |



|                                 | Ix IN^4 | Sx IN^3 |
|---------------------------------|---------|---------|
| ALUMINUM                        | 15.385  | 4.546   |
| STEEL                           | 11.560  | 5.137   |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 48.577  |         |

MALE AND FEMALE MULLION ORIENTATION  
SHOWN (MALE LEFT & FEMALE RIGHT)  
CAN BE REVERSED (FEMALE LEFT & MALE RIGHT)  
WITHOUT AFFECTING STRUCTURAL FUNCTIONALITY  
OF THE SYSTEM.

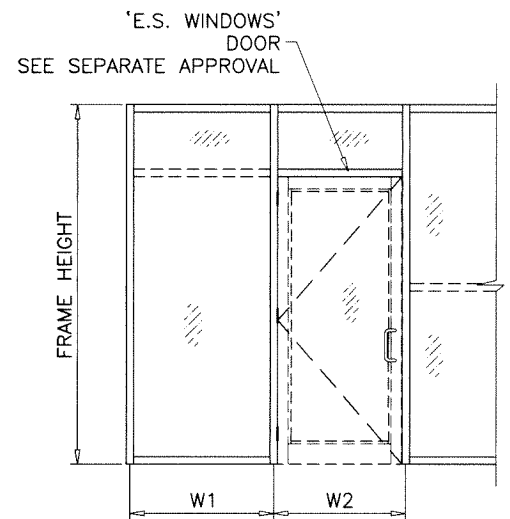


WIDTH (W) = W1  
AT JAMB

WIDTH (W) =  $\frac{W2 + W3}{2}$   
AT MULLION

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

WIDTH (W) =  $\frac{W1}{2} + \frac{W2}{4}$   
AT MULLION



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

Sealed: 6/26/2024

FL #22244



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
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**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
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revisions:

| no | date | by | description |
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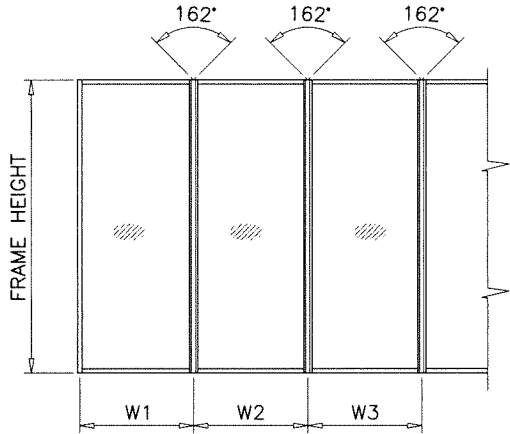
date: 03-28-17  
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dr. by: TARIQ  
chk. by:

drawing no.  
**W17-32**  
sheet 3.1 of 13

STORE W17-32ES

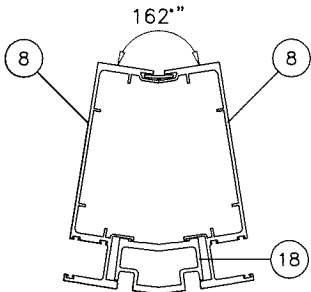
| MULLION DESIGN LOAD CAPACITY - PSF<br>CHART FOR LAMINATED GLASS MULLIONS<br>WITHOUT INTERMEDIATE HORIZONTALS |              |                        |          |                        |          |
|--------------------------------------------------------------------------------------------------------------|--------------|------------------------|----------|------------------------|----------|
| NOMINAL DIMS.                                                                                                |              | JAMB 'J4'<br>MULL 'M4' |          | JAMB 'J5'<br>MULL 'M4' |          |
| WIDTH (W)                                                                                                    | FRAME HEIGHT | EXT. (+)               | INT. (-) | EXT. (+)               | INT. (-) |
| 30"                                                                                                          | 90"          | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 36"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 42"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 48"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 54"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 60"                                                                                                          |              | 167.1                  | 167.1    | 180.0                  | 180.0    |
| 30"                                                                                                          | 96"          | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 36"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 42"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 48"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 54"                                                                                                          |              | 163.2                  | 163.2    | 180.0                  | 180.0    |
| 60"                                                                                                          |              | 146.9                  | 146.9    | 180.0                  | 180.0    |
| 30"                                                                                                          | 102"         | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 36"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 42"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 48"                                                                                                          |              | 162.6                  | 162.6    | 180.0                  | 180.0    |
| 54"                                                                                                          |              | 144.6                  | 144.6    | 180.0                  | 180.0    |
| 56"                                                                                                          |              | 139.4                  | 139.4    | 180.0                  | 180.0    |
| 30"                                                                                                          | 108"         | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 36"                                                                                                          |              | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 42"                                                                                                          |              | 165.8                  | 165.8    | 180.0                  | 180.0    |
| 48"                                                                                                          |              | 145.1                  | 145.1    | 180.0                  | 180.0    |
| 53"                                                                                                          |              | 131.4                  | 131.4    | 172.4                  | 172.4    |
| 30"                                                                                                          | 114"         | 180.0                  | 180.0    | 180.0                  | 180.0    |
| 36"                                                                                                          |              | 171.1                  | 171.1    | 180.0                  | 180.0    |
| 42"                                                                                                          |              | 146.6                  | 146.6    | 180.0                  | 180.0    |
| 48"                                                                                                          |              | 128.3                  | 128.3    | 161.9                  | 161.9    |
| 50"                                                                                                          |              | 123.2                  | 123.2    | 155.4                  | 155.4    |
| 30"                                                                                                          | 120"         | 176.0                  | 176.0    | 180.0                  | 180.0    |
| 36"                                                                                                          |              | 146.7                  | 146.7    | 180.0                  | 180.0    |
| 42"                                                                                                          |              | 125.7                  | 125.7    | 158.6                  | 158.6    |
| 48"                                                                                                          |              | 110.0                  | 110.0    | 138.8                  | 138.8    |

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



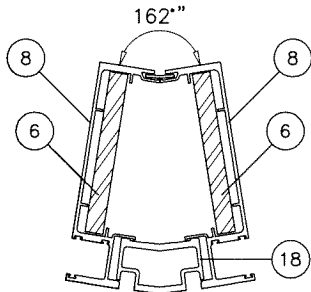
WIDTH (W) = W1  
AT JAMB

WIDTH (W) =  $\frac{W2 + W3}{2}$   
AT MULLION



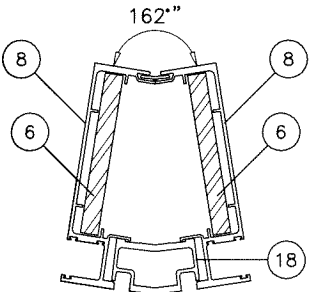
JAMB 'J4'

| Ix IN^4 | Sx IN^3 |
|---------|---------|
| 14.7036 | 4.52    |



JAMB 'J5'

|                                 | Ix IN^4 | Sx IN^3 |
|---------------------------------|---------|---------|
| ALUMINUM                        | 14.7036 | 4.52    |
| STEEL                           | 7.594   | 3.375   |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 36.508  |         |



MULLION 'M4'

|                                 | Ix IN^4 | Sx IN^3 |
|---------------------------------|---------|---------|
| ALUMINUM                        | 14.7036 | 4.52    |
| STEEL                           | 7.594   | 3.375   |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 36.508  |         |

Sealed: 6/26/2024

FL #22244



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
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**STORE W17-32ES**

SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

| no | date | by | description |
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|    |      |    |             |

date: 03-28-17

scale: 3/8" = 1"

dr. by: TARIQ

chk. by:

drawing no.

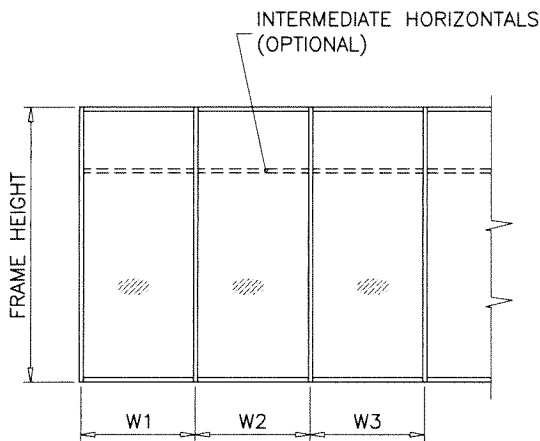
**W17-32**

sheet 3.2 of 13

| MULLION DESIGN LOAD CAPACITY – PSF<br>CHART FOR INSUL. LAM. GLASS MULLIONS |              |                        |          |
|----------------------------------------------------------------------------|--------------|------------------------|----------|
| NOMINAL DIMS.                                                              |              | JAMB 'J1'<br>MULL 'M1' |          |
| WIDTH (W)                                                                  | FRAME HEIGHT | EXT. (+)               | INT. (–) |
| 30"                                                                        | 114"         | 92.0                   | 92.0     |
| 36"                                                                        |              | 92.0                   | 92.0     |
| 42"                                                                        |              | 92.0                   | 92.0     |
| 48"                                                                        |              | 92.0                   | 92.0     |
| 54"                                                                        |              | 92.0                   | 92.0     |
| 60"                                                                        |              | 92.0                   | 92.0     |
| 30"                                                                        | 120"         | 92.0                   | 92.0     |
| 36"                                                                        |              | 92.0                   | 92.0     |
| 42"                                                                        |              | 92.0                   | 92.0     |
| 48"                                                                        |              | 92.0                   | 92.0     |
| 54"                                                                        |              | 92.0                   | 92.0     |
| 57"                                                                        |              | 86.3                   | 86.3     |
| 30"                                                                        | 126"         | 92.0                   | 92.0     |
| 36"                                                                        |              | 92.0                   | 92.0     |
| 42"                                                                        |              | 92.0                   | 92.0     |
| 48"                                                                        |              | 82.8                   | 82.8     |
| 54"                                                                        |              | 78.4                   | 78.4     |
| 30"                                                                        | 132"         | 92.0                   | 92.0     |
| 36"                                                                        |              | 92.0                   | 92.0     |
| 42"                                                                        |              | 92.0                   | 92.0     |
| 48"                                                                        |              | 81.0                   | 81.0     |
| 52"                                                                        |              | 74.8                   | 74.8     |
| 30"                                                                        | 138"         | 92.0                   | 92.0     |
| 36"                                                                        |              | 92.0                   | 92.0     |
| 42"                                                                        |              | 81.0                   | 81.0     |
| 48"                                                                        |              | 70.9                   | 70.9     |
| 50"                                                                        |              | 68.1                   | 68.1     |
| 30"                                                                        | 144"         | 92.0                   | 92.0     |
| 36"                                                                        |              | 83.2                   | 83.2     |
| 42"                                                                        |              | 71.3                   | 71.3     |
| 48"                                                                        |              | 62.4                   | 62.4     |

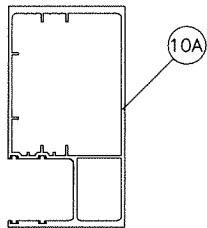
| MULLION DESIGN LOAD CAPACITY – PSF<br>CHART FOR INSUL. LAM. GLASS MULLIONS |              |                        |          |                        |          |  |  |
|----------------------------------------------------------------------------|--------------|------------------------|----------|------------------------|----------|--|--|
| NOMINAL DIMS.                                                              |              | JAMB 'J2'<br>MULL 'M2' |          | JAMB 'J3'<br>MULL 'M3' |          |  |  |
| WIDTH (W)                                                                  | FRAME HEIGHT | EXT. (+)               | INT. (–) | EXT. (+)               | INT. (–) |  |  |
| 30"                                                                        | 96"          | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 54"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 58"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 60"                                                                        |              | 100.0                  | 140.0    | 100.0                  | 140.0    |  |  |
| 30"                                                                        | 102"         | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 54"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 55"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 60"                                                                        |              | 100.0                  | 140.0    | 100.0                  | 140.0    |  |  |
| 30"                                                                        | 108"         | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 52"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 54"                                                                        |              | 100.0                  | 140.0    | 100.0                  | 140.0    |  |  |
| 60"                                                                        |              | 100.0                  | 140.0    | 100.0                  | 140.0    |  |  |
| 30"                                                                        | 114"         | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 49"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 54"                                                                        |              | 100.0                  | 140.0    | 100.0                  | 140.0    |  |  |
| 58"                                                                        |              | 100.0                  | 140.0    | 100.0                  | 140.0    |  |  |
| 60"                                                                        |              | 100.0                  | 110.0    | 100.0                  | 110.0    |  |  |
| 30"                                                                        | 120"         | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 47"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 140.0    | 100.0                  | 140.0    |  |  |
| 54"                                                                        |              | 100.0                  | 137.8    | 100.0                  | 140.0    |  |  |
| 55"                                                                        |              | 100.0                  | 135.3    | 100.0                  | 140.0    |  |  |
| 57"                                                                        |              | 100.0                  | 110.0    | 100.0                  | 110.0    |  |  |
| 30"                                                                        | 126"         | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 44"                                                                        |              | 100.0                  | 146.1    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 133.9    | 100.0                  | 140.0    |  |  |
| 52"                                                                        |              | 100.0                  | 123.6    | 100.0                  | 140.0    |  |  |
| 54"                                                                        |              | 100.0                  | 119.0    | 100.0                  | 110.0    |  |  |
| 30"                                                                        | 132"         | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 133.1    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 116.5    | 100.0                  | 140.0    |  |  |
| 50"                                                                        |              | 100.0                  | 111.8    | 100.0                  | 140.0    |  |  |
| 52"                                                                        |              | 100.0                  | 107.5    | 100.0                  | 110.0    |  |  |
| 30"                                                                        | 138"         | 100.0                  | 150.0    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 135.9    | 100.0                  | 150.0    |  |  |
| 40"                                                                        |              | 100.0                  | 122.3    | 100.0                  | 150.0    |  |  |
| 42"                                                                        |              | 100.0                  | 116.7    | 100.0                  | 150.0    |  |  |
| 48"                                                                        |              | 100.0                  | 101.9    | 100.0                  | 133.0    |  |  |
| 50"                                                                        |              | 97.9                   | 97.9     | 100.0                  | 110.0    |  |  |
| 30"                                                                        | 144"         | 100.0                  | 143.5    | 100.0                  | 150.0    |  |  |
| 36"                                                                        |              | 100.0                  | 119.6    | 100.0                  | 150.0    |  |  |
| 39"                                                                        |              | 100.0                  | 110.4    | 100.0                  | 144.0    |  |  |
| 42"                                                                        |              | 100.0                  | 102.5    | 100.0                  | 110.0    |  |  |
| 48"                                                                        |              | 89.7                   | 89.7     | 100.0                  | 110.0    |  |  |

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



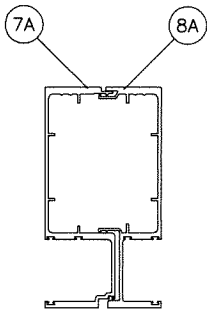
WIDTH (W) = W1  
AT JAMB

WIDTH (W) =  $\frac{W2 + W3}{2}$   
AT MULLION



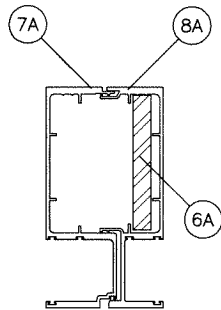
JAMB 'J1' & 'J2'

| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|--------------------|--------------------|
| 14.1989            | 4.5744             |



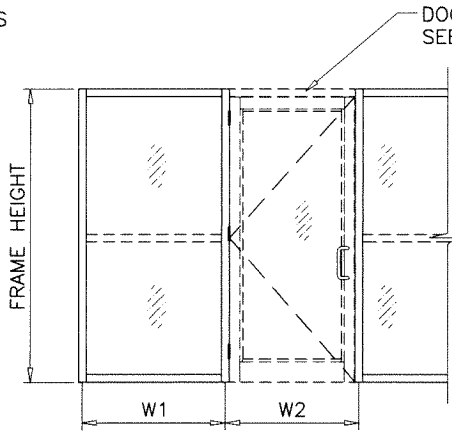
MULLION 'M1'

| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|--------------------|--------------------|
| 14.414             | 4.488              |

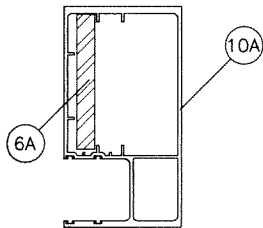


MULLION 'M2'

|                                 | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|---------------------------------|--------------------|--------------------|
| ALUMINUM                        | 14.414             | 4.488              |
| STEEL                           | 2.197              | 1.172              |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 20.786             |                    |

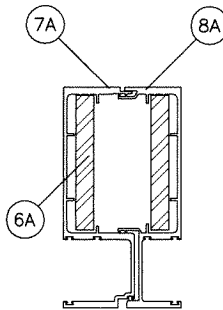


WIDTH (W) =  $\frac{W1 + W2}{2}$   
AT MULLION



JAMB 'J3'

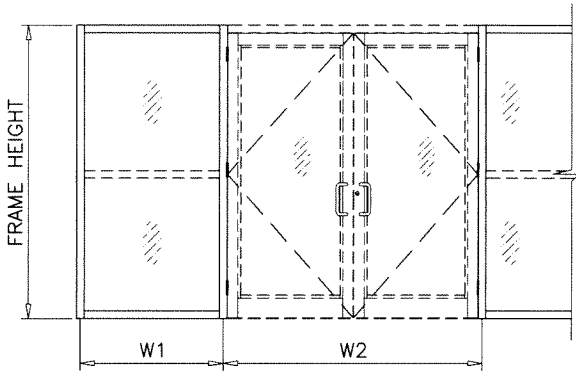
|                                 | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|---------------------------------|--------------------|--------------------|
| ALUMINUM                        | 14.1989            | 4.5744             |
| STEEL                           | 2.197              | 1.172              |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 20.571             |                    |



MULLION 'M3'

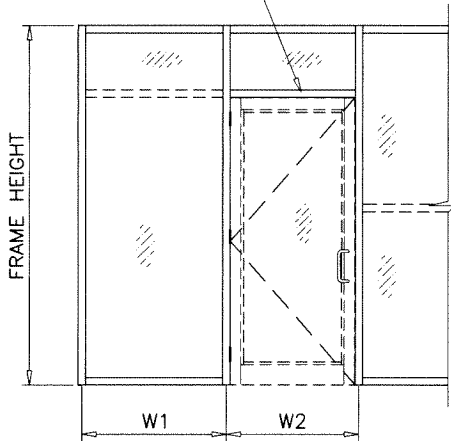
|                                 | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|---------------------------------|--------------------|--------------------|
| ALUMINUM                        | 14.414             | 4.488              |
| STEEL                           | 4.394              | 2.344              |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 27.158             |                    |

'E.S. WINDOWS'  
DOOR  
SEE SEPARATE APPROVAL



WIDTH (W) =  $\frac{W1}{2} + \frac{W2}{4}$   
AT MULLION

'E.S. WINDOWS'  
DOOR  
SEE SEPARATE APPROVAL



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

MALE AND FEMALE MULLION ORIENTATION  
SHOWN (MALE LEFT & FEMALE RIGHT)  
CAN BE REVERSED (FEMALE LEFT & MALE RIGHT)  
WITHOUT AFFECTING STRUCTURAL FUNCTIONALITY  
OF THE SYSTEM.



