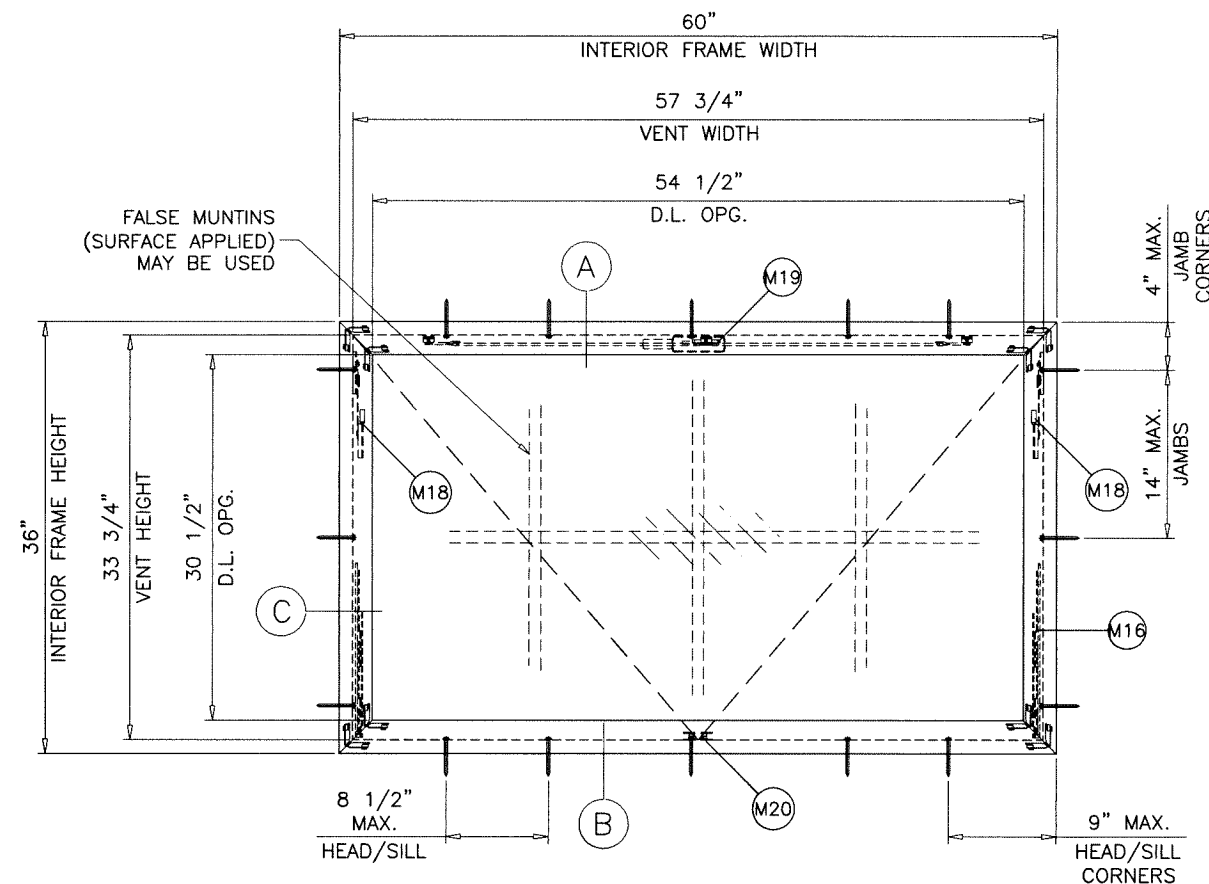
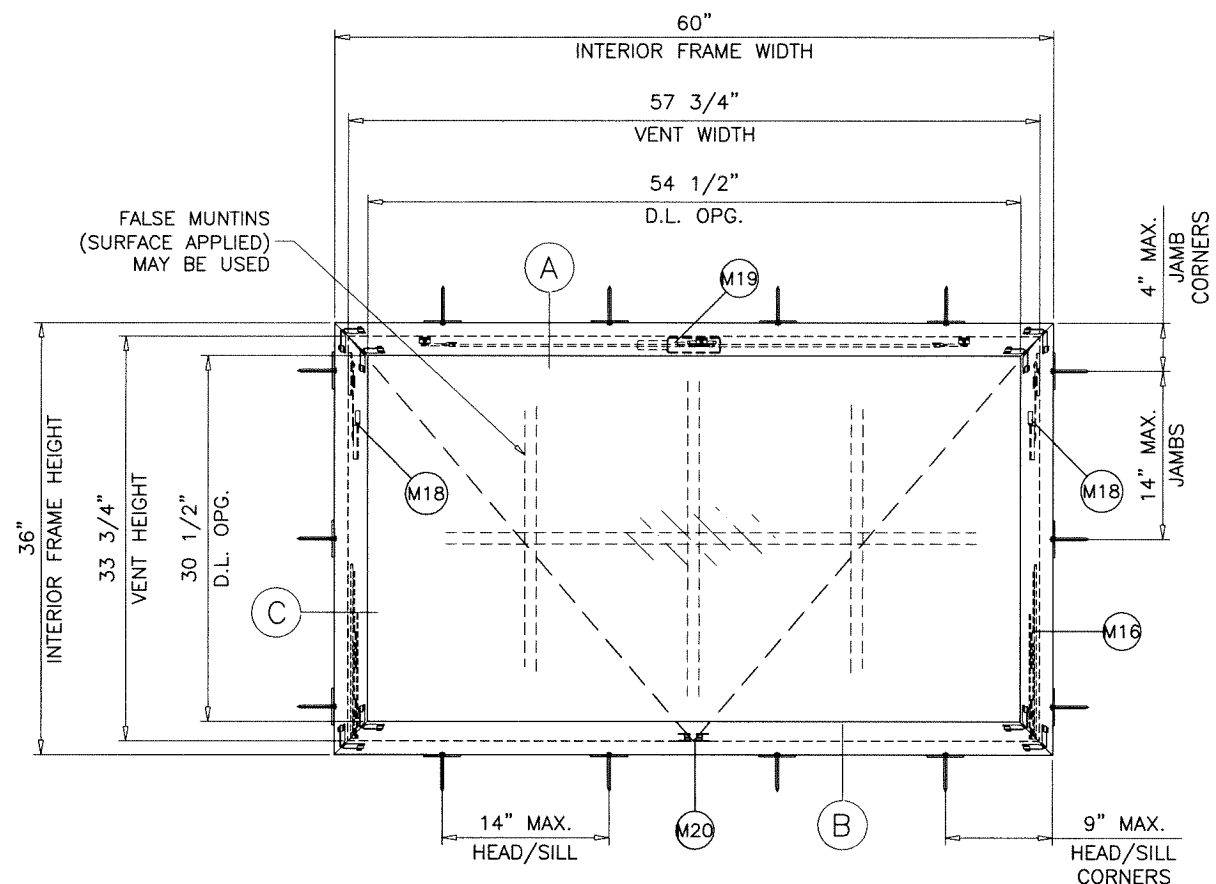




