

GLASS TYPE 'G2i'
1-3/16" OVERALL INSUL. LAM. 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 ARE BASED ON
ASTM E1300-09 (3 SEC. GUSTS).

THESE DOORS ARE RATED FOR SMALL MISSILE IMPACT.
F.B.C. APPROVED IMPACT RESISTANT SHUTTERS REQUIRED
FOR INSTALLATIONS UP TO 30 FT. OF GRADE.
SHUTTERS NOT REQD. FOR INSTALLATIONS ABOVE 30 FT. OF GRADE.

**ES-46T THERMAL
ALUMINUM OUTSWING ENTRANCE DOOR**

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2020 (7TH EDITION)/2023 (8TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

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

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

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

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

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

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

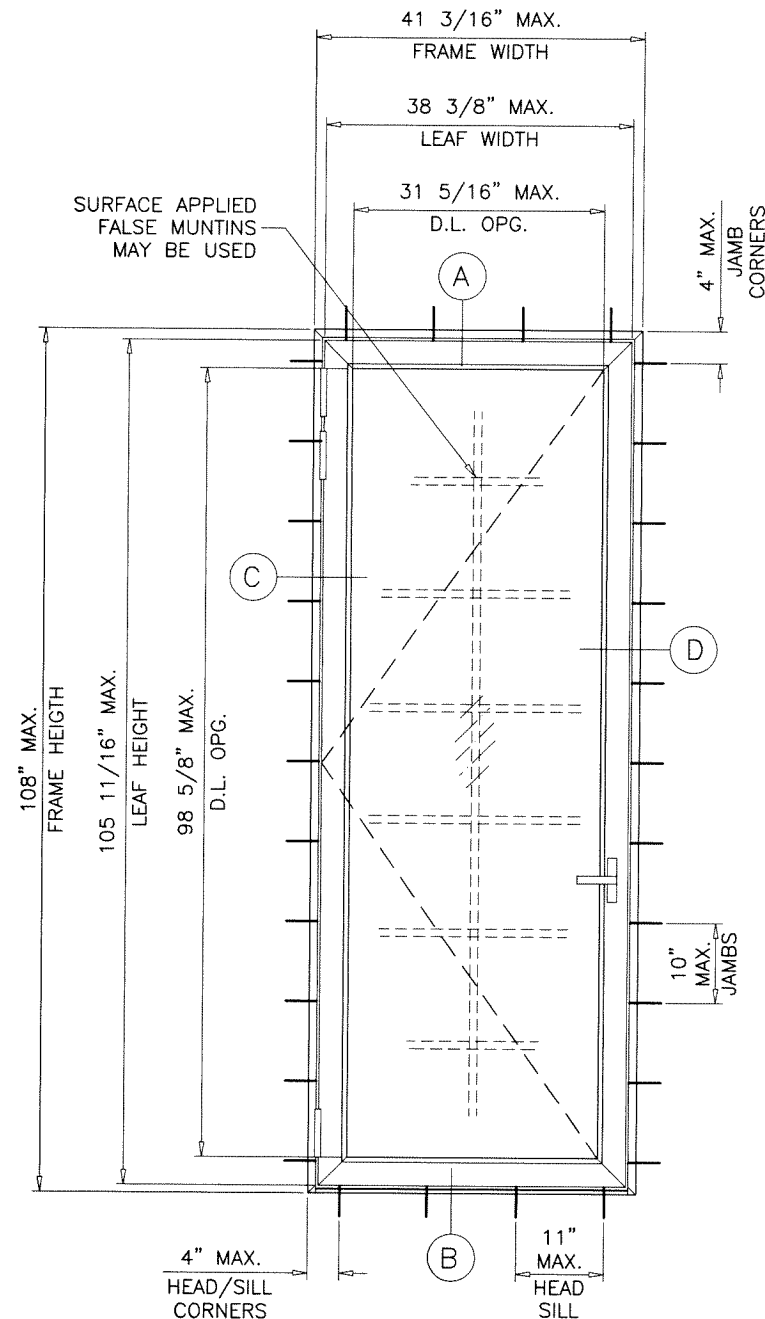
CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL.

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

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

DOORS APPROVED FOR INSTALLATIONS WHERE WATER INFILTRATION RESISTANCE IS REQUIRED.