Sealed: 6/26/2024

FL #22244

afc

**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

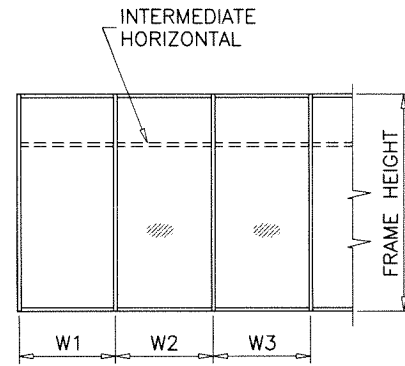
SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

| revisions: | no | date | by | description |
|------------|----|------|----|-------------|
|            |    |      |    |             |
|            |    |      |    |             |
|            |    |      |    |             |
|            |    |      |    |             |

|                |                  |               |          |
|----------------|------------------|---------------|----------|
| date: 03-28-17 | scale: 3/8" = 1" | dr. by: TARIQ | chk. by: |
|----------------|------------------|---------------|----------|

drawing no.  
**W17-32**  
sheet 4 of 13



WIDTH (W) = W1  
AT FRAME JAMB

WIDTH (W) =  $\frac{W2 + W3}{2}$   
AT FRAME MULLION

**ANCHORS TYPES:** SEE SHEET 7 FOR DESCRIPTION

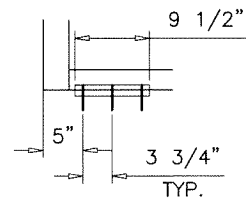
A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION  
B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION  
C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION  
D3 = (3) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION  
E3 = (3) ANCHORS TYPE 'E' AT EACH SIDE OF JAMB AND MULLION

A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION  
B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION  
C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION  
D4 = (4) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION  
E4 = (4) ANCHORS TYPE 'E' AT EACH SIDE OF JAMB AND MULLION

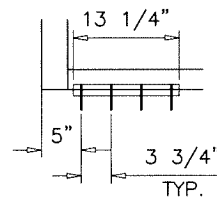
A5 = (5) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION  
B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION  
C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION  
D5 = (5) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION  
E5 = (5) ANCHORS TYPE 'E' AT EACH SIDE OF JAMB AND MULLION

A6 = (6) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION  
B6 = (6) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION  
C6 = (6) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION  
D6 = (6) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

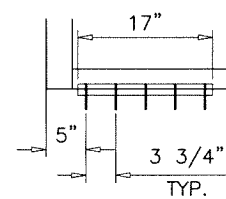
ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.



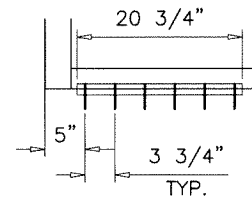
A3, B3, C3, D3, E3



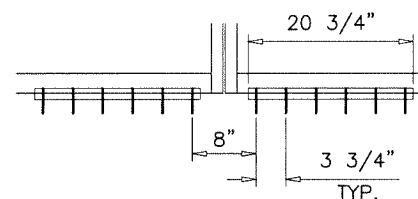
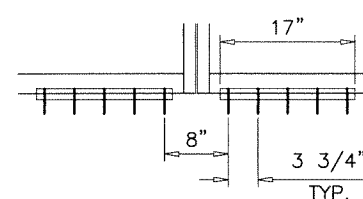
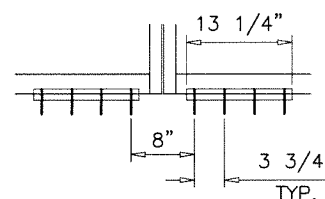
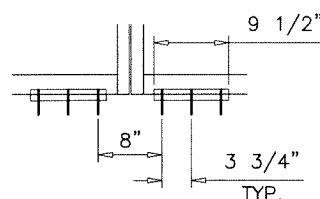
A4, B4, C4, D4, E4



A5, B5, C5, D5, E5



A6, B6, C6, D6



SEE SHEET 5.1 FOR ANCHORS LOAD CAPACITY CHARTS.

Sealed: 6/26/2024

FL #22244



SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:  
no date by description

date: 04-24-13  
scale: 3/8" = 1"  
dr. by: TARIQ  
chk. by:

drawing no.  
**W17-32**  
sheet 5 of 13

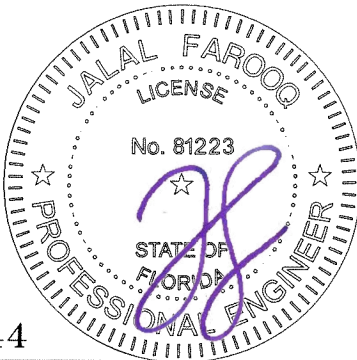
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978  
STORE W17-32ES

| HEAD/SILL ANCHOR DESIGN LOAD CAPACITY - PSF |              |          |       |       |       |          |       |       |       |          |       |       |       |          |       |       |       |          |       |       |
|---------------------------------------------|--------------|----------|-------|-------|-------|----------|-------|-------|-------|----------|-------|-------|-------|----------|-------|-------|-------|----------|-------|-------|
| EXT.(+) & INT.(-)                           |              |          |       |       |       |          |       |       |       |          |       |       |       |          |       |       |       |          |       |       |
| NOMINAL DIMS.                               |              | TYPE 'A' |       |       |       | TYPE 'B' |       |       |       | TYPE 'C' |       |       |       | TYPE 'D' |       |       |       | TYPE 'E' |       |       |
| WIDTH (W)                                   | FRAME HEIGHT | A3       | A4    | A5    | A6    | B3       | B4    | B5    | B6    | C3       | C4    | C5    | C6    | D3       | D4    | D5    | D6    | E3       | E4    | E5    |
| 30"                                         | 90"          | 180.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 | 180.0 | 120.0    | 160.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 163.0    | 180.0 | 180.0 | 180.0 | 173.0    | 180.0 | 180.0 | 180.0 | 100.0    | 134.0 | 167.0 | 180.0 | 165.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 140.0    | 180.0 | 180.0 | 180.0 | 149.0    | 180.0 | 180.0 | 180.0 | 86.0     | 115.0 | 143.0 | 172.0 | 142.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 48"                                         |              | 122.0    | 163.0 | 180.0 | 180.0 | 130.0    | 173.0 | 180.0 | 180.0 | 75.0     | 100.0 | 125.0 | 150.0 | 124.0    | 165.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 54"                                         |              | 109.0    | 145.0 | 180.0 | 180.0 | 116.0    | 154.0 | 180.0 | 180.0 | 67.0     | 89.0  | 111.0 | 134.0 | 110.0    | 147.0 | 180.0 | 180.0 | 177.0    | 180.0 | 180.0 |
| 60"                                         |              | 98.0     | 131.0 | 163.0 | 180.0 | 104.0    | 139.0 | 173.0 | 180.0 | 60.0     | 80.0  | 100.0 | 120.0 | 99.0     | 132.0 | 165.0 | 180.0 | 159.0    | 180.0 | 180.0 |
| 30"                                         | 96"          | 180.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 | 180.0 | 113.0    | 150.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 153.0    | 180.0 | 180.0 | 180.0 | 163.0    | 180.0 | 180.0 | 180.0 | 94.0     | 125.0 | 157.0 | 180.0 | 155.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 131.0    | 175.0 | 180.0 | 180.0 | 139.0    | 180.0 | 180.0 | 180.0 | 81.0     | 107.0 | 134.0 | 161.0 | 133.0    | 177.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 48"                                         |              | 115.0    | 153.0 | 180.0 | 180.0 | 122.0    | 163.0 | 180.0 | 180.0 | 71.0     | 94.0  | 118.0 | 141.0 | 116.0    | 155.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 54"                                         |              | 102.0    | 136.0 | 170.0 | 180.0 | 108.0    | 144.0 | 180.0 | 180.0 | 63.0     | 84.0  | 104.0 | 125.0 | 103.0    | 138.0 | 172.0 | 180.0 | 166.0    | 180.0 | 180.0 |
| 60"                                         |              | 92.0     | 122.0 | 153.0 | 180.0 | 98.0     | 130.0 | 163.0 | 180.0 | 56.0     | 75.0  | 94.0  | 113.0 | 93.0     | 124.0 | 155.0 | 180.0 | 149.0    | 180.0 | 180.0 |
| 30"                                         | 102"         | 173.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 | 180.0 | 106.0    | 142.0 | 177.0 | 180.0 | 175.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 144.0    | 180.0 | 180.0 | 180.0 | 153.0    | 180.0 | 180.0 | 180.0 | 88.0     | 118.0 | 147.0 | 177.0 | 146.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 123.0    | 165.0 | 180.0 | 180.0 | 131.0    | 175.0 | 180.0 | 180.0 | 76.0     | 101.0 | 126.0 | 152.0 | 125.0    | 167.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 48"                                         |              | 108.0    | 144.0 | 180.0 | 180.0 | 115.0    | 153.0 | 180.0 | 180.0 | 66.0     | 88.0  | 111.0 | 133.0 | 109.0    | 146.0 | 180.0 | 180.0 | 175.0    | 180.0 | 180.0 |
| 54"                                         |              | 96.0     | 128.0 | 160.0 | 180.0 | 102.0    | 136.0 | 170.0 | 180.0 | 59.0     | 79.0  | 98.0  | 118.0 | 97.0     | 130.0 | 162.0 | 180.0 | 156.0    | 180.0 | 180.0 |
| 60"                                         |              | 86.0     | 115.0 | 144.0 | 173.0 | 92.0     | 122.0 | 153.0 | 180.0 | 53.0     | 71.0  | 88.0  | 106.0 | 88.0     | 117.0 | 146.0 | 175.0 | 140.0    | 180.0 | 180.0 |
| 30"                                         | 108"         | 163.0    | 180.0 | 180.0 | 180.0 | 173.0    | 180.0 | 180.0 | 180.0 | 100.0    | 134.0 | 167.0 | 180.0 | 165.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 136.0    | 180.0 | 180.0 | 180.0 | 144.0    | 180.0 | 180.0 | 180.0 | 84.0     | 111.0 | 139.0 | 167.0 | 138.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 117.0    | 155.0 | 180.0 | 180.0 | 124.0    | 165.0 | 180.0 | 180.0 | 72.0     | 95.0  | 119.0 | 143.0 | 118.0    | 157.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 48"                                         |              | 102.0    | 136.0 | 170.0 | 180.0 | 108.0    | 144.0 | 180.0 | 180.0 | 63.0     | 84.0  | 104.0 | 125.0 | 103.0    | 138.0 | 172.0 | 180.0 | 166.0    | 180.0 | 180.0 |
| 54"                                         |              | 91.0     | 121.0 | 151.0 | 180.0 | 96.0     | 128.0 | 160.0 | 180.0 | 56.0     | 74.0  | 93.0  | 111.0 | 92.0     | 122.0 | 153.0 | 180.0 | 147.0    | 180.0 | 180.0 |
| 60"                                         |              | 82.0     | 109.0 | 136.0 | 163.0 | 87.0     | 116.0 | 144.0 | 173.0 | 50.0     | 67.0  | 84.0  | 100.0 | 83.0     | 110.0 | 138.0 | 165.0 | 133.0    | 177.0 | 180.0 |
| 30"                                         | 114"         | 155.0    | 180.0 | 180.0 | 180.0 | 164.0    | 180.0 | 180.0 | 180.0 | 95.0     | 127.0 | 158.0 | 180.0 | 157.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 129.0    | 172.0 | 180.0 | 180.0 | 137.0    | 180.0 | 180.0 | 180.0 | 79.0     | 106.0 | 132.0 | 158.0 | 131.0    | 174.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 110.0    | 147.0 | 180.0 | 180.0 | 117.0    | 156.0 | 180.0 | 180.0 | 68.0     | 90.0  | 113.0 | 136.0 | 112.0    | 149.0 | 180.0 | 180.0 | 179.0    | 180.0 | 180.0 |
| 48"                                         |              | 97.0     | 129.0 | 161.0 | 180.0 | 103.0    | 137.0 | 171.0 | 180.0 | 59.0     | 79.0  | 99.0  | 119.0 | 98.0     | 131.0 | 163.0 | 180.0 | 157.0    | 180.0 | 180.0 |
| 54"                                         |              | 86.0     | 114.0 | 143.0 | 172.0 | 91.0     | 122.0 | 152.0 | 180.0 | 53.0     | 70.0  | 88.0  | 106.0 | 87.0     | 116.0 | 145.0 | 174.0 | 140.0    | 180.0 | 180.0 |
| 60"                                         |              | 77.0     | 103.0 | 129.0 | 155.0 | 82.0     | 109.0 | 137.0 | 164.0 | 47.0     | 63.0  | 79.0  | 95.0  | 78.0     | 104.0 | 131.0 | 157.0 | 126.0    | 167.0 | 180.0 |
| 30"                                         | 120"         | 147.0    | 180.0 | 180.0 | 180.0 | 156.0    | 180.0 | 180.0 | 180.0 | 90.0     | 120.0 | 150.0 | 180.0 | 149.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 122.0    | 163.0 | 180.0 | 180.0 | 130.0    | 173.0 | 180.0 | 180.0 | 75.0     | 100.0 | 125.0 | 150.0 | 124.0    | 165.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 105.0    | 140.0 | 175.0 | 180.0 | 111.0    | 149.0 | 180.0 | 180.0 | 64.0     | 86.0  | 107.0 | 129.0 | 106.0    | 142.0 | 177.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 48"                                         |              | 92.0     | 122.0 | 153.0 | 180.0 | 98.0     | 130.0 | 163.0 | 180.0 | 56.0     | 75.0  | 94.0  | 113.0 | 93.0     | 124.0 | 155.0 | 180.0 | 149.0    | 180.0 | 180.0 |
| 54"                                         |              | 82.0     | 109.0 | 136.0 | 163.0 | 87.0     | 116.0 | 144.0 | 173.0 | 50.0     | 67.0  | 84.0  | 100.0 | 83.0     | 110.0 | 138.0 | 165.0 | 133.0    | 177.0 | 180.0 |
| 57"                                         |              | 77.0     | 103.0 | 129.0 | 155.0 | 82.0     | 109.0 | 137.0 | 164.0 | 47.0     | 63.0  | 79.0  | 95.0  | 78.0     | 104.0 | 131.0 | 157.0 | 126.0    | 167.0 | 180.0 |
| 30"                                         | 126"         | 140.0    | 180.0 | 180.0 | 180.0 | 149.0    | 180.0 | 180.0 | 180.0 | 86.0     | 115.0 | 143.0 | 172.0 | 142.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 117.0    | 155.0 | 180.0 | 180.0 | 124.0    | 165.0 | 180.0 | 180.0 | 72.0     | 95.0  | 119.0 | 143.0 | 118.0    | 157.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 100.0    | 133.0 | 166.0 | 180.0 | 106.0    | 141.0 | 177.0 | 180.0 | 61.0     | 82.0  | 102.0 | 123.0 | 101.0    | 135.0 | 169.0 | 180.0 | 162.0    | 180.0 | 180.0 |
| 48"                                         |              | 87.0     | 117.0 | 146.0 | 175.0 | 93.0     | 124.0 | 155.0 | 180.0 | 54.0     | 72.0  | 90.0  | 107.0 | 89.0     | 118.0 | 148.0 | 177.0 | 142.0    | 180.0 | 180.0 |
| 54"                                         |              | 78.0     | 104.0 | 129.0 | 155.0 | 83.0     | 110.0 | 138.0 | 165.0 | 48.0     | 64.0  | 80.0  | 95.0  | 79.0     | 105.0 | 131.0 | 157.0 | 126.0    | 168.0 | 180.0 |
| 30"                                         | 132"         | 133.0    | 178.0 | 180.0 | 180.0 | 142.0    | 180.0 | 180.0 | 180.0 | 82.0     | 109.0 | 137.0 | 164.0 | 135.0    | 180.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 111.0    | 148.0 | 180.0 | 180.0 | 118.0    | 158.0 | 180.0 | 180.0 | 68.0     | 91.0  | 114.0 | 137.0 | 113.0    | 150.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 42"                                         |              | 95.0     | 127.0 | 159.0 | 180.0 | 101.0    | 135.0 | 169.0 | 180.0 | 59.0     | 78.0  | 98.0  | 117.0 | 97.0     | 129.0 | 161.0 | 180.0 | 155.0    | 180.0 | 180.0 |
| 48"                                         |              | 83.0     | 111.0 | 139.0 | 167.0 | 89.0     | 118.0 | 148.0 | 177.0 | 51.0     | 68.0  | 85.0  | 103.0 | 85.0     | 113.0 | 141.0 | 169.0 | 136.0    | 180.0 | 180.0 |
| 52"                                         |              | 77.0     | 99.0  | 124.0 | 148.0 | 82.0     | 105.0 | 131.0 | 158.0 | 47.0     | 61.0  | 76.0  | 91.0  | 78.0     | 100.0 | 125.0 | 150.0 | 125.0    | 161.0 | 180.0 |
| 30"                                         | 138"         | 128.0    | 170.0 | 180.0 | 180.0 | 136.0    | 180.0 | 180.0 | 180.0 | 78.0     | 105.0 | 131.0 | 157.0 | 129.0    | 173.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 106.0    | 142.0 | 177.0 | 180.0 | 113.0    | 151.0 | 180.0 | 180.0 | 65.0     | 87.0  | 109.0 | 131.0 | 108.0    | 144.0 | 180.0 | 180.0 | 173.0    | 180.0 | 180.0 |
| 42"                                         |              | 91.0     | 122.0 | 152.0 | 180.0 | 97.0     | 129.0 | 161.0 | 180.0 | 56.0     | 75.0  | 93.0  | 112.0 | 92.0     | 123.0 | 154.0 | 180.0 | 148.0    | 180.0 | 180.0 |
| 48"                                         |              | 80.0     | 106.0 | 133.0 | 160.0 | 85.0     | 113.0 | 141.0 | 170.0 | 49.0     | 65.0  | 82.0  | 98.0  | 81.0     | 108.0 | 135.0 | 162.0 | 130.0    | 173.0 | 180.0 |
| 30"                                         | 144"         | 122.0    | 163.0 | 180.0 | 180.0 | 130.0    | 173.0 | 180.0 | 180.0 | 75.0     | 100.0 | 125.0 | 150.0 | 124.0    | 165.0 | 180.0 | 180.0 | 180.0    | 180.0 | 180.0 |
| 36"                                         |              | 102.0    | 136.0 | 170.0 | 180.0 | 108.0    | 144.0 | 180.0 | 180.0 | 63.0     | 84.0  | 104.0 | 125.0 | 103.0    | 138.0 | 172.0 | 180.0 | 166.0    | 180.0 | 180.0 |
| 42"                                         |              | 87.0     | 117.0 | 146.0 | 175.0 | 93.0     | 124.0 | 155.0 | 180.0 | 54.0     | 72.0  | 90.0  | 107.0 | 89.0     | 118.0 | 148.0 | 177.0 | 142.0    | 180.0 | 180.0 |
| 48"                                         |              | 76.0     | 102.0 | 127.0 | 153.0 | 81.0     | 108.0 | 135.0 | 163.0 | 47.0     | 63.0  | 78.0  | 94.0  | 78.0     | 103.0 | 129.0 | 155.0 | 124.0    | 166.0 | 180.0 |
| 50"                                         | 146-1/2"     | 72.0     | 96.0  | 120.0 | 144.0 | 77.0     | 102.0 | 128.0 | 153.0 | 44.0     | 59.0  | 74.0  | 89.0  | 73.0     | 98.0  | 122.0 | 146.0 | 117.0    | 156.0 | 180.0 |