**TYPICAL ELEVATION**  
ANCHORS THRU WDW. FRAMES



**TYPICAL ELEVATION**  
ANCHORS THRU STRAP CLIPS

**SERIES ES-P251 (N.I.)**  
**ALUMINUM THERMALLY BROKEN**  
**PROJECT-IN (HOPPER) WINDOW**

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE COMBINATIONS OF HOPPER/HOPPER OR HOPPER WITH OTHER WINDOW TYPES IN MODULES OF TWO OR MORE WINDOWS USING F.B.C. APPROVED MULLIONS IN BETWEEN. LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION APPROVAL WILL APPLY TO ENTIRE SYSTEM.

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

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

ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS AND INSTALLED PER MANUF'S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

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

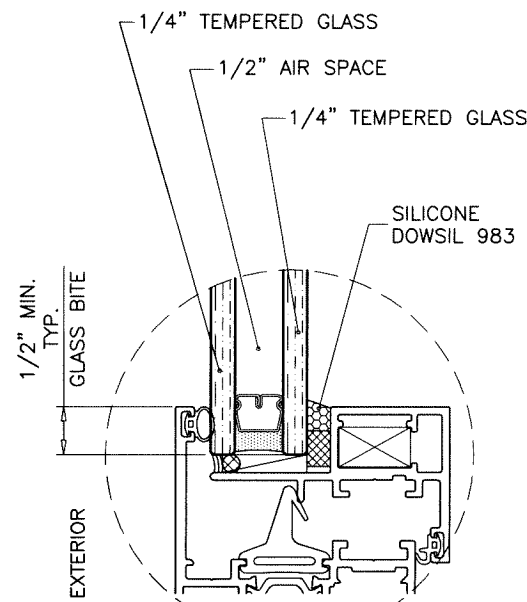
ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

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

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, i.e. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR WATER INFILTRATION RESISTANCE ETC. CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL.

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

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



**GLAZING DETAIL**  
1" OVERALL INSUL. GLASS

**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

NOTE:  
GLASS CAPACITIES ON THIS SHEET ARE  
BASED ON ASTM E1300-16 (3 SEC. GUSTS)  
AND FLORIDA BUILDING COMMISSION  
DECLARATORY STATEMENT DCA05-DEC-219

**MAXIMUM DESIGN LOAD RATING = + 70.0 PSF**  
(FOR SIZE SHOWN ABOVE OR SMALLER) **- 70.0 PSF**

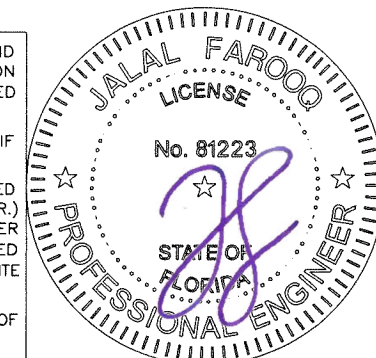
WINDOWS NOT RATED FOR IMPACT.  
INSTALLATION OF THIS SYSTEM OUTSIDE THE HVHZ AREA SHALL MEET  
THE APPLICABLE REQUIREMENTS FOR WIND BORNE DEBRIS PROTECTION.

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

Sealed: 9/1/2026

FL #19654

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.



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978  
COMP-ANL\W15-110ESW

ES-P251 ALUM THERMALLY BROKEN PROJECT-IN W. (N.I.)  
**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