GLASS D.L.O. FORMULAE:
D.L.O. WIDTH = FRAME WIDTH - 9.750"
D.L.O. HEIGHT = FRAME HEIGHT - 9.375"



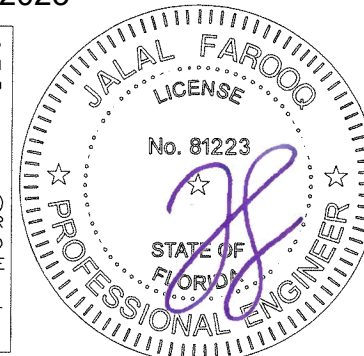
TYPICAL ELEVATION

GLASS TYPE 'G2i'
MAXIMUM DESIGN LOAD RATING = + 100.0 PSF
(FOR SIZES SHOWN ABOVE OR SMALLER) - 120.0 PSF
AS PERMITTED BY FBC

DOOR HEIGHT AND WIDTH SIZE MUST COMPLY
EGRESS REQUIREMENTS PER FBC AS APPLICABLE.

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- 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.



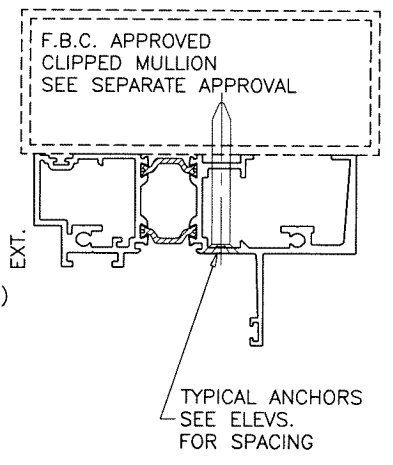
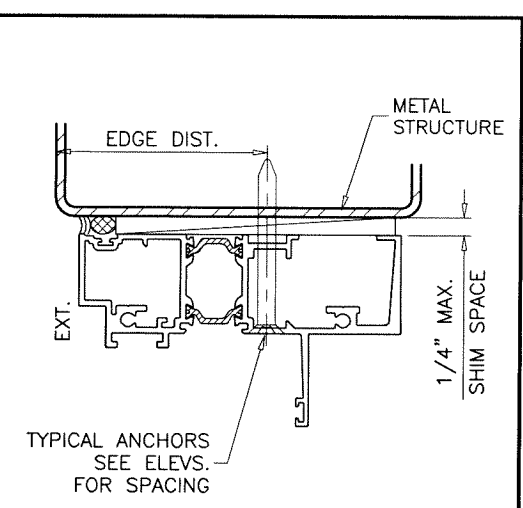
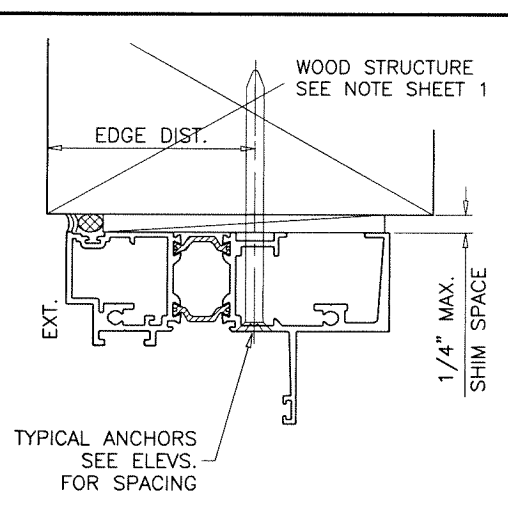
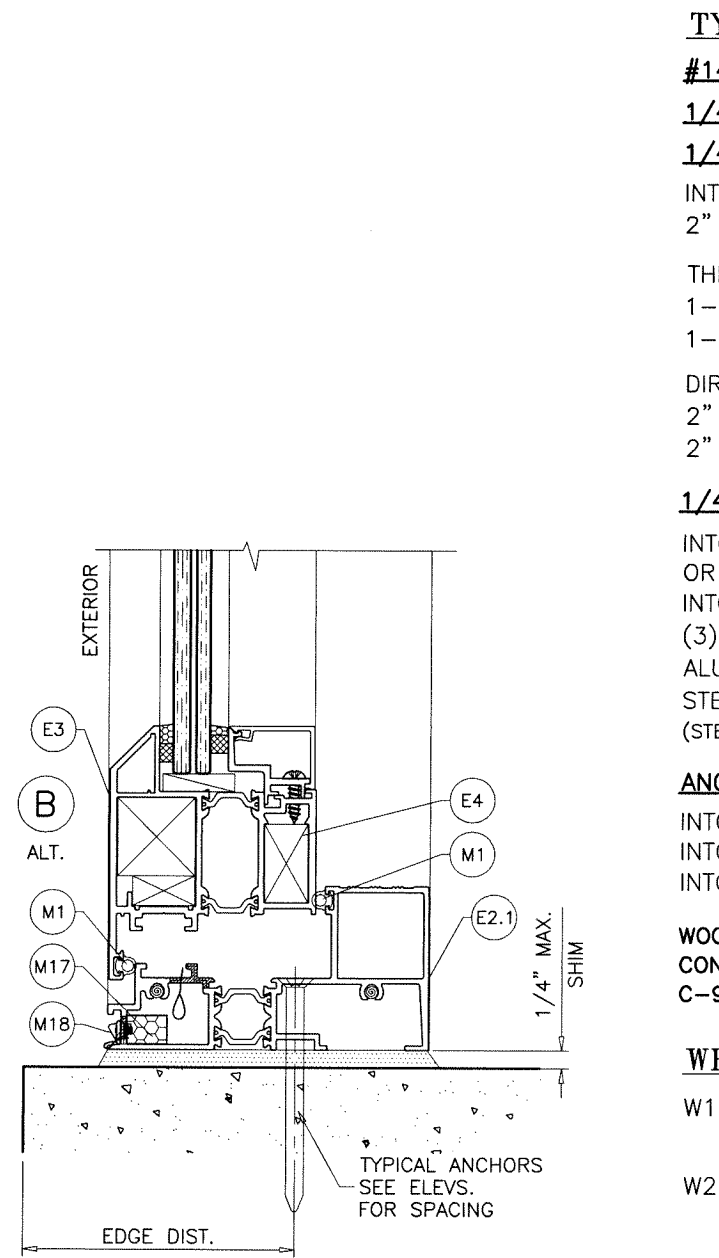
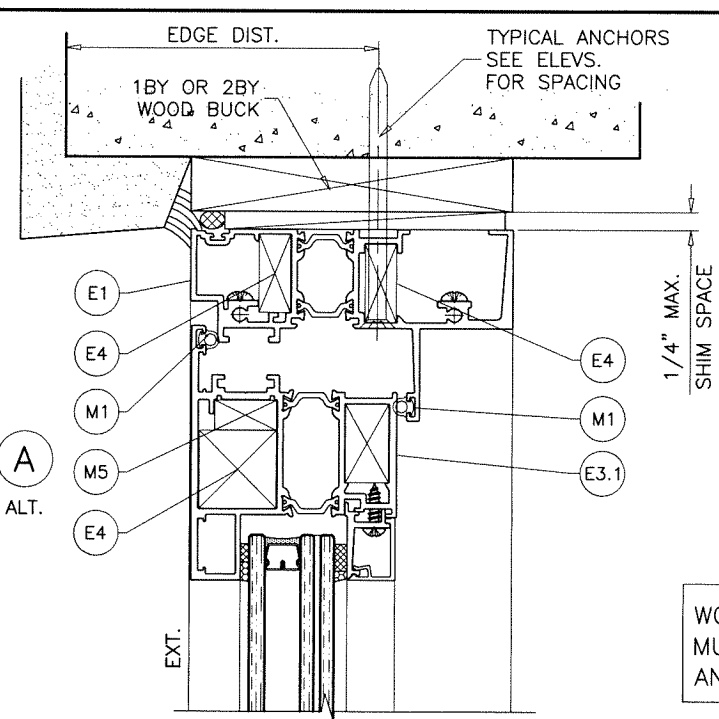
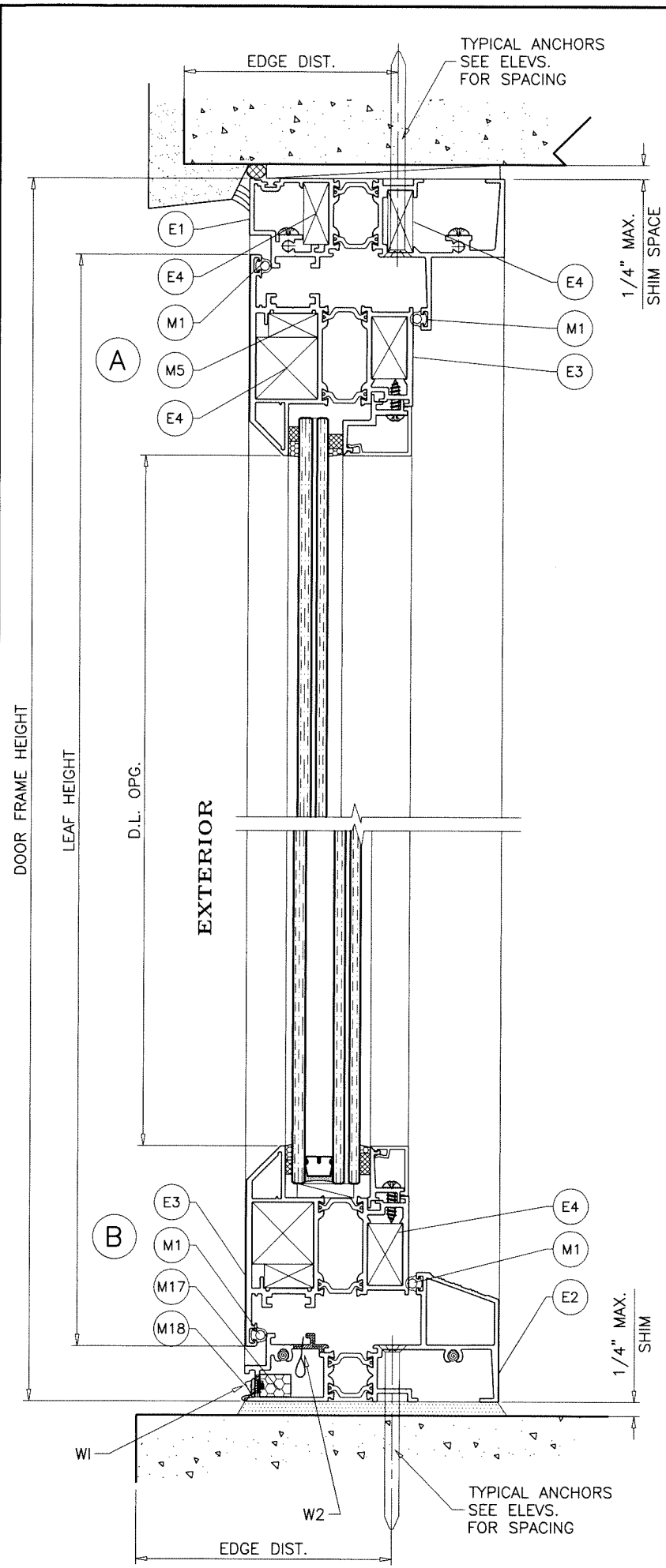
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AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W17-08ES