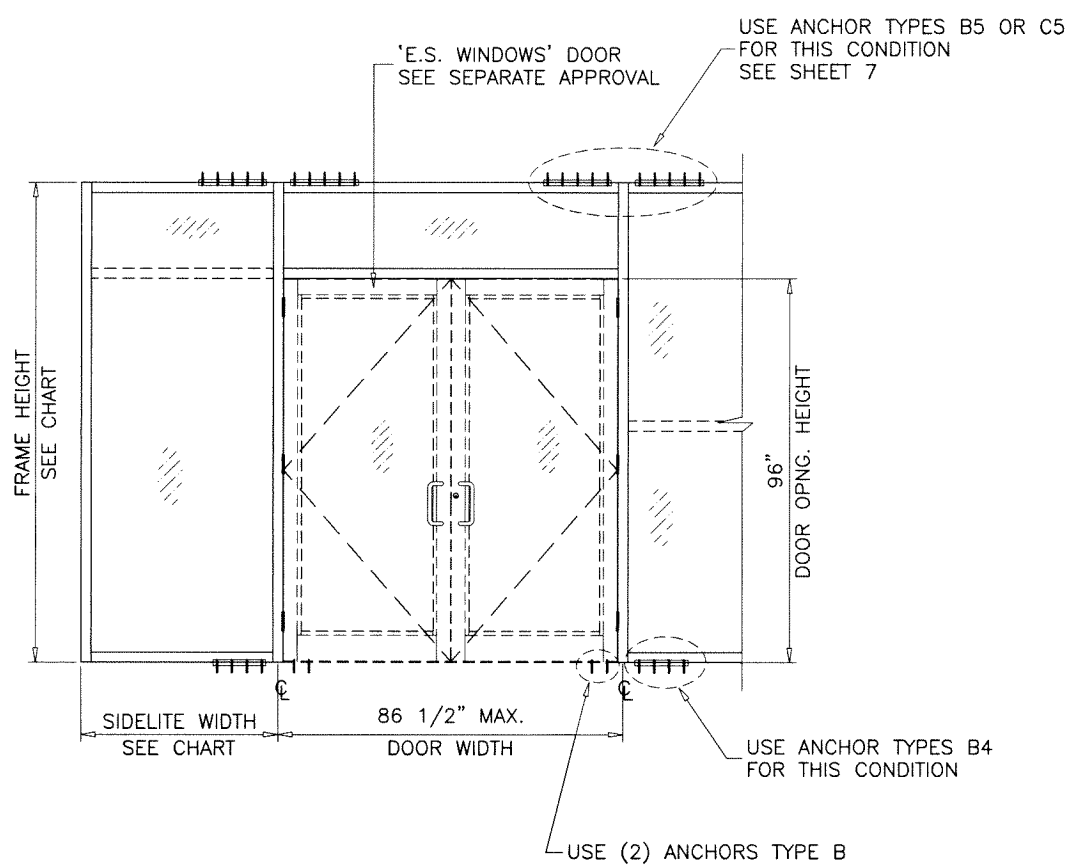
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

Sealed: 6/26/2024

FL #22244

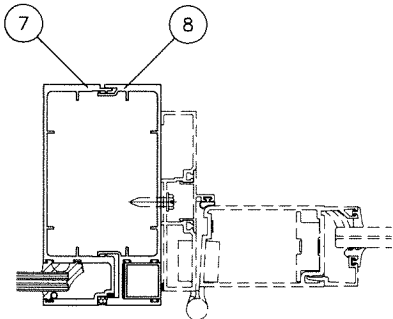


| DOOR MULLION DESIGN LOAD CAPACITY-PSF |                     |                      |                      |                      |
|---------------------------------------|---------------------|----------------------|----------------------|----------------------|
| SIDELITE WIDTH INCHES                 | FRAME HEIGHT INCHES | MULL 'MD1'           | MULL 'MD2'           | MULL 'MD3'           |
|                                       |                     | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) |
| 30                                    | 120                 | 90.0                 | 90.0                 | 90.0                 |
| 36                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 42                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 48                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 54                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 57                                    |                     | 88.6                 | 90.0                 | 90.0                 |
| 30                                    | 126                 | 90.0                 | 90.0                 | 90.0                 |
| 36                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 42                                    |                     | 88.2                 | 90.0                 | 90.0                 |
| 48                                    |                     | 83.9                 | 90.0                 | 90.0                 |
| 54                                    |                     | 80.0                 | 90.0                 | 90.0                 |
| 30                                    | 132                 | 87.1                 | 90.0                 | 90.0                 |
| 36                                    |                     | 82.2                 | 90.0                 | 90.0                 |
| 42                                    |                     | 77.6                 | 90.0                 | 90.0                 |
| 48                                    |                     | 73.4                 | 90.0                 | 90.0                 |
| 52                                    |                     | 70.9                 | 89.2                 | 90.0                 |
| 30                                    | 138                 | 74.1                 | 90.0                 | 90.0                 |
| 36                                    |                     | 69.8                 | 90.0                 | 90.0                 |
| 42                                    |                     | 66.0                 | 86.7                 | 90.0                 |
| 48                                    |                     | 62.6                 | 82.6                 | 90.0                 |
| 50                                    |                     | 61.5                 | 81.4                 | 90.0                 |
| 30                                    | 144                 | 63.6                 | 86.9                 | 90.0                 |
| 36                                    |                     | 60.0                 | 82.5                 | 90.0                 |
| 42                                    |                     | 56.8                 | 78.5                 | 90.0                 |
| 48                                    |                     | 53.9                 | 74.8                 | 90.0                 |



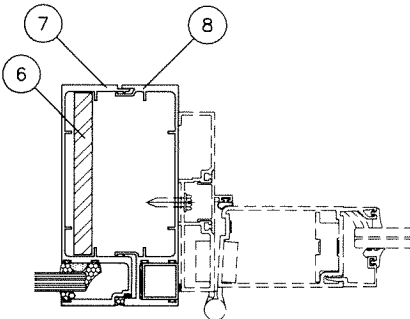
| DOOR MULLION DESIGN LOAD CAPACITY-PSF |                     |                      |                      |                      |
|---------------------------------------|---------------------|----------------------|----------------------|----------------------|
| SIDELITE WIDTH INCHES                 | FRAME HEIGHT INCHES | MULL 'MD1'           | MULL 'MD2'           | MULL 'MD3'           |
|                                       |                     | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) | EXT. (+)<br>INT. (-) |
| 30                                    | 120                 | 90.0                 | 90.0                 | 90.0                 |
| 36                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 42                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 48                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 54                                    |                     | 89.6                 | 90.0                 | 90.0                 |
| 57                                    |                     | 87.5                 | 90.0                 | 90.0                 |
| 30                                    | 126                 | 90.0                 | 90.0                 | 90.0                 |
| 36                                    |                     | 90.0                 | 90.0                 | 90.0                 |
| 42                                    |                     | 86.4                 | 90.0                 | 90.0                 |
| 48                                    |                     | 81.7                 | 90.0                 | 90.0                 |
| 54                                    |                     | 77.4                 | 90.0                 | 90.0                 |
| 30                                    | 132                 | 81.8                 | 90.0                 | 90.0                 |
| 36                                    |                     | 77.0                 | 90.0                 | 90.0                 |
| 42                                    |                     | 72.7                 | 90.0                 | 90.0                 |
| 48                                    |                     | 68.8                 | 90.0                 | 90.0                 |
| 52                                    |                     | 66.5                 | 90.0                 | 90.0                 |
| 30                                    | 138                 | 69.4                 | 90.0                 | 90.0                 |
| 36                                    |                     | 65.4                 | 90.0                 | 90.0                 |
| 42                                    |                     | 61.8                 | 89.2                 | 90.0                 |
| 48                                    |                     | 58.6                 | 84.6                 | 90.0                 |
| 50                                    |                     | 57.7                 | 83.1                 | 90.0                 |
| 30                                    | 144                 | 59.6                 | 85.9                 | 90.0                 |
| 36                                    |                     | 56.2                 | 81.1                 | 90.0                 |
| 42                                    |                     | 53.2                 | 76.7                 | 90.0                 |
| 48                                    |                     | 50.5                 | 72.9                 | 90.0                 |

LAMINATED GLASS MULLIONS



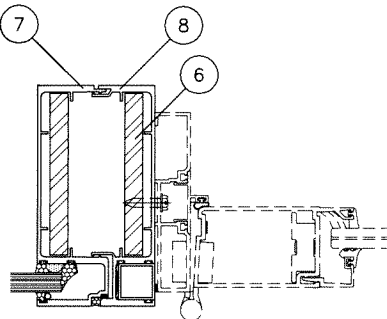
MULLION 'MD1'

|                    |                    |
|--------------------|--------------------|
| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| 15.385             | 4.546              |



MULLION 'MD2'

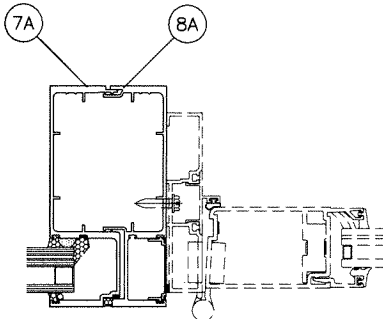
|                        |                    |                    |
|------------------------|--------------------|--------------------|
|                        | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| ALUMINUM               | 15.385             | 4.546              |
| STEEL                  | 3.797              | 1.6875             |
| TOTAL                  | 26.396             |                    |
| Ix ALUM + Ix STL X 2.9 |                    |                    |



MULLION 'MD3'

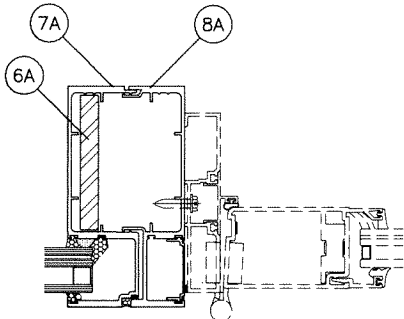
|                        |                    |                    |
|------------------------|--------------------|--------------------|
|                        | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| ALUMINUM               | 15.385             | 4.546              |
| STEEL                  | 7.594              | 3.375              |
| TOTAL                  | 37.407             |                    |
| Ix ALUM + Ix STL X 2.9 |                    |                    |

INSUL. LAM. GLASS MULLIONS



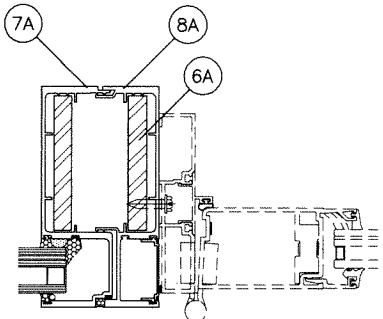
MULLION 'MD1'

|                    |                    |
|--------------------|--------------------|
| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| 14.414             | 4.488              |



MULLION 'MD2'

|                        |                    |                    |
|------------------------|--------------------|--------------------|
|                        | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| ALUMINUM               | 14.414             | 4.488              |
| STEEL                  | 2.197              | 1.172              |
| TOTAL                  | 20.786             |                    |
| Ix ALUM + Ix STL X 2.9 |                    |                    |



MULLION 'MD3'

|                        |                    |                    |
|------------------------|--------------------|--------------------|
|                        | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| ALUMINUM               | 14.414             | 4.488              |
| STEEL                  | 4.394              | 2.344              |
| TOTAL                  | 27.158             |                    |
| Ix ALUM + Ix STL X 2.9 |                    |                    |

MALE AND FEMALE MULLION ORIENTATION SHOWN (MALE LEFT & FEMALE RIGHT) CAN BE REVERSED (FEMALE LEFT & MALE RIGHT) WITHOUT AFFECTING STRUCTURAL FUNCTIONALITY OF THE SYSTEM.