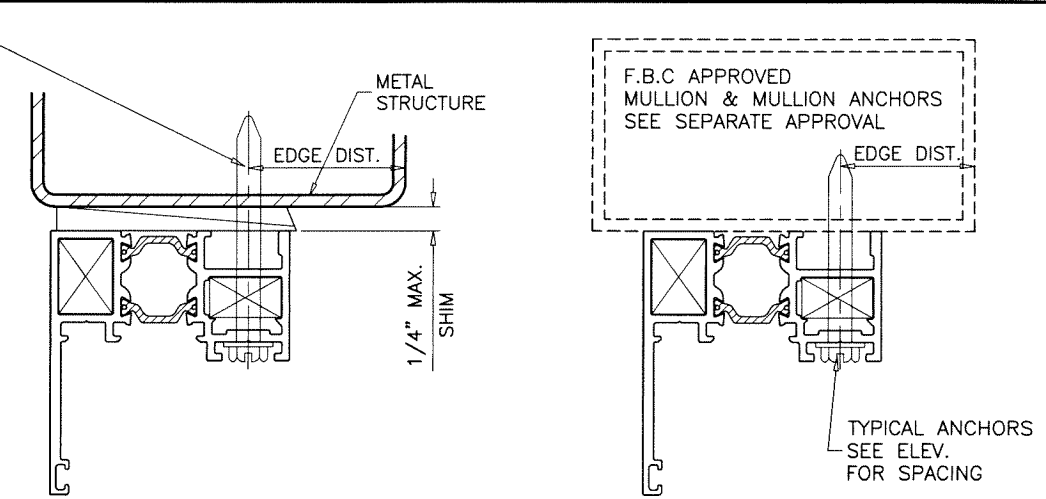
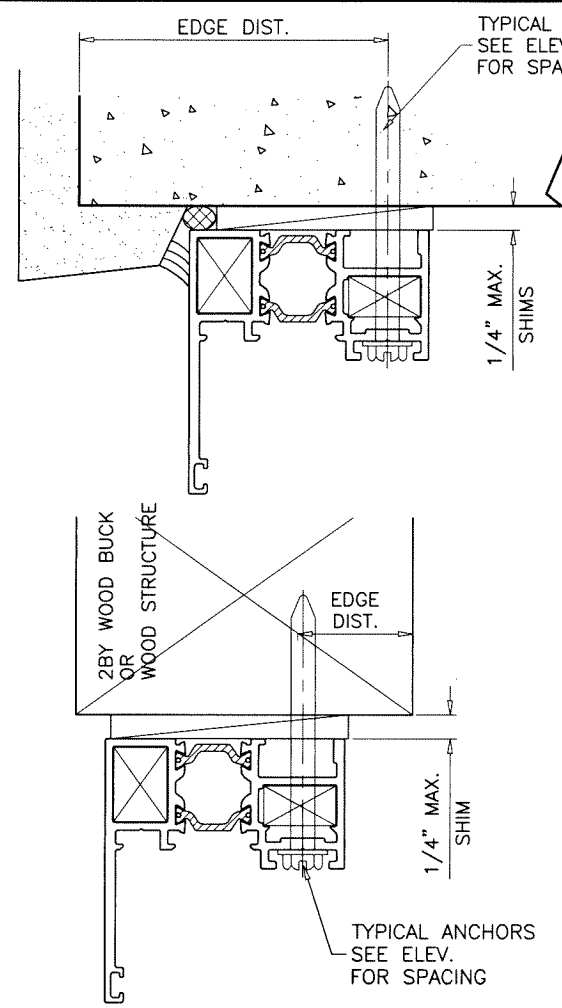
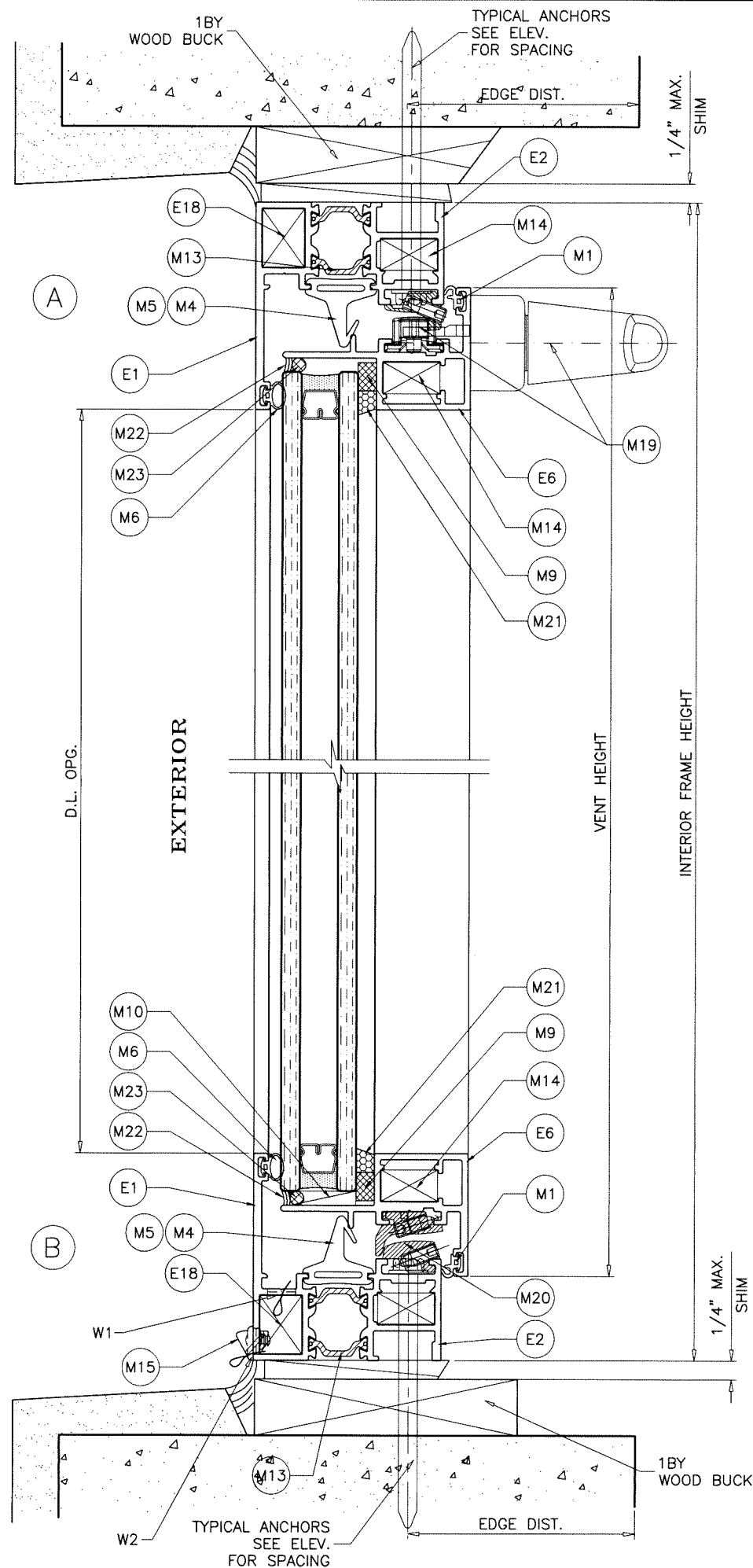
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| B  | 12.17.20 |    | UPDATED TO 2020 FBC |
| C  | 09.27.23 |    | UPDATED TO 2023 FBC |
| D  | 09.01.26 |    | UPDATED TO 2026 FBC |