ES-46T THERMAL ALUM FRENCH DOOR (S.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

no	date	description	by
C	04.16.19	ALT. LEAF STYLE ADDED	
D	10.12.20	UPDATED TO 2020 FBC	
E	02.09.21	LAM. GLASS OPTION ADDED.	
F	07.31.23	UPDATED TO 2023 FBC	

revisions:
date: 01-02-17
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

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

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

#14 DIA. CRETE-FLEX SS4 BY 'DEWALT' (Fu=190 KSI, Fy=127 KSI)

1/4" DIA. ULTRACON SS4 410 BY 'DEWALT' (Fu=190 KSI, Fy=164 KSI)

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

INTO WOOD STRUCTURES
2" MIN. PENETRATION INTO WOOD (HEAD/JAMBS)

THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS
1-1/4" MIN. EMBED INTO CONCRETE (HEAD/JAMBS)
1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

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

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

INTO F.B.C. APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/JAMBS)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

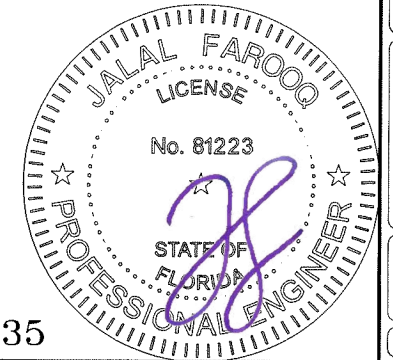
INTO CONCRETE AND BLOCKS = 2-1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.
INTO METAL STRUCTURE = 3/4" MIN.

WOOD AT HEAD 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 = 1-7/8" X 5/16" WEEP HOLES AT 6" FROM EACH END WITH PVC BAFFLE
W2 = 1" X 7/16" WEEP HOLES AT 6" FROM EACH END

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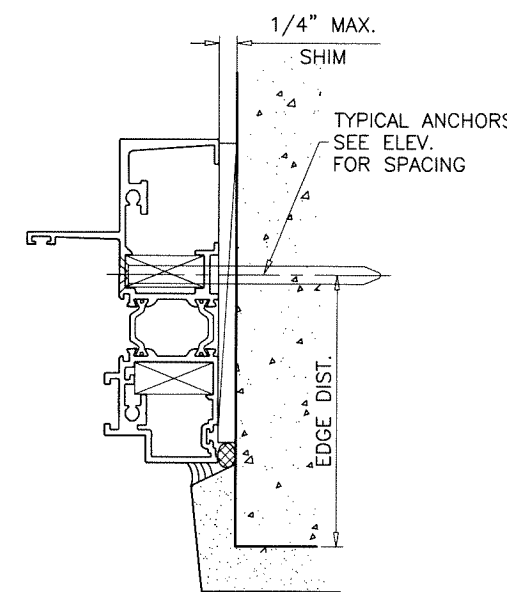