Sealed: 6/26/2024

FL #22244



**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978

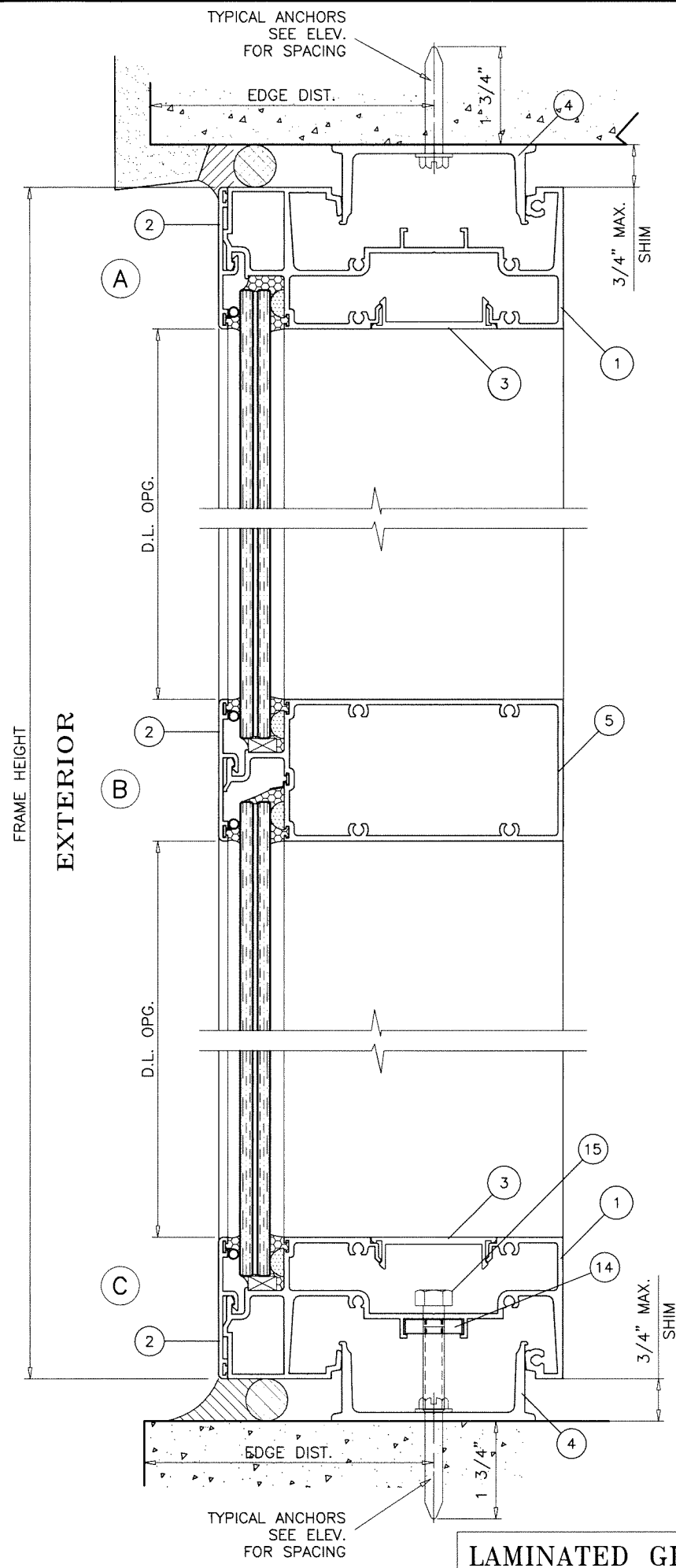
SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)  
**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:  
no date by description

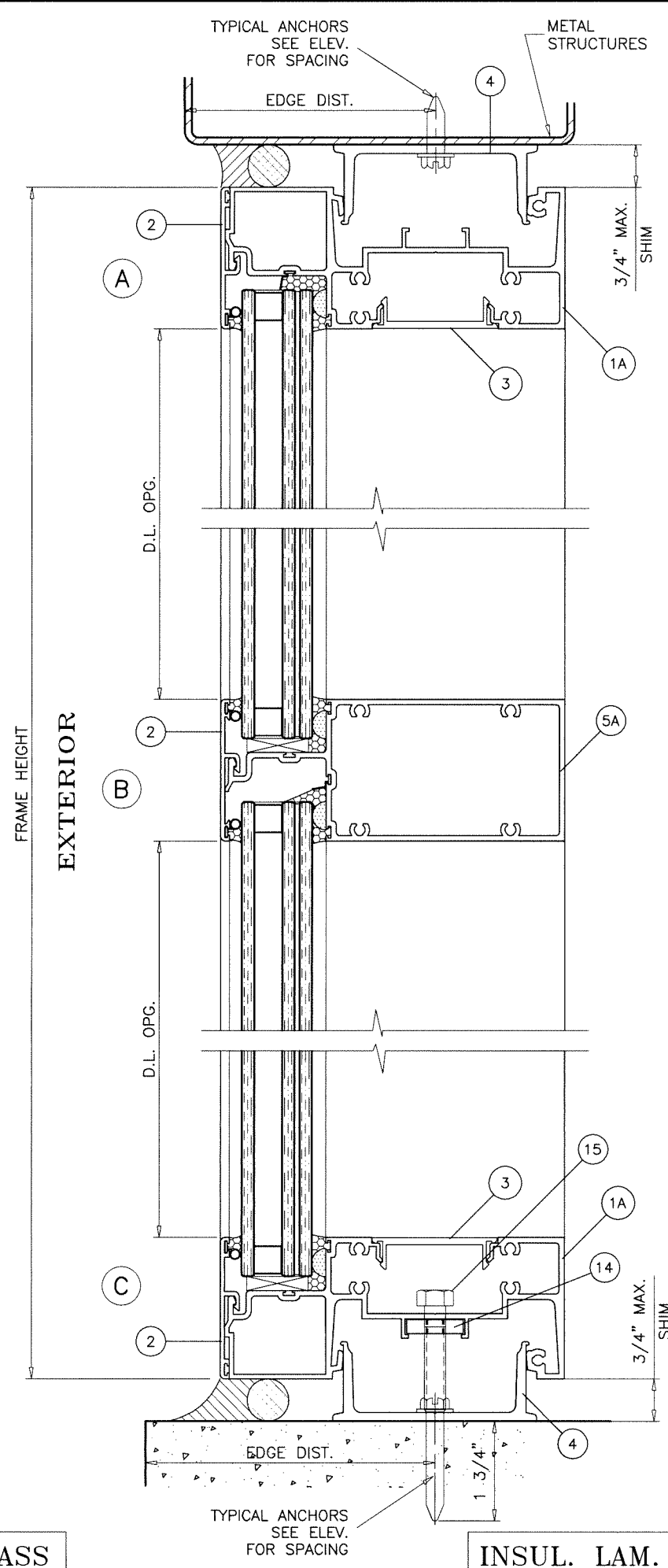
date: 03-28-17  
scale: 3/8" = 1"  
dr. by: TARIQ  
chk. by:

drawing no.  
**W17-32**  
sheet 6 of 13

STORE W17-32ES



LAMINATED GLASS



INSUL. LAM. GLASS

METAL STRUCTURES NOT BY E.S. WDW.  
MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND  
TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A'

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

DIRECTLY INTO CONCRETE (3000 PSI MIN.)  
WITH 1-3/4" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES

INTO CONCRETE = 2-1/2" MIN.

TYPE 'B'

5/16" DIA ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)

DIRECTLY INTO CONCRETE (3000 PSI MIN.)  
WITH 2" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES

INTO CONCRETE = 3-1/8" MIN.

TYPE 'C'

#14 SMS OR SELF DRILLING SCREWS ST/ST (Fu=100 KSI, Fy=65 KSI)

INTO METAL STRUCTURES  
(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)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1" MIN.

TYPE 'D'

#14 SMS OR SELF DRILLING SCREWS ST/ST (Fu=100 KSI, Fy=65 KSI)

INTO METAL STRUCTURES  
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS  
ALUMINUM: 1/4" THK. MIN. (6063-T5 MIN.)  
STEEL: 1/4" THK. MIN. (Fy = 36 KSI MIN.)  
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1" MIN.

TYPE 'E'

5/16" DIA. SELF DRILLING SCREWS (GRADE 5 CRS)

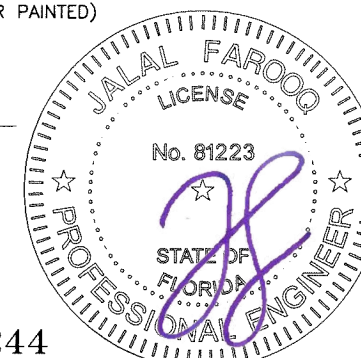
INTO METAL STRUCTURES  
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS  
ALUMINUM: 1/4" THK. MIN. (6063-T5 MIN.)  
STEEL: 1/4" THK. MIN. (Fy = 36 KSI MIN.)  
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1" MIN.

Sealed: 6/26/2024

FL #22244



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

**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

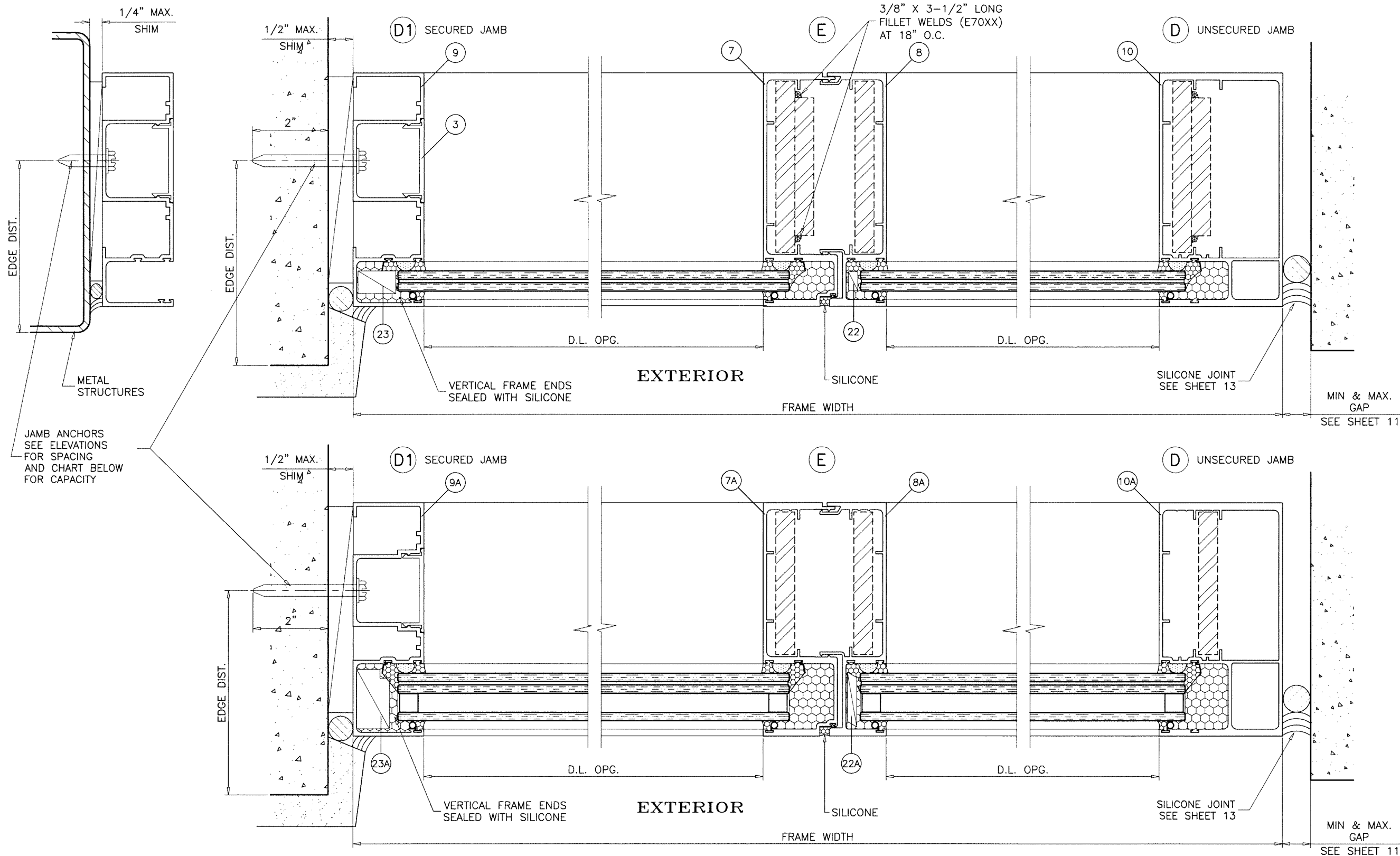
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date: 04-14-13  
scale: 3/8" = 1"  
dr. by: TARIQ  
chk. by:

drawing no.  
**W17-32**

sheet 7 of 13



| JAMB ANCHORS DESIGN LOAD CAPACITY - PSF |                        |                      |                      |                 |                 |
|-----------------------------------------|------------------------|----------------------|----------------------|-----------------|-----------------|
| WIDTH (W)                               | 1/4" MAX. SHIM SPACE   | 3/8" MAX. SHIM SPACE | 1/2" MAX. SHIM SPACE |                 |                 |
|                                         | ANCHORS 'A', 'B' & 'C' | ANCHORS 'A'          | ANCHORS 'B'          | ANCHORS 'A'     | ANCHORS 'B'     |
|                                         | EXT.(+) INT.(-)        | EXT.(+) INT.(-)      | EXT.(+) INT.(-)      | EXT.(+) INT.(-) | EXT.(+) INT.(-) |
| 30"                                     | 180.0                  | 180.0                | 180.0                | 152.1           | 180.0           |
| 36"                                     | 180.0                  | 163.0                | 180.0                | 126.8           | 180.0           |
| 42"                                     | 180.0                  | 139.7                | 180.0                | 108.6           | 180.0           |
| 48"                                     | 180.0                  | 122.3                | 180.0                | 95.1            | 180.0           |
| 54"                                     | 180.0                  | 108.7                | 180.0                | 84.5            | 180.0           |
| 60"                                     | 180.0                  | 97.8                 | 180.0                | 76.1            | 177.8           |

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**a f c**  
STORE W17-32ES

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SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

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revisions:

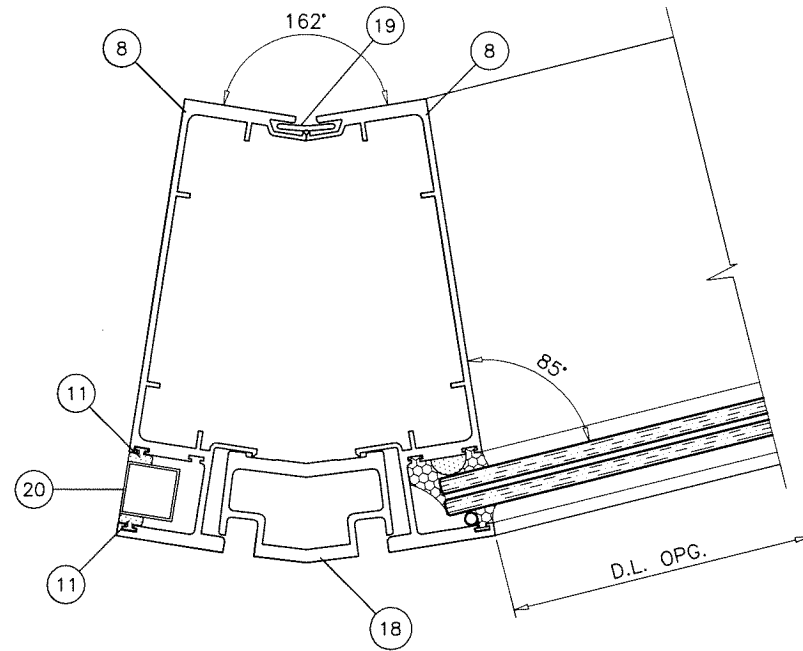
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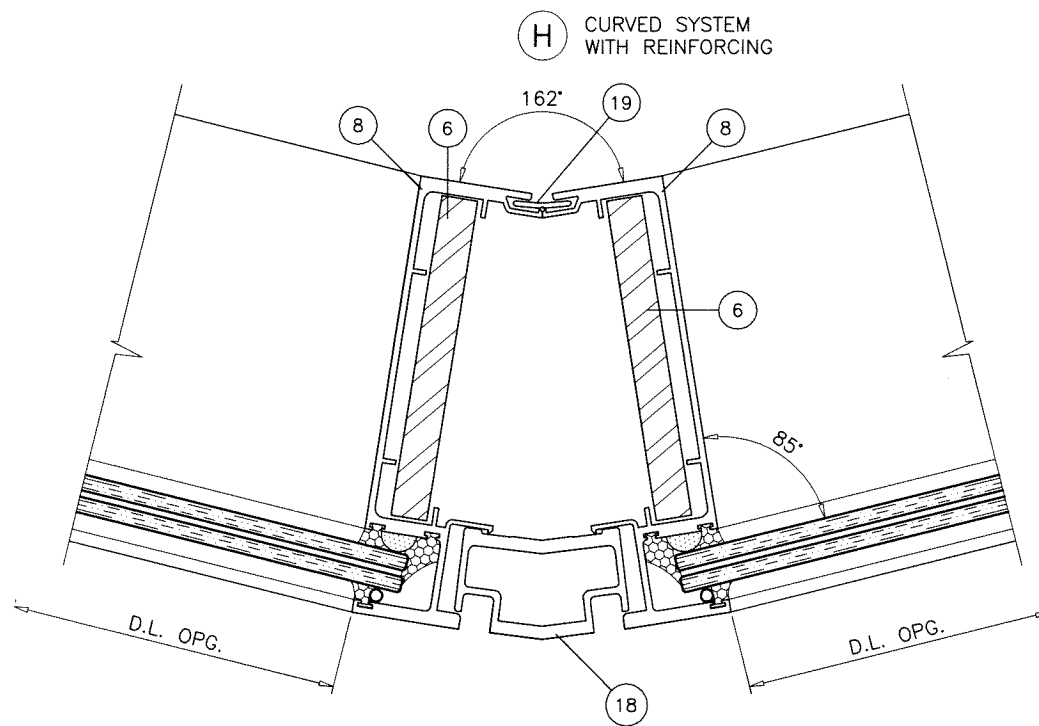
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dr. by: TARIQ  
chk. by:

drawing no.  
**W17-32**  
sheet 8 of 13

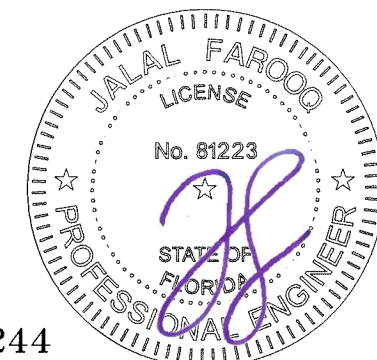
# FRAME JAMB AT CURVED SYSTEM



EXTERIOR



EXTERIOR



Sealed: 6/26/2024

FL #22244

**AL-FAROOQ CORPORATION**  
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**a f c**

STORE W17-32ES

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| revisions: |                     |
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date: 03-28-17