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| dr. by:  | TARIQ      |
| chk. by: |            |

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| drawing no. | W15-110 |
| sheet       | 1 of 5  |



**TYPICAL ANCHORS:** SEE ELEV. FOR SPACING

**#14 DIA. CRETE-FLEX SS4 BY 'DEWALT'** ( $F_u=190$  KSI,  $F_y=127$  KSI)

**1/4" DIA. ULTRACON+ BY 'DEWALT'** ( $F_u=164$  KSI,  $F_y=148$  KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES  
1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

THRU 1BY BUCKS INTO CONC. OR MASONRY  
1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
1-1/4" MIN. EMBED INTO MASONRY (JAMBS)

DIRECTLY INTO CONC. OR MASONRY  
2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

**1/4" DIA. BI-FLEX 300 SELF DRILLING SCREWS BY 'DEWALT'**

**1/4" DIA. DRIL-FLEX SELF DRILLING SCREWS BY 'DEWALT'** (GRADE 5 CRS)

INTO F.B.C. APPROVED MULLIONS (MIN. THK. = 1/8")

INTO METAL STRUCTURES

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

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

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

#### ANCHOR EDGE DISTANCES

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

INTO WOOD STRUCTURE = 1" MIN.

INTO METAL STRUCTURE = 3/4" MIN.

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

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

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

#### WEEPHOLES:

W1 = 1/4" X 1-1/4" WEEPHOLES AT 5-1/2" FROM EACH END

W2 = 1/4" X 1-1/4" WEEPHOLES WITH PLASTIC COVER  
AT 5-1/2" FROM EACH END

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

Sealed: 9/1/2026

FL #19654



**AL-FAROOQ CORPORATION**  
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(C.A.N. 3538)

ES-P251 ALUM THERMALLY BROKEN PROJECT-IN W. (N.I.)