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dr. by: TARIQ

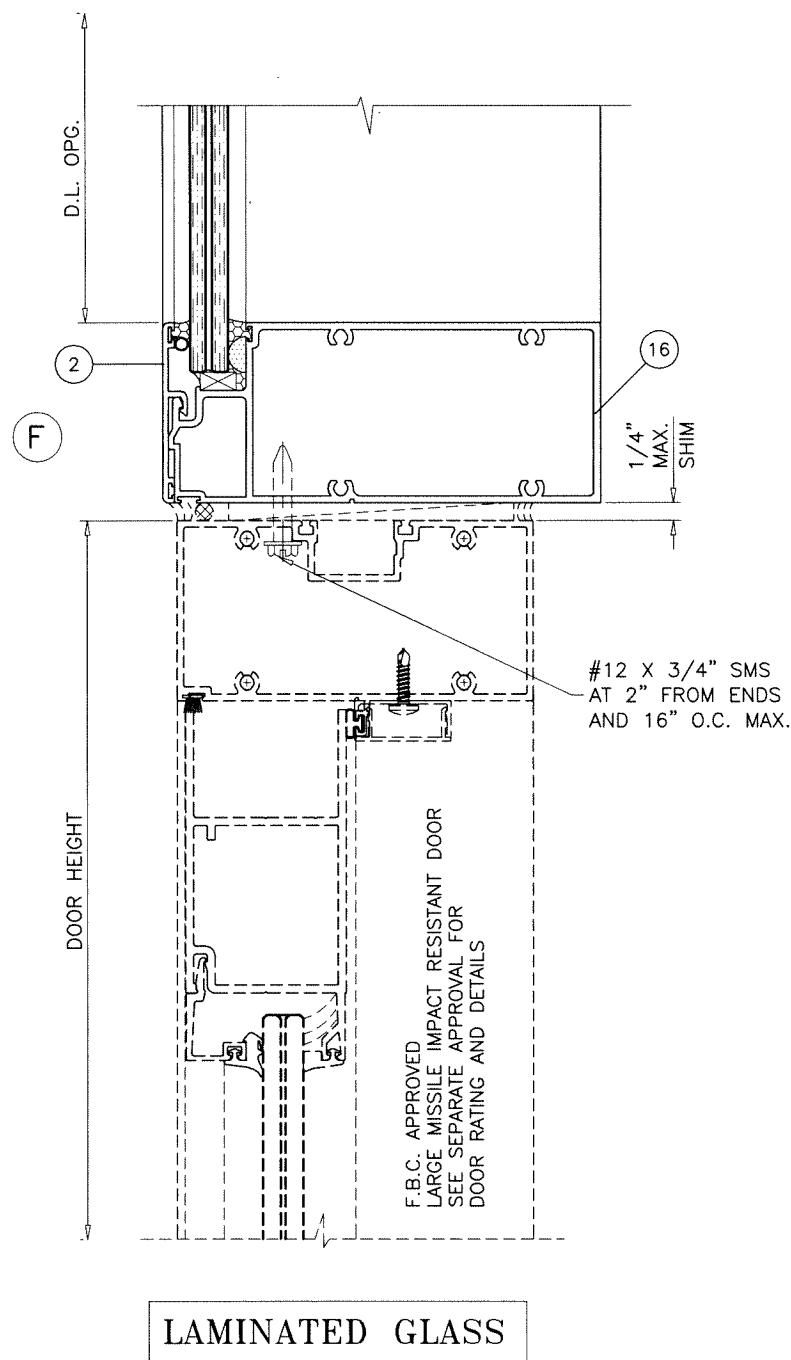
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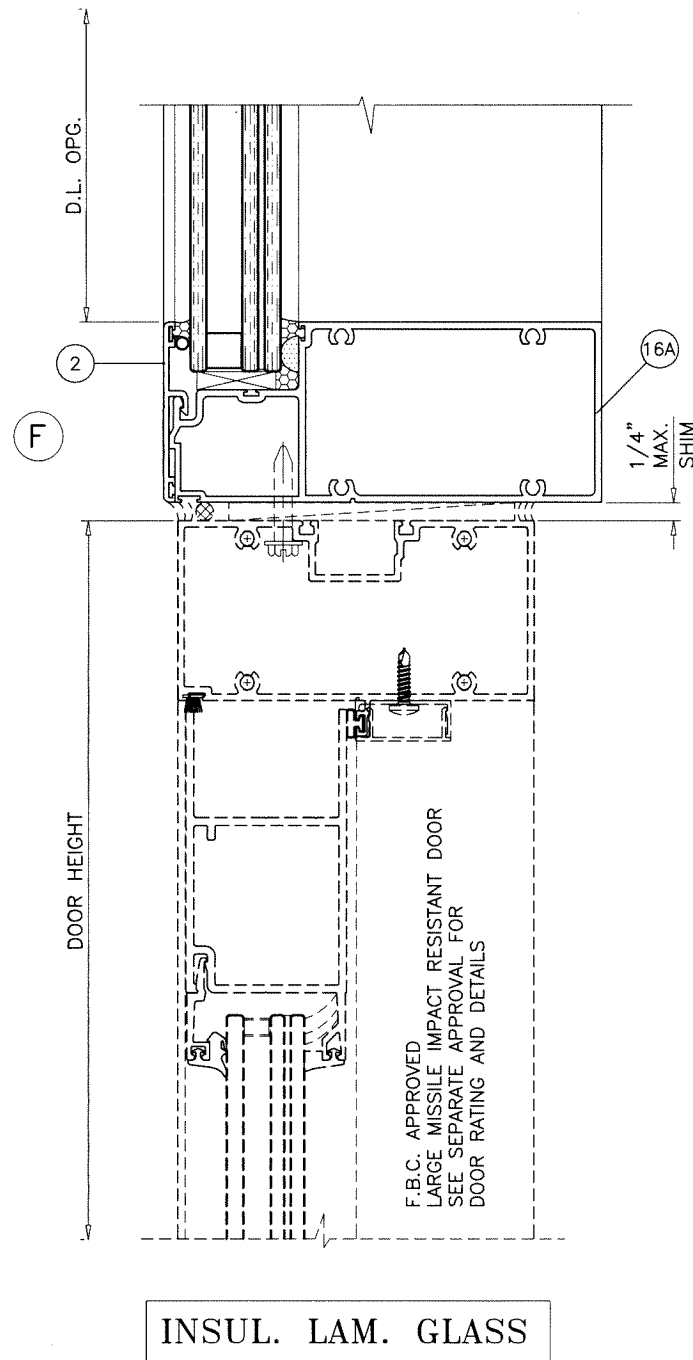
**W17-32**

sheet 8.1 of 13

EXTERIOR



EXTERIOR



SEE SEPARATE APPROVAL FOR DESIGN LOAD  
CAPACITY OF DOORS AND DOOR ANCHORS.

LOWER VALUES FROM DOORS APPROVAL  
OR WINDOW WALL SYSTEM CAPACITY CHARTS  
WILL APPLY TO ENTIRE SYSTEM.

Sealed: 6/26/2024

FL #22244



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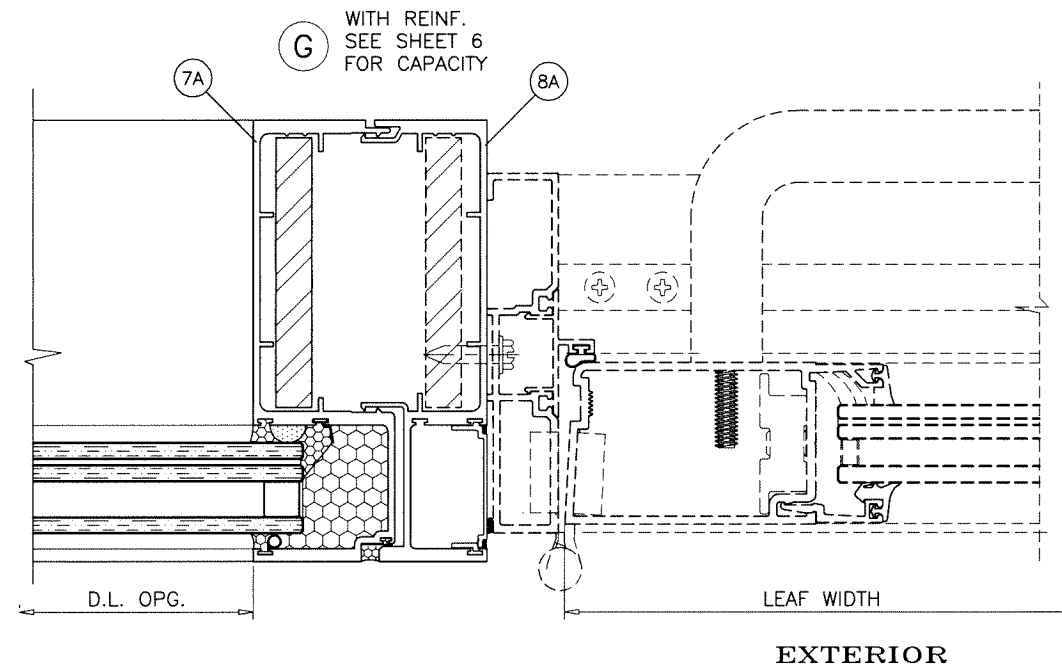
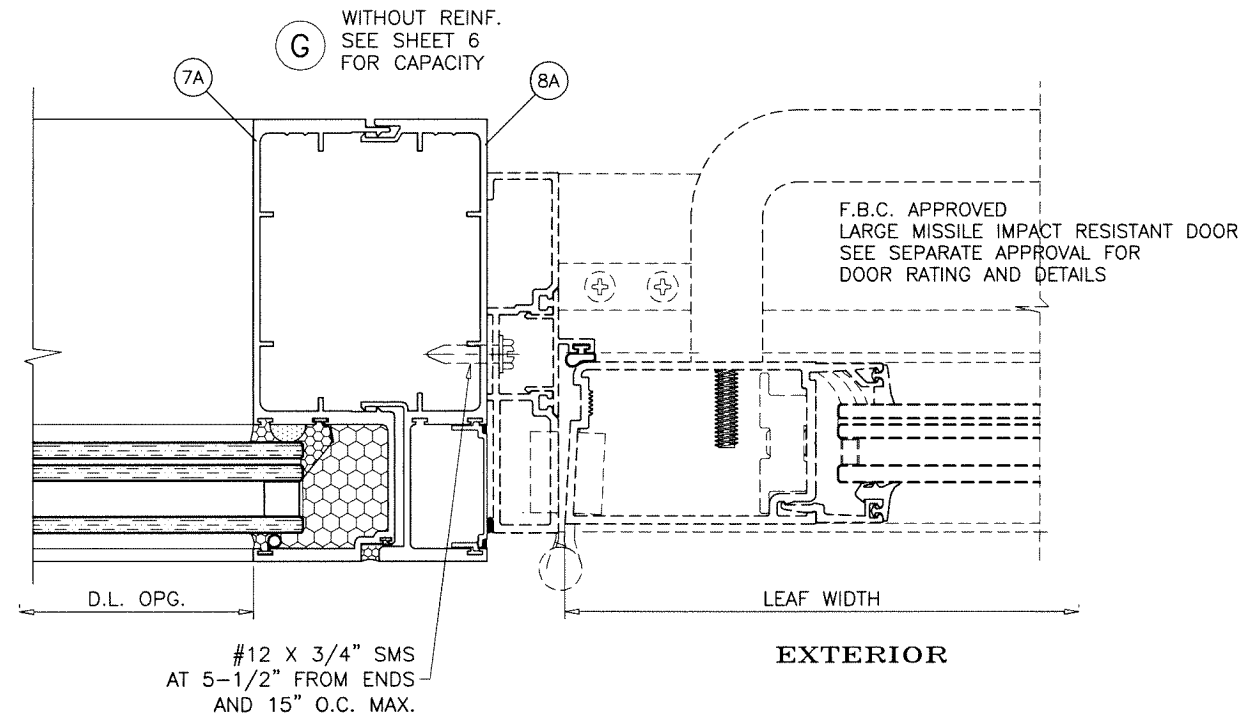
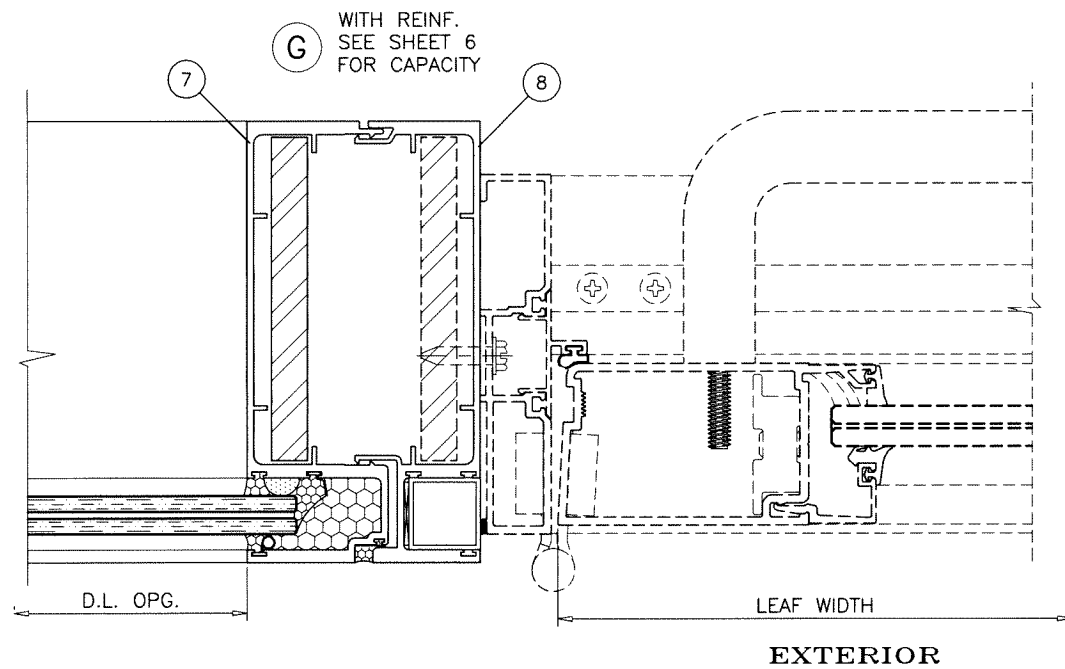
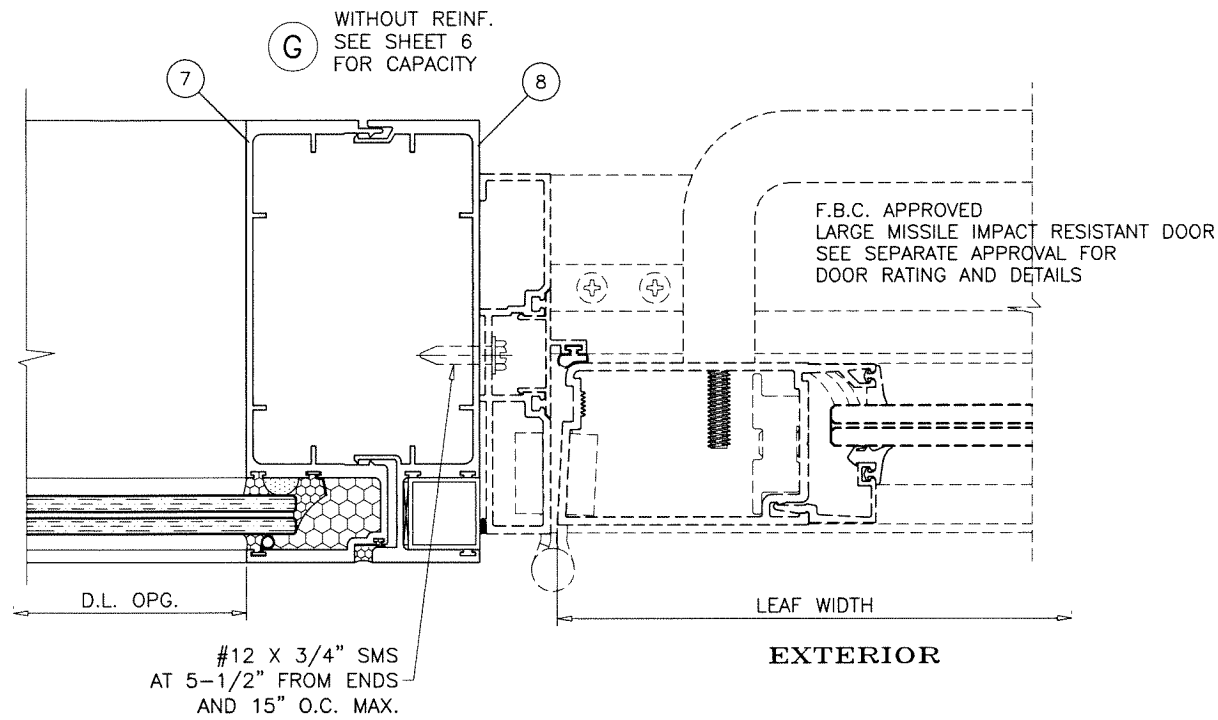
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| drawing no.   |
| W17-32        |
| sheet 9 of 13 |

SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

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(C.A.N. 3538)

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SEE SEPARATE APPROVAL FOR DESIGN LOAD  
CAPACITY OF DOORS AND DOOR ANCHORS.  
LOWER VALUES FROM DOORS APPROVAL  
OR WINDOW WALL SYSTEM CAPACITY CHARTS  
WILL APPLY TO ENTIRE SYSTEM.