**E.S. WINDOWS, LLC**  
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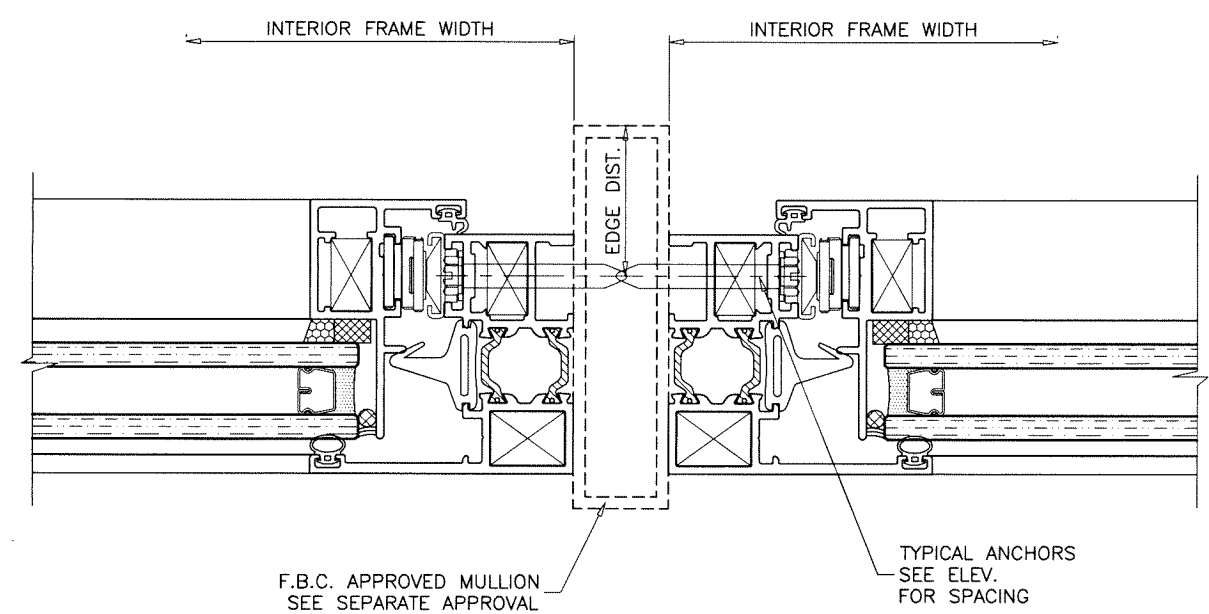
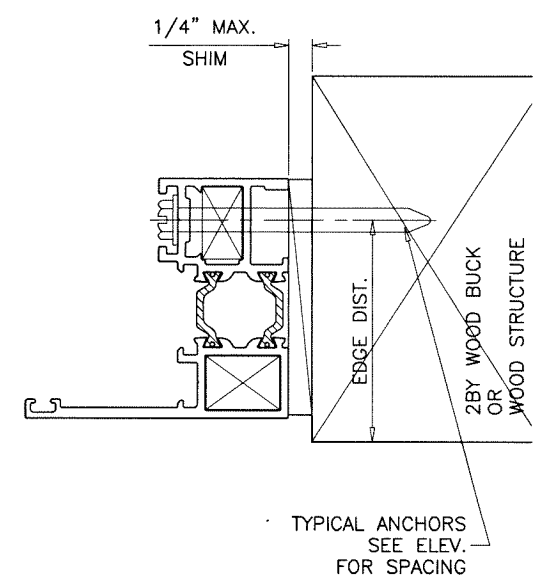
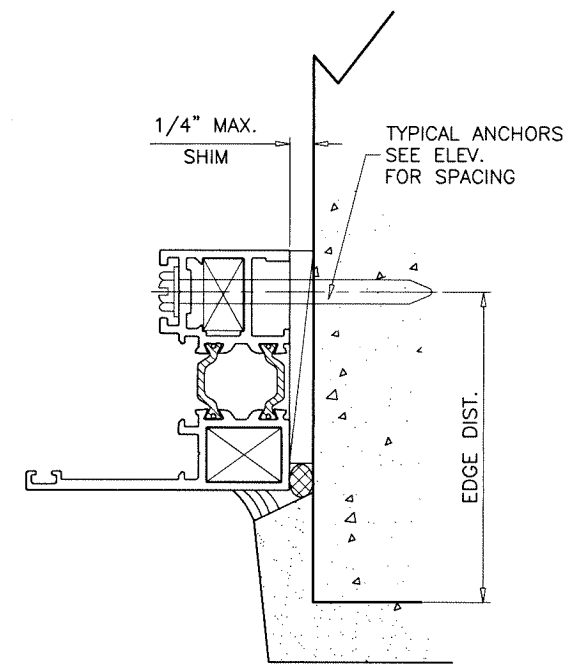
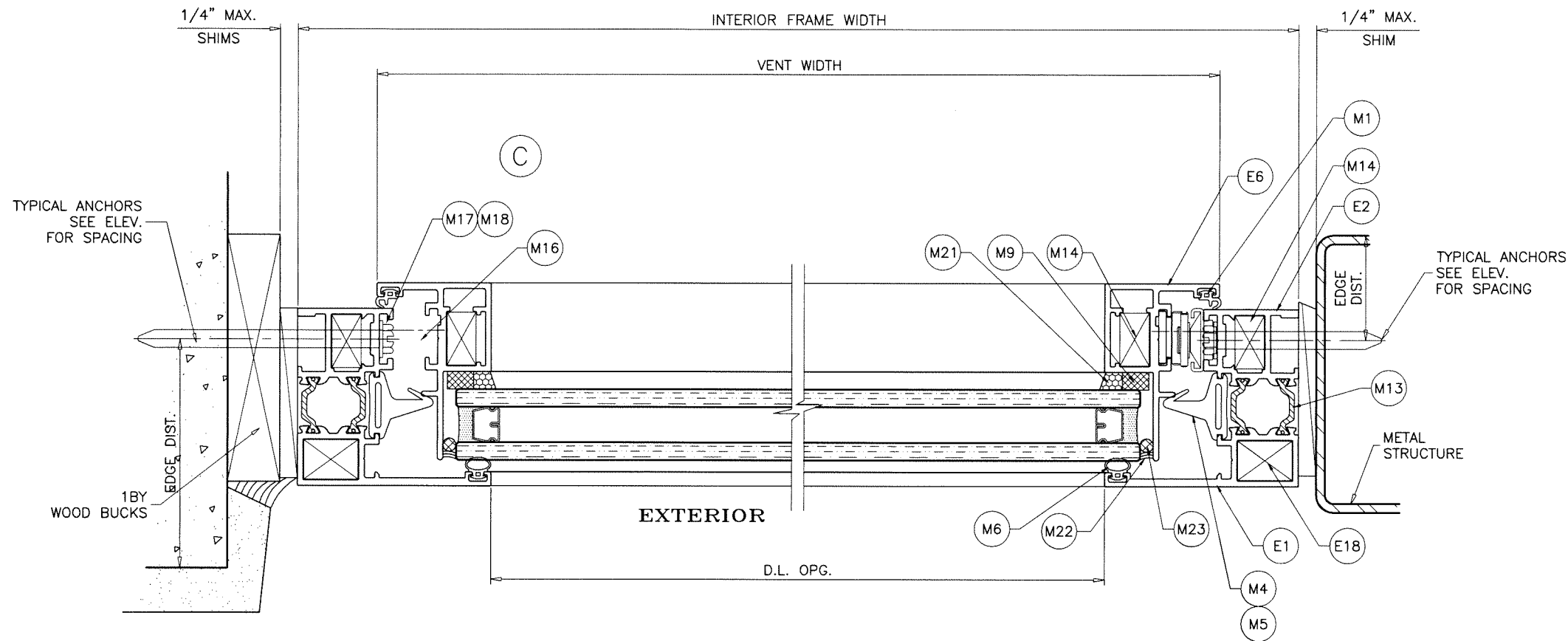
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| dr. by:  | TARIQ     |
| chk. by: |           |

drawing no.

**W15-110**

sheet 2 of 5



Sealed: 9/1/2026

FL #19654

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COMP-ANL W15-110ESW

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ES-P251 ALUM THERMALLY BROKEN PROJECT-IN W. (N.I.)

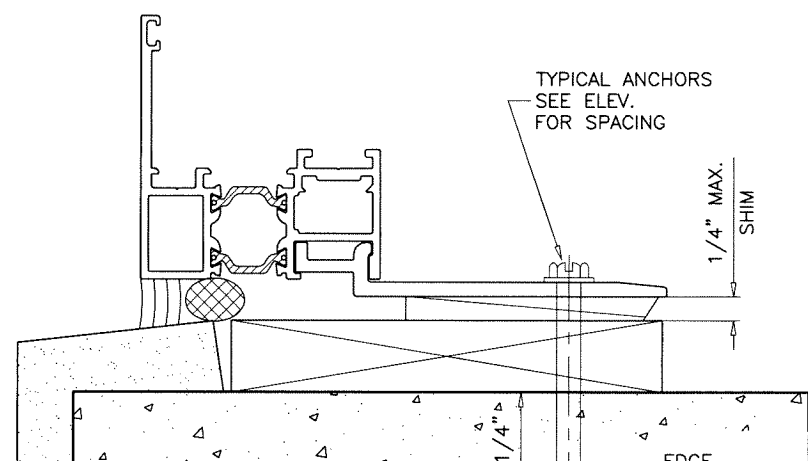
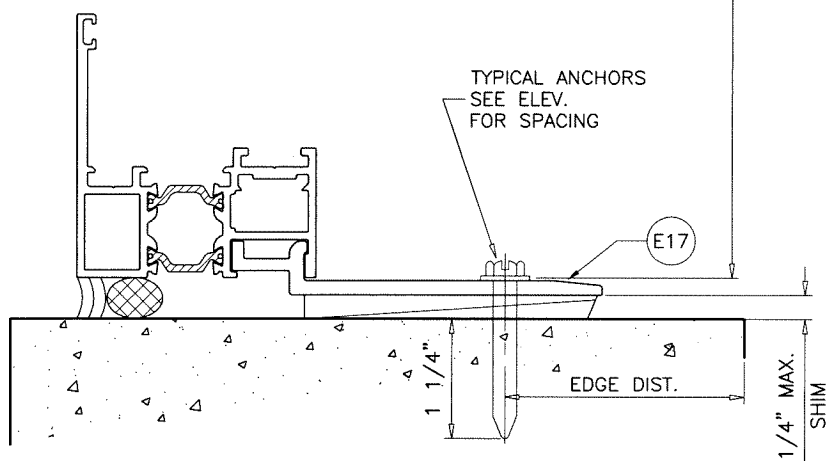
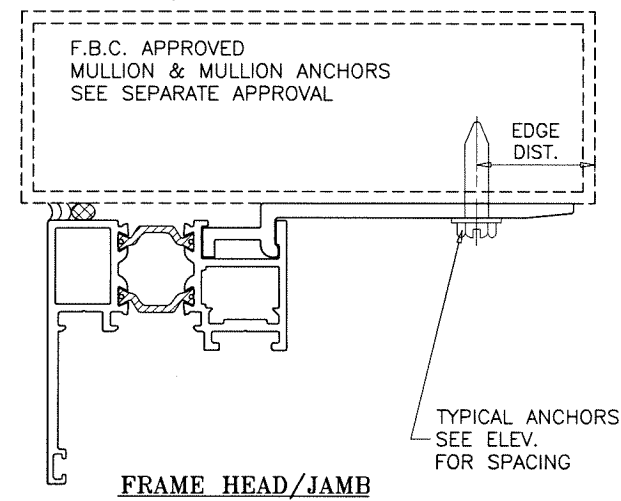
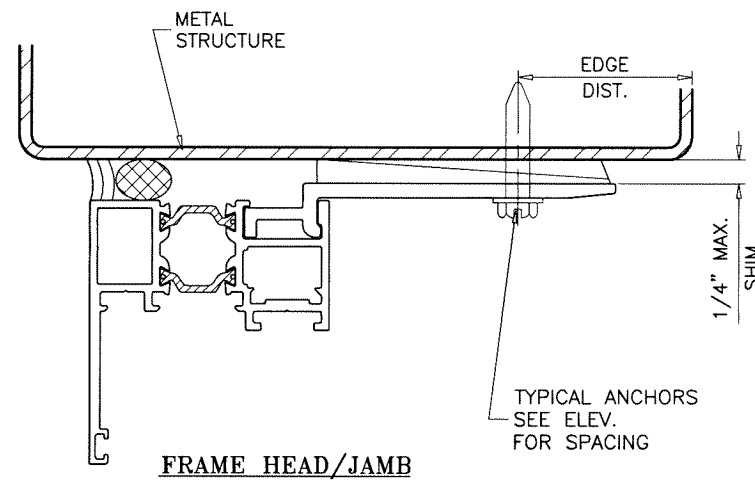
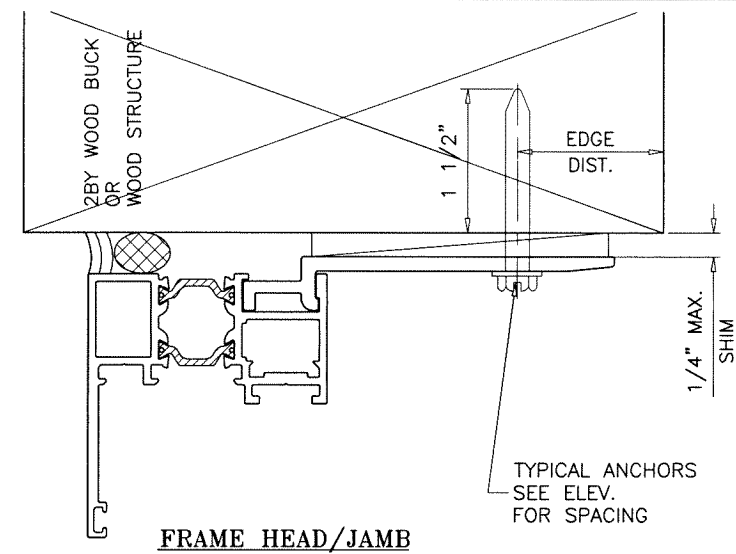
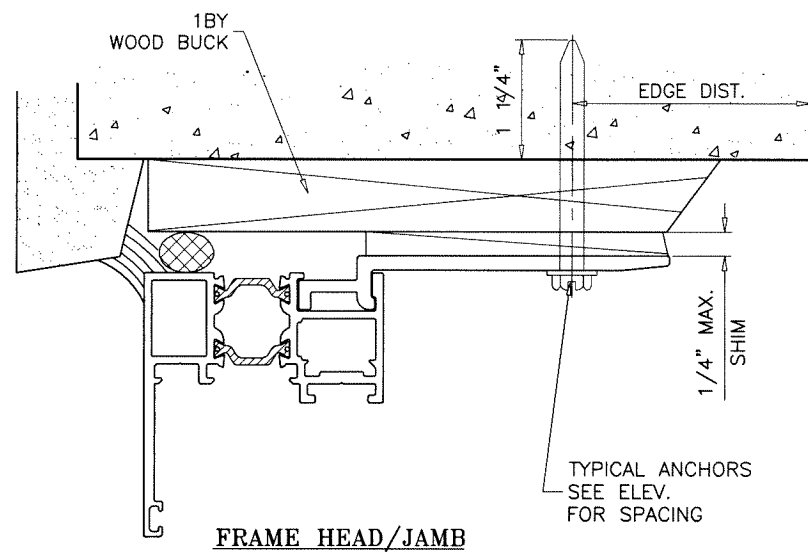
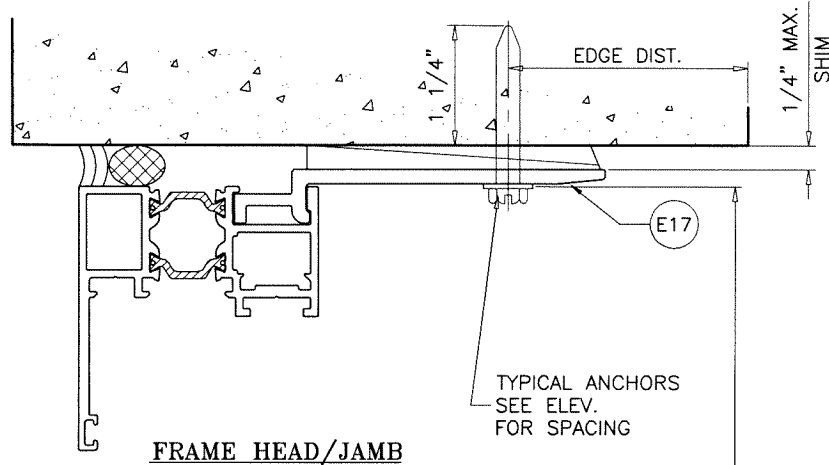
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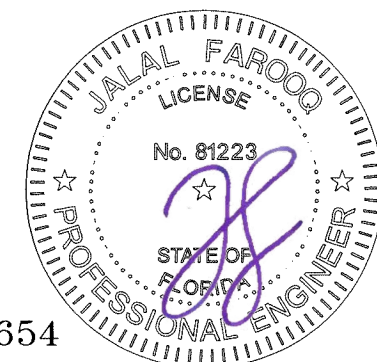
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**W15-110**  
sheet 3 of 5