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FL #22244



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no date by description

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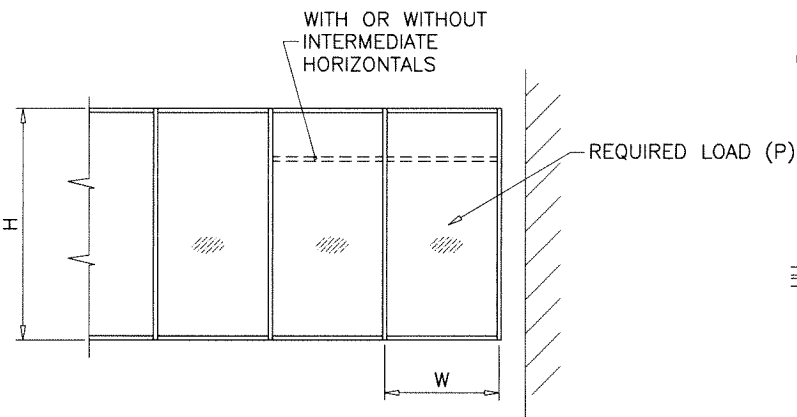
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W17-32  
sheet 10 of 13

a f c

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| UNANCHORED JAMB DEFLECTION AT 100 PSF DESIGN WIND PRESSURE<br>DEFLECTION - IN. (CHART D100) |              |            |        |                   |        |                     |        |
|---------------------------------------------------------------------------------------------|--------------|------------|--------|-------------------|--------|---------------------|--------|
| NOMINAL DIMS.                                                                               |              | LAM. GLASS |        | INSUL. LAM. GLASS |        | LAM. GLASS (CURVED) |        |
| WIDTH (W)                                                                                   | FRAME HEIGHT | UNREINF.   | REINF. | UNREINF.          | REINF. | UNREINF.            | REINF. |
| 30"                                                                                         | 96"          | .079       | .045   | .081              | .056   | .155                | .062   |
| 36"                                                                                         |              | .095       | .054   | .097              | .067   | .186                | .075   |
| 42"                                                                                         |              | .110       | .063   | .114              | .078   | .217                | .087   |
| 48"                                                                                         |              | .126       | .072   | .130              | .090   | .248                | .099   |
| 54"                                                                                         |              | .142       | .081   | .146              | .101   | .279                | .112   |
| 60"                                                                                         |              | .158       | .090   | .162              | .112   | .310                | .124   |
| 30"                                                                                         | 102"         | .100       | .057   | .103              | .071   | .198                | .079   |
| 36"                                                                                         |              | .121       | .069   | .124              | .086   | .237                | .095   |
| 42"                                                                                         |              | .141       | .080   | .145              | .100   | .277                | .111   |
| 48"                                                                                         |              | .161       | .092   | .165              | .114   | .316                | .127   |
| 54"                                                                                         |              | .181       | .103   | .186              | .128   | .369                | .148   |
| 60"                                                                                         |              | .201       | .115   | .207              | .143   | -                   | -      |
| 30"                                                                                         | 108"         | .126       | .072   | .130              | .090   | .249                | .099   |
| 36"                                                                                         |              | .152       | .086   | .156              | .108   | .298                | .119   |
| 42"                                                                                         |              | .177       | .101   | .182              | .126   | .348                | .139   |
| 48"                                                                                         |              | .202       | .115   | .208              | .144   | .398                | .159   |
| 54"                                                                                         |              | .227       | .130   | .234              | .161   | .439                | .176   |
| 60"                                                                                         |              | .253       | .144   | .260              | .179   | -                   | -      |
| 30"                                                                                         | 114"         | .157       | .089   | .161              | .111   | .309                | .124   |
| 36"                                                                                         |              | .188       | .107   | .194              | .134   | .370                | .148   |
| 42"                                                                                         |              | .220       | .125   | .226              | .156   | .432                | .173   |
| 48"                                                                                         |              | .251       | .143   | .258              | .178   | .494                | .198   |
| 54"                                                                                         |              | .282       | .161   | .290              | .200   | -                   | -      |
| 60"                                                                                         |              | .314       | .179   | .323              | .223   | -                   | -      |
| 30"                                                                                         | 120"         | .192       | .110   | .198              | .137   | .379                | .152   |
| 36"                                                                                         |              | .231       | .132   | .238              | .164   | .455                | .182   |
| 42"                                                                                         |              | .269       | .154   | .277              | .191   | .530                | .212   |
| 48"                                                                                         |              | .308       | .176   | .317              | .219   | .606                | .243   |
| 57"                                                                                         |              | .365       | .198   | .376              | .260   | -                   | -      |
| 30"                                                                                         | 126"         | .234       | .133   | .241              | .166   |                     |        |
| 36"                                                                                         |              | .281       | .160   | .289              | .199   |                     |        |
| 42"                                                                                         |              | .328       | .187   | .337              | .233   |                     |        |
| 48"                                                                                         |              | .374       | .213   | .385              | .266   |                     |        |
| 54"                                                                                         |              | .421       | .240   | .433              | .299   |                     |        |
| 30"                                                                                         | 132"         | .282       | .161   | .290              | .200   |                     |        |
| 36"                                                                                         |              | .338       | .193   | .348              | .240   |                     |        |
| 42"                                                                                         |              | .395       | .225   | .406              | .280   |                     |        |
| 48"                                                                                         |              | .451       | .257   | .464              | .320   |                     |        |
| 52"                                                                                         |              | .488       | .278   | .503              | .347   |                     |        |
| 30"                                                                                         | 138"         | .337       | .192   | .346              | .239   |                     |        |
| 36"                                                                                         |              | .404       | .230   | .416              | .287   |                     |        |
| 42"                                                                                         |              | .471       | .269   | .485              | .335   |                     |        |
| 48"                                                                                         |              | .539       | .307   | .554              | .383   |                     |        |
| 30"                                                                                         | 144"         | .399       | .228   | .411              | .284   |                     |        |
| 36"                                                                                         |              | .479       | .273   | .493              | .340   |                     |        |
| 42"                                                                                         |              | .559       | .319   | .575              | .397   |                     |        |
| 48"                                                                                         |              | .639       | .364   | .657              | .454   |                     |        |



UNANCHORED JAMBS MOVEMENT AND JOINT SEALANT DETERMINATION  
CHART D100 AT LEFT TO BE USED TO DETERMINE JAMB DEFLECTION  
AT 100 PSF DESIGN WIND PRESSURE FOR ANY OF THE POSSIBLE  
UNANCHORED CONDITIONS.  
THIS VALUE CAN BE USED TO DETERMINE THE ACTUAL PROJECT DEFLECTION  
USING INSTRUCTIONS SHOWN BELOW.  
USING GAP/DEFLECTION CHART DETERMINE THE MAX. DEFLECTION ALLOWED  
FOR THE GAPS SHOWN FOR TWO SEALANT TYPES.

#### INSTRUCTIONS: TO OBTAIN DEFLECTION AT PROJECT

1. DETERMINE APPLICABLE JAMB (UNREINFORCED OR REINFORCED)
2. OBTAIN REQUIRED DESIGN WIND PRESSURE.
3. READ DEFLECTION AT 100 PSF (D100) FROM CHART AT LEFT.
4. OBTAIN PROJECT DEFLECTION (PD)

$$PD = \frac{P}{100} \times D100$$

(PD MUST NOT EXCEED L/180)

5. FROM CHART BELOW DETERMINE MAX. DEFLECTION ALLOWABLE FOR A GIVEN PROJECT GAP AND SEALANT TYPE.

| GAP/DEFL. CHART |            |
|-----------------|------------|
| GAP. IN.        | MAX. DEFL. |
| .250"           | .433"      |
| .375"           | .649"      |
| .500"           | .800"      |
| .625"           | .800"      |
| .750"           | .800"      |
| 1.000"          | .800"      |

MAXIMUM GAP = 1"  
MINIMUM GAP = 1/4"

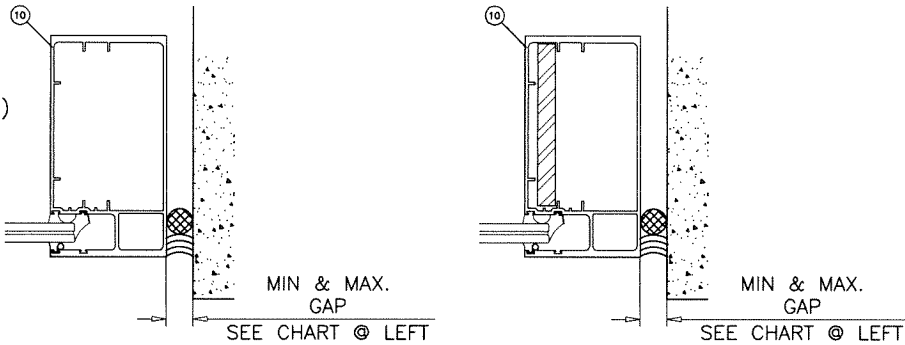
EXAMPLE:  
FOR A GAP OF 1/2"  
MAX. DEFLECTION ALLOWED = .800" FOR 100% STRETCH SEALANT

ALTERNATE SEALANTS AT JAMB GAPS CAN BE  
DESIGNED BY ENGINEER OF RECORD  
BASED ON MANUFACTURER GUIDE LINES.

GAPS LESS THAN 1/4" MAY BE DESIGNED BY  
ENGINEER OF RECORD BY THE USE OF BOND  
BREAKER TAPE OR 15% OF GAP ALLOWED MOVEMENT.

NOTE:  
DATA IN THIS SHEET MAY BE USED TO QUALIFY SEALANT  
TO BE USED AT UNANCHORED JAMBS.  
MAX. MOVEMENT CONSIDERED=100% STRETCH.  
PLEASE REFER TO SEALANT MANUFACTURER'S DATA AND  
APPLICATION MANUAL FOR COMPATABILITY OF SEALANT TO  
SUBSTRATE & WINDOW WALL MATERIAL/FINISH AND  
COMPLIANCE FOR WARRANTY.

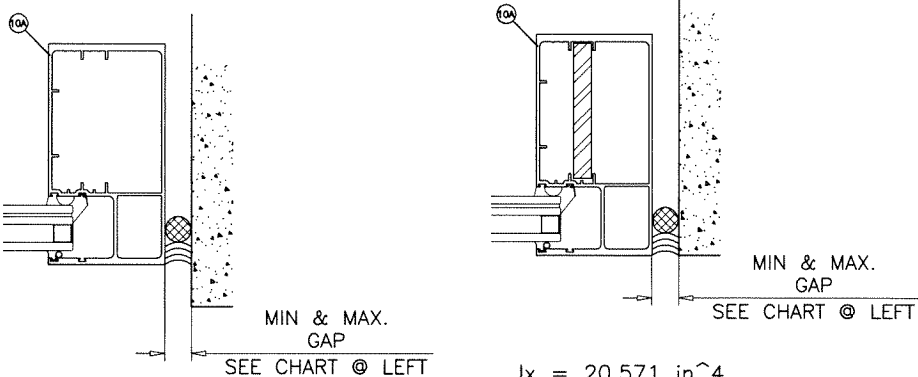
#### LAMINATED GLASS



$I_x = 14.611 \text{ in}^4$   
UNREINFORCED

$I_x = 25.622 \text{ in}^4$   
(IN TERMS OF ALUMINUM)  
REINFORCED

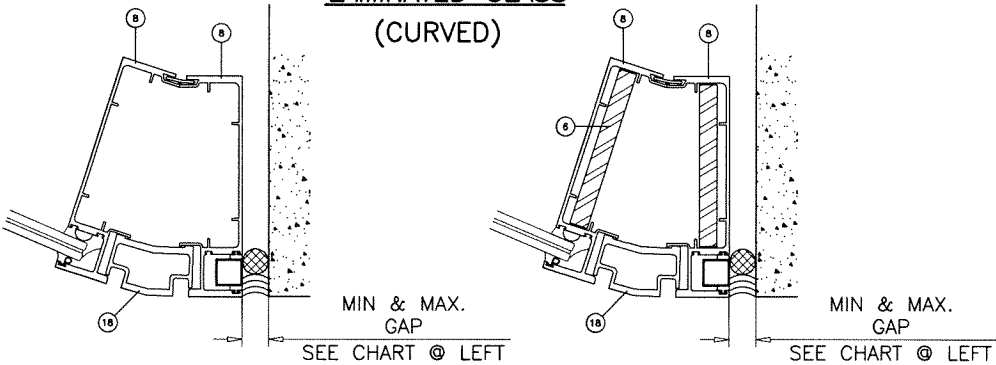
#### INSUL. LAM. GLASS



$I_x = 14.199 \text{ in}^4$   
UNREINFORCED

$I_x = 20.571 \text{ in}^4$   
(IN TERMS OF ALUMINUM)  
REINFORCED

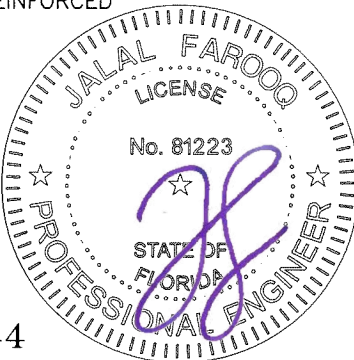
#### LAMINATED GLASS (CURVED)



$I_x = 14.7036 \text{ in}^4$   
UNREINFORCED

$I_x = 25.7149 \text{ in}^4$   
(IN TERMS OF ALUMINUM)  
REINFORCED

Sealed: 6/26/2024



FL #22244

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| revisions: | no | date | by | description |
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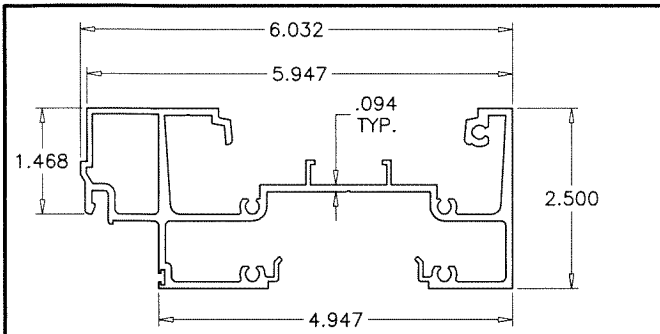
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| chk. by: |          |

drawing no.