# INSTALLATION DETAILS WITH STRAP ANCHOR

Sealed: 9/1/2026

FL #19654



ES-P251 ALUM THERMALLY BROKEN PROJECT-IN W. (N.I.)

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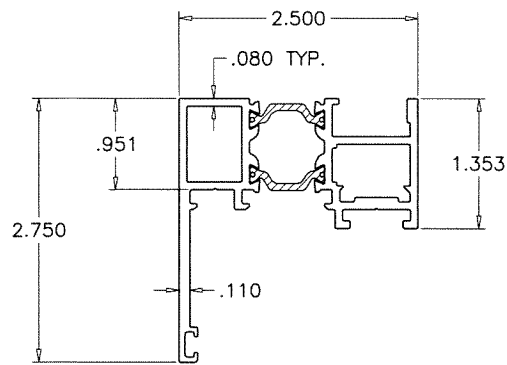
**AL-FAROOQ CORPORATION**  
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MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978  
(C.A.N. 3538)

COMP-ANL\W15-110ESW

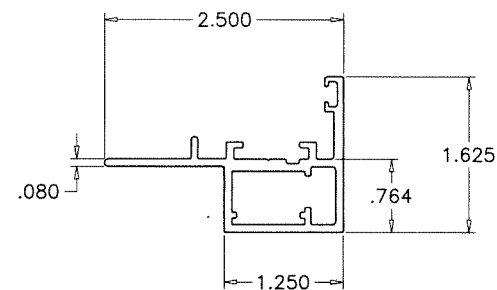
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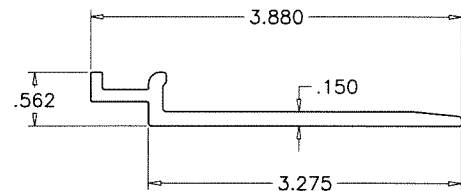
drawing no.  
**W15-110**  
sheet 4 of 5