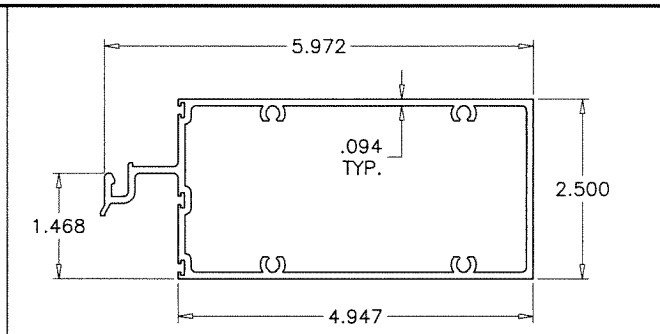
W17-32

sheet 11 of 13

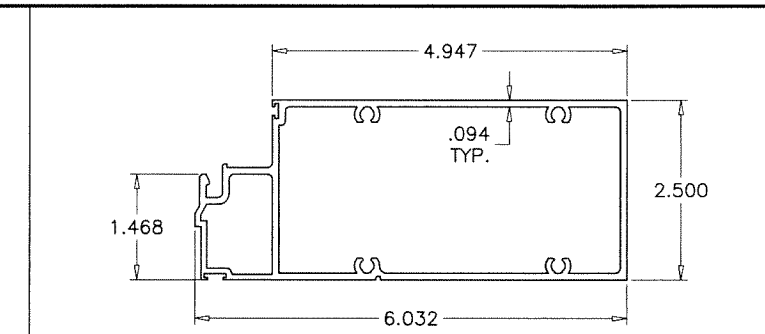
STORE W17-32ES



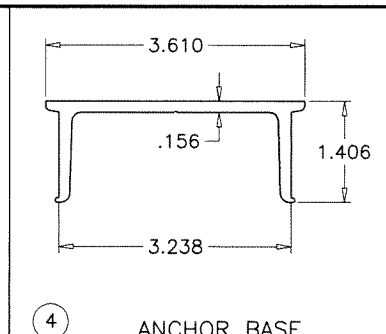
① FRAME HEAD/SILL (LAM. GLASS)



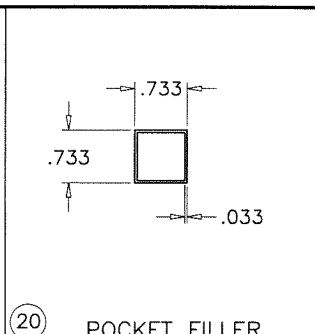
⑤ INTERMEDIATE HORIZONTAL (LAM. GLASS)



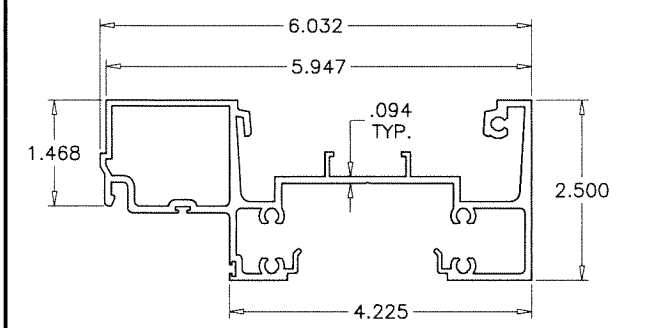
⑩ TRANSOM MULLION (LAM. GLASS)



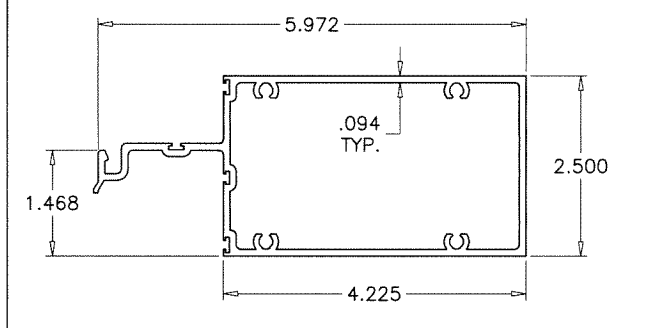
④ ANCHOR BASE



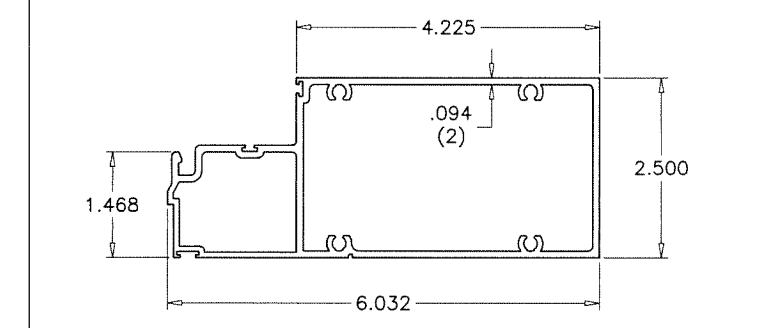
②① POCKET FILLER



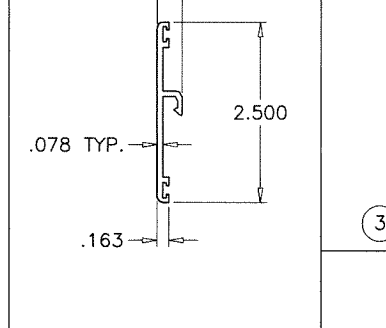
①A FRAME HEAD/SILL (LAM. INSUL. GLASS)



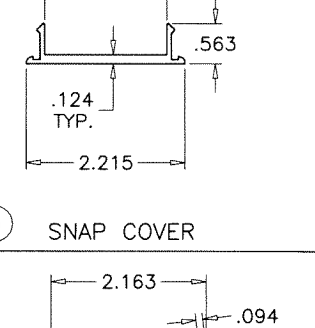
⑤A INTERMEDIATE HORIZONTAL (LAM. INSUL. GLASS)



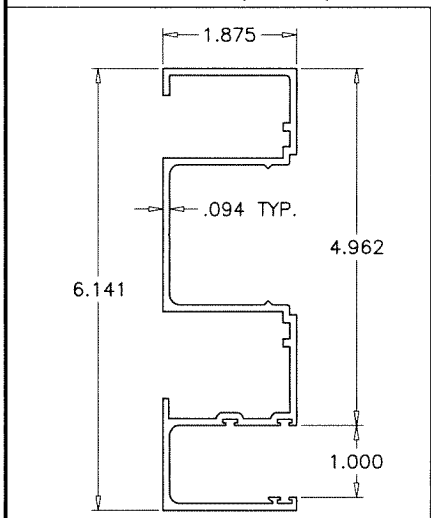
⑩A TRANSOM MULLION (LAM. INSUL. GLASS)



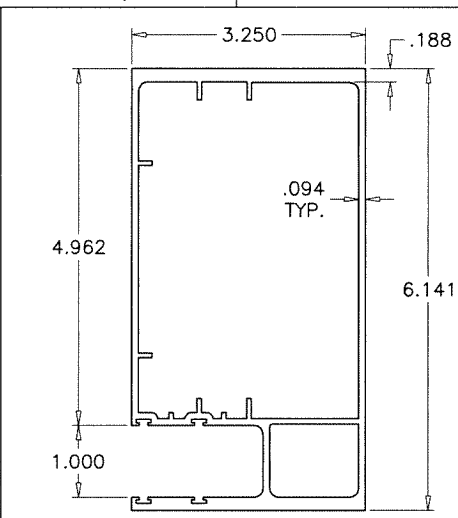
② GLAZING STOP



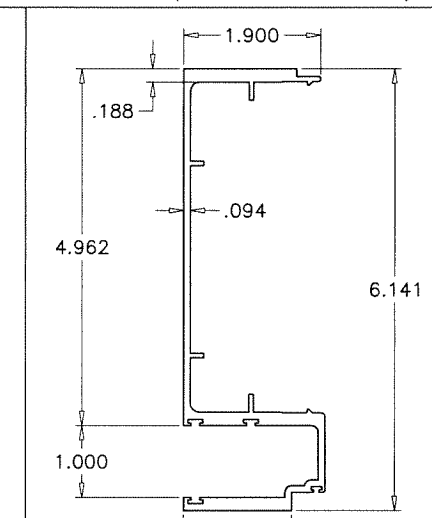
③ SNAP COVER



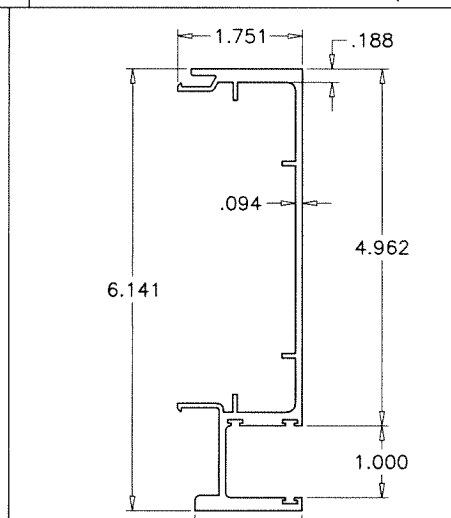
⑨ SECURED JAMB (LAM. GLASS)



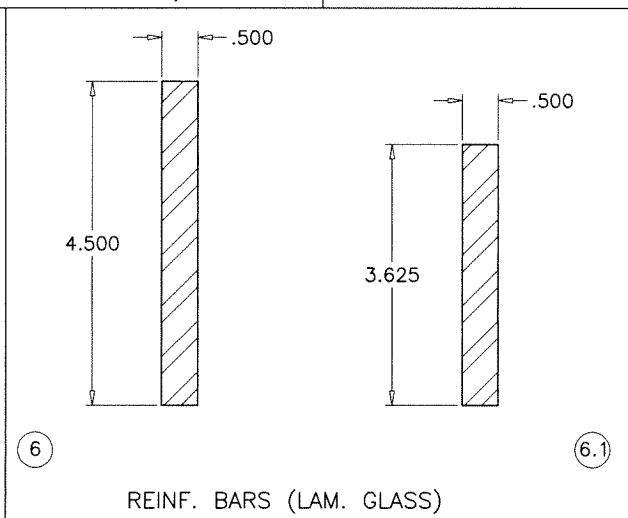
⑩ UNSECURED JAMB (LAM. GLASS)



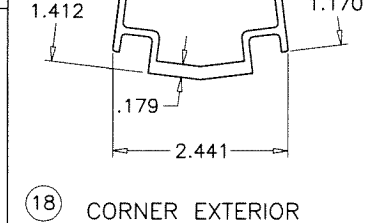
⑦ MALE MULLION (LAM. GLASS)



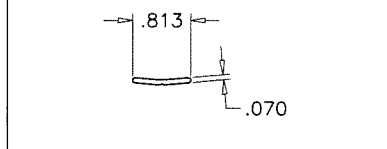
⑧ FEMALE MULLION (LAM. GLASS)



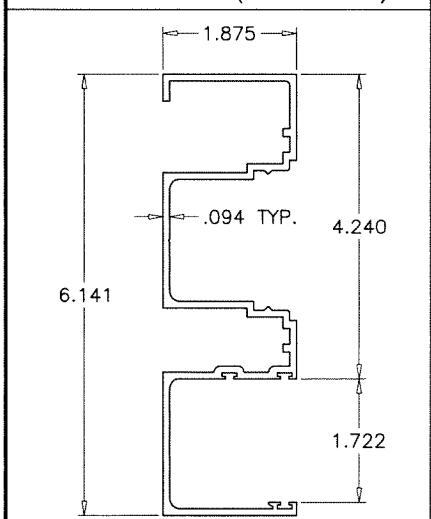
⑥ REINFORCING BARS (LAM. GLASS)



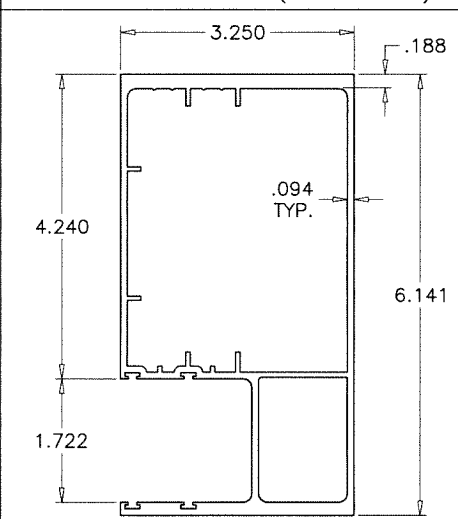
⑩⑧ CORNER EXTERIOR



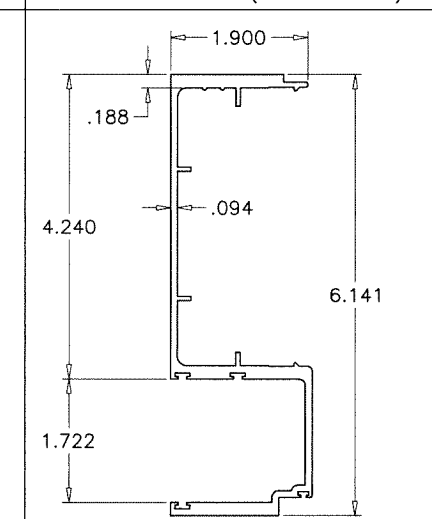
⑩⑨ CORNER INTERIOR



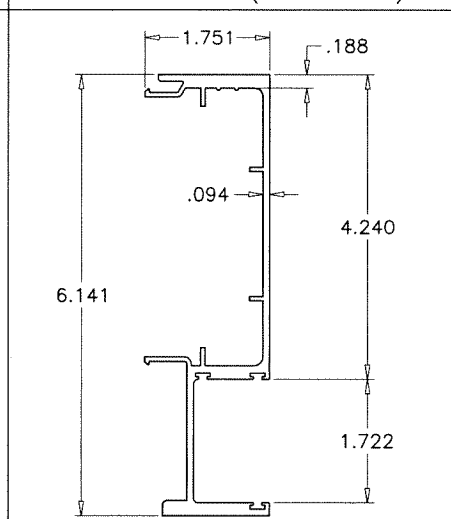
⑨A SECURED JAMB (LAM. INSUL. GL.)



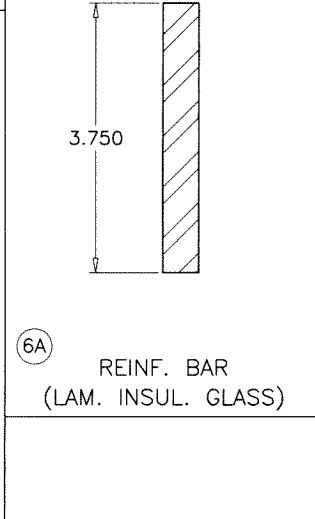
⑩A UNSECURED JAMB (LAM. INSUL. GL.)



⑦A MALE MULLION (LAM. INSUL. GL.)



⑧A FEMALE MULLION (LAM. INSUL. GL.)



⑥A REINFORCING BAR (LAM. INSUL. GLASS)

Sealed: 6/26/2024

FL #22244



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

**af c**

STORE W17-32ES

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SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

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date: 03-28-17  
scale: 3/8" = 1"  
dr. by: TARIQ  
chk. by:  

drawing no. **W17-32**  
sheet 12 of 13

| ITEM NO. | PART NUMBER  | QUANTITY | DESCRIPTION                                 | MATERIAL | MANF./SUPPLIER/REMARKS |
|----------|--------------|----------|---------------------------------------------|----------|------------------------|
| 1        | ES7001B      | AS REQD. | FRAME HEAD/SILL (LAM. GLASS)                | 6005-T5  | -                      |
| 1A       | ES7021B      | AS REQD. | FRAME HEAD/SILL (INSUL. LAM. GLASS)         | 6005-T5  | -                      |
| 2        | ES7006       | AS REQD. | GLAZING STOP                                | 6063-T6  | -                      |
| 3        | ES7003       | AS REQD. | SNAP COVER                                  | 6063-T5  | -                      |
| 4        | ES7004       | AS REQD. | ANCHOR BASE, LENGTH AS REQD.                | 6005-T5  | -                      |
| 5        | ES7005       | AS REQD. | INTERMEDIATE HORIZONTAL (LAM. GLASS)        | 6005-T5  | -                      |
| 5A       | ES7022       | AS REQD. | INTERMEDIATE HORIZONTAL (INSUL. LAM. GLASS) | 6005-T5  | -                      |
| 6        | -            | AS REQD. | REINFORCING BAR (LAM. GLASS)                | STEEL    | A36, Fu MIN. = 58 KSI  |
| 6.1      | -            | AS REQD. | REINFORCING BAR (LAM. GLASS)                | STEEL    | A36, Fu MIN. = 58 KSI  |
| 6A       | -            | AS REQD. | REINFORCING BAR (INSUL. LAM. GLASS)         | STEEL    | A36, Fu MIN. = 58 KSI  |
| 7        | ES7007       | AS REQD. | MALE MULLION (LAM. GLASS)                   | 6005-T5  | -                      |
| 7A       | ES7023       | AS REQD. | MALE MULLION (INSUL. LAM. GLASS)            | 6005-T5  | -                      |
| 8        | ES7008       | AS REQD. | FEMALE MULLION (LAM. GLASS)                 | 6005-T5  | -                      |
| 8A       | ES7024       | AS REQD. | FEMALE MULLION (INSUL. LAM. GLASS)          | 6005-T5  | -                      |
| 9        | ES7009       | AS REQD. | SECURED JAMB (LAM. GLASS)                   | 6063-T6  | -                      |
| 9A       | ES7025       | AS REQD. | SECURED JAMB (INSUL. LAM. GLASS)            | 6063-T6  | -                      |
| 10       | ES-7010A     | AS REQD. | UNSECURED JAMB (LAM. GLASS)                 | 6005-T5  | -                      |
| 10A      | ES-7026A     | AS REQD. | UNSECURED JAMB (INSUL. LAM. GLASS)          | 6005-T5  | -                      |
| 11       | ES7011       | AS REQD. | BUMPON SPACER                               | SILICONE | DUROMETER 70±5 SHORE A |
| 11A      | ES-8011A     | AS REQD. | BUMPON SPACER                               | SILICONE | DUROMETER 70±5 SHORE A |
| 12       | ES-7000-G01  | AS REQD. | EXTERIOR GLASS SEAL                         | SILICONE | DUROMETER 75±5 SHORE A |
| 12A      | ES-4018A     | AS REQD. | EXTERIOR GLASS SEAL                         | SILICONE | DUROMETER 75±5 SHORE A |
| 13       | #12 X 1"     | AS REQD. | FRAME ASSEMBLY SCREWS                       | -        | PH SMS                 |
| 13A      | #14 X 1"     | AS REQD. | FRAME ASSEMBLY SCREWS                       | -        | PH SMS                 |
| 14       | -            | AS REQD. | 1/4" X 1" BAR WITH 3/8" THREADED HOLE       | ALUMINUM | -                      |
| 15       | 3/8" BOLT    | AS REQD. | LEVELING SCREW                              | ST/ST    | -                      |
| 16       | -            | AS REQD. | TRANSOM MULLION (LAM. GLASS)                | 6005-T5  | -                      |
| 16A      | -            | AS REQD. | TRANSOM MULLION (INSUL. LAM. GLASS)         | 6005-T5  | -                      |
| 17       | 80-334A      | 2/ LITE  | SETTING BLOCK (LAM. GLASS)                  | SILICONE | DUROMETER 80±5 SHORE A |
| 17A      | ES-4520-B02A | 2/ LITE  | SETTING BLOCK (INSUL. LAM. GLASS)           | SILICONE | DUROMETER 80±5 SHORE A |
| 18       | ES-7000-402  | AS REQD. | CORNER EXTERIOR                             | 6005-T5  | -                      |
| 19       | ES-7000-403  | AS REQD. | CORNER INTERIOR                             | 6005-T5  | -                      |
| 20       | TGT-115      | AS REQD. | POCKET FILLER                               | 6063-T6  | -                      |
| 21       | ES-7000-G02  | AS REQD. | SILICONE DAM                                | SILICONE | DUROMETER 60±5 SHORE A |
| 22       | 80-378A      | AS REQD. | SIDE BLOCK (LAM. GLASS)                     | SILICONE | DUROMETER 80±5 SHORE A |
| 22A      | ES-7000-B01A | AS REQD. | SIDE BLOCK (INSUL. LAM. GLASS)              | SILICONE | DUROMETER 80±5 SHORE A |
| 23       | ES-21-B02A   | AS REQD. | SIDE BLOCK (LAM. GLASS)                     | SILICONE | DUROMETER 80±5 SHORE A |
| 23A      | ES-9550-B02A | AS REQD. | SIDE BLOCK (INSUL. LAM. GLASS)              | SILICONE | DUROMETER 80±5 SHORE A |

SEALANTS:

ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER OF GLAZING BEAD TO FRAME SEALED WITH SILICONE SEALANT.

Sealed: 6/26/2024

FL #22244



**a f c**

**AL-FAROOQ CORPORATION**  
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2288 SUNSET BLVD, SUITE 220  
MIAMI, FLORIDA 33178  
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(C.A.N. 3538)

SERIES 7000 ALUM WINDOW WALL SYSTEM (L.M.I.)

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date: 03-28-17

scale: 3/8" = 1"

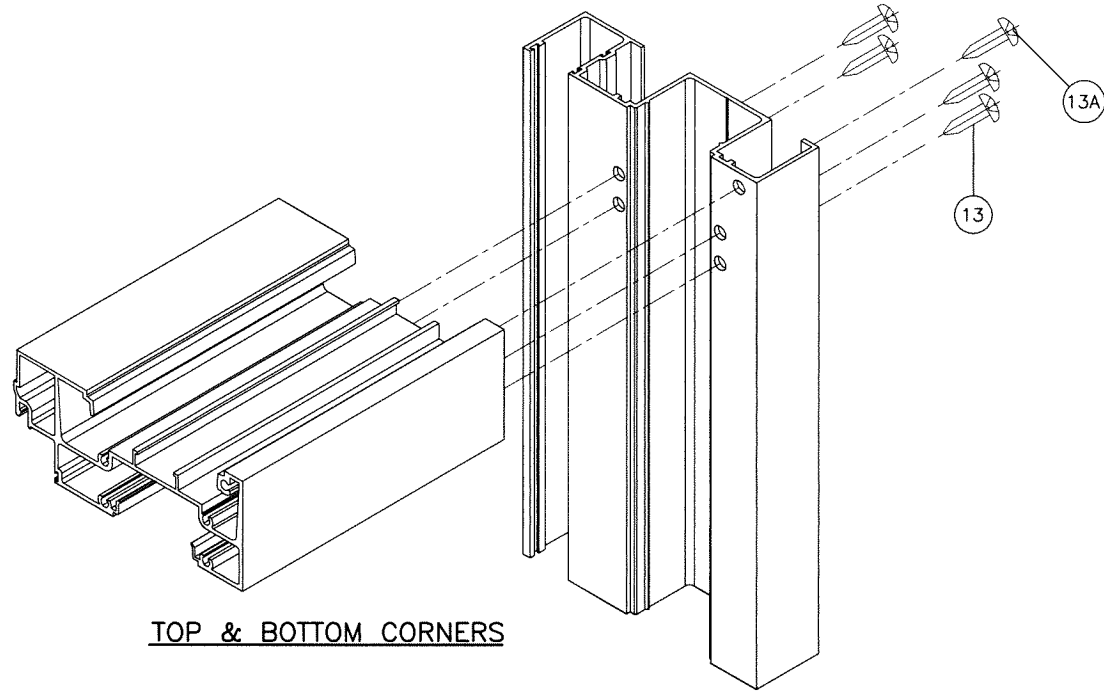
dr. by: TARIQ

chk. by:

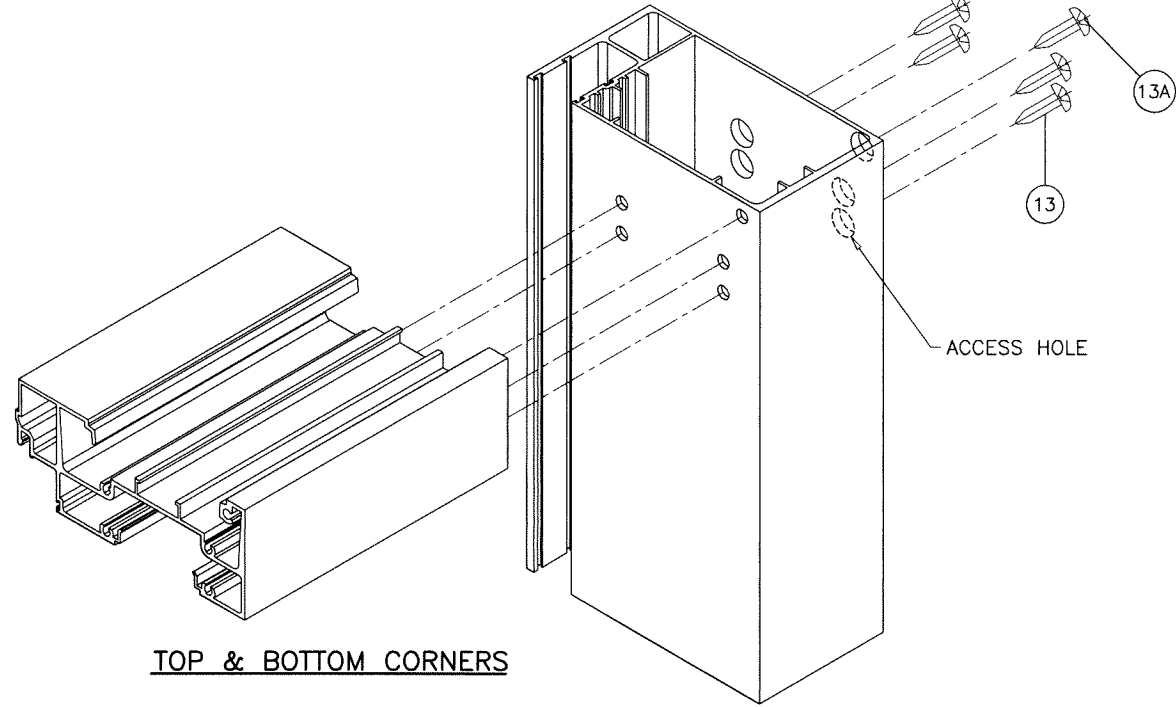
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**W17-32**

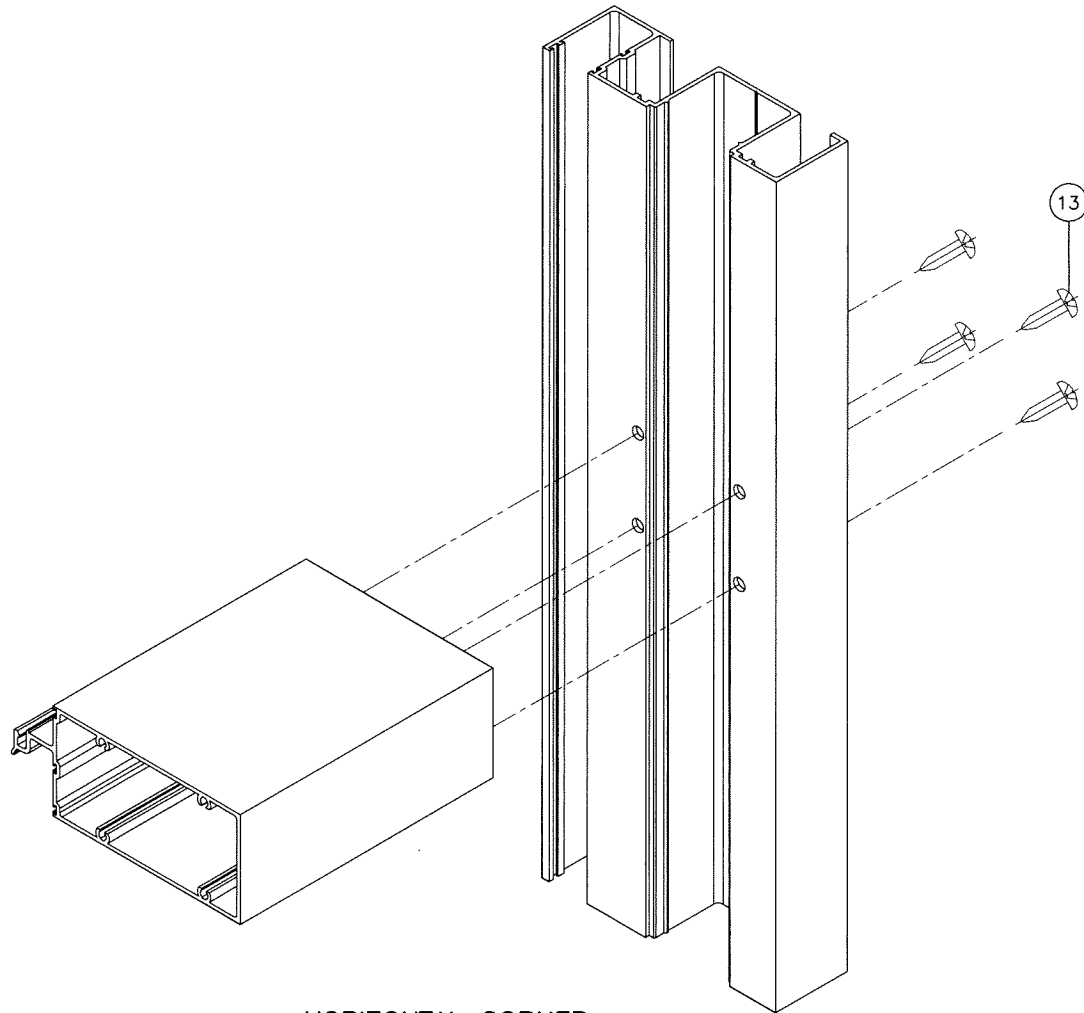
sheet 13 of 13



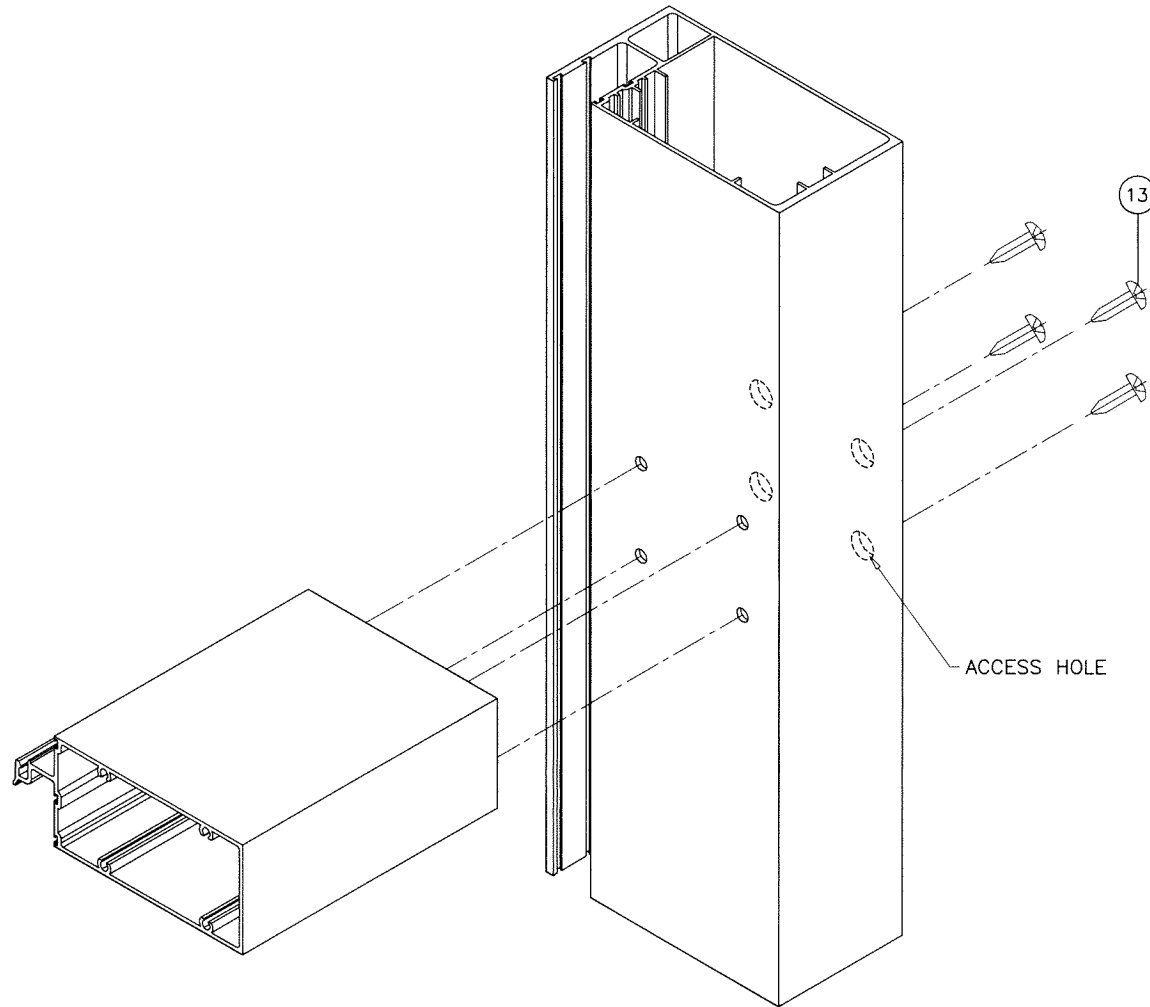
TOP & BOTTOM CORNERS



TOP & BOTTOM CORNERS



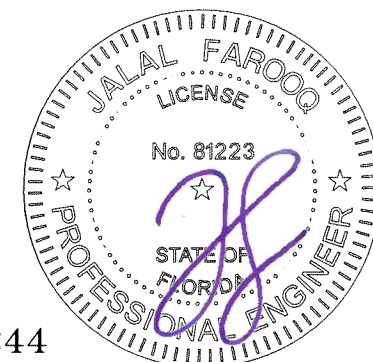
HORIZONTAL CORNER



HORIZONTAL CORNER

Sealed: 6/26/2024

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STORE W17-32ES

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sheet 13.1 of 13