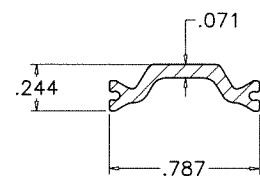
E1 E2 FRAME HEAD/SILL/JAMB



E6 VENT



E17 STRAP ANCHOR



M13 20MM OFFSET

TECATHERM® 66 GF INSULBAR  
SCALE 1:1

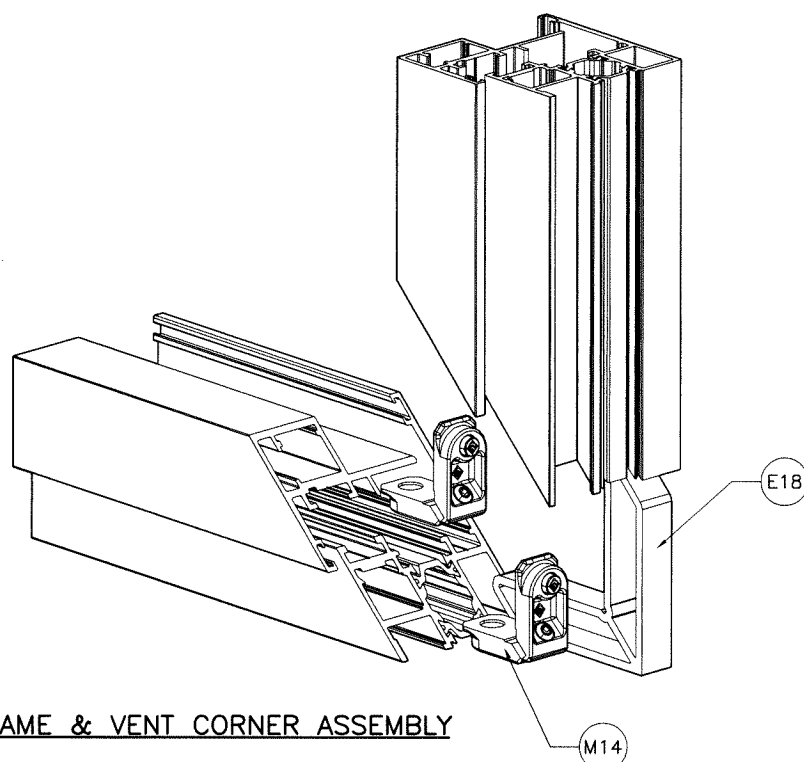
MATERIAL = POLYAMIDE  
TENSILE STRENGTH = 13031 PSI  
RATE OF BURN = .752 IN./MIN.  
SELF IGNITION TEMP. = 793° F  
FLASH IGNITION TEMP. = 781°C  
SMOKE DENSITY = 1.63

| ITEM # | PART #       | REQD.    | DESCRIPTION                                | MATERIAL      | MANF./SUPPLIER/REMARKS                   |
|--------|--------------|----------|--------------------------------------------|---------------|------------------------------------------|
| E1     | ES-P251-001  | 4        | WINDOW FRAME (EXTERIOR)                    | 6063-T6       | -                                        |
| E2     | ES-P251-002  | 4        | WINDOW FRAME (INTERIOR)                    | 6063-T6       | -                                        |
| E6     | ES-P251-006  | 4        | VENT                                       | 6063-T6       | -                                        |
| E17    | ES-P251-017  | AS REQD. | STRAP ANCHOR, 4" LONG                      | 6005-T5       | -                                        |
| E18    | ES-P251-018  | 4/ WDW.  | CORNER KEY                                 | 6063-T6       | -                                        |
| E19    | ES-EURO-001  | -        | EURO GROOVE BAR                            | 6063-T5       | -                                        |
| M01    | ES-P251-G01  | AS REQD. | INTERIOR VENT GASKET                       | EPDM          | TREMCO TR-19602E, DUROMETER 70±5 SHORE A |
| M04    | ES-P251-G04  | AS REQD. | CHAMBER DIVIDER EXTRUSION                  | EPDM          | TREMCO TR-20018E, DUROMETER 60±5 SHORE A |
| M05    | ES-P251-G04A | AS REQD. | CHAMBER DIVIDER MOLDED CORNER              | EPDM          | TREMCO TX-19606E, DUROMETER 60±5 SHORE A |
| M06    | ES-P251-G05  | AS REQD. | EXTERIOR VENT GASKET                       | EPDM          | TREMCO TX-20003E, DUROMETER 70±5 SHORE A |
| M09    | -            | AS REQD. | GLAZING TAPE (1/4" X 3/8")                 | POLYURETHANE  | -                                        |
| M10    | ES-P251-B01  | 2/ LITE  | SETTING BLOCK , AT 1/4 POINTS              | EPDM          | DUROMETER 80±5 SHORE A                   |
| M13    | -            | AS REQD. | 20 mm INSULBAR OFFSET                      | POLYAMIDE     | -                                        |
| M14    | O337         | AS REQD. | CORNER JOINT                               | CAST ALUMINUM | MASTER                                   |
| M15    | WA2L         | 2        | WEEP COVER                                 | PLASTIC       | -                                        |
| M16    | 5800         | 2/ WDW.  | 4 BAR HINGE                                | STEEL         | AMC                                      |
| M17    | 1529-XX      | -        | SHIM                                       | ALUMINUM      | AMC                                      |
| M18    | 876          | 2        | LIMIT DEVIC, AT 3-1/2" FROM LOCK JAMB ENDS | -             | AMC                                      |
| M19    | LM-2200      | 1        | MULTI POINT LOCK SYSTEM                    | -             | SIEGENIA                                 |
| M20    | 857052       | -        | SNUBBER KIT                                | CAST ALUMINUM | SIEGENIA                                 |
| M21    | 983          | -        | GLAZING SEALANT                            | SILICONE      | DOW CORNING                              |
| M22    | 791          | -        | GLAZING SEALANT                            | SILICONE      | DOW CORNING                              |
| M23    | -            | -        | 1/4" DIA. BACKER ROD                       | FOAM          | CLOSED CELL                              |

#### SEALANT:

ALL JOINTS AND FRAME CONNECTIONS SEALED WITH WHITE/ALUMINUM COLORED SILICONE.

NOTE: HARDWARE AS SHOWN OR EQUIVALENT.



FRAME & VENT CORNER ASSEMBLY

Sealed: 9/1/2026

FL #19654



**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
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| revisions:  | no       | date     | by        | description |
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| date:       | 12-16-15 | scale:   | 1/2" = 1" |             |
| dr. by:     | TARIQ    | chk. by: |           |             |
| drawing no. | W15-110  | sheet    | 5 of 5    |             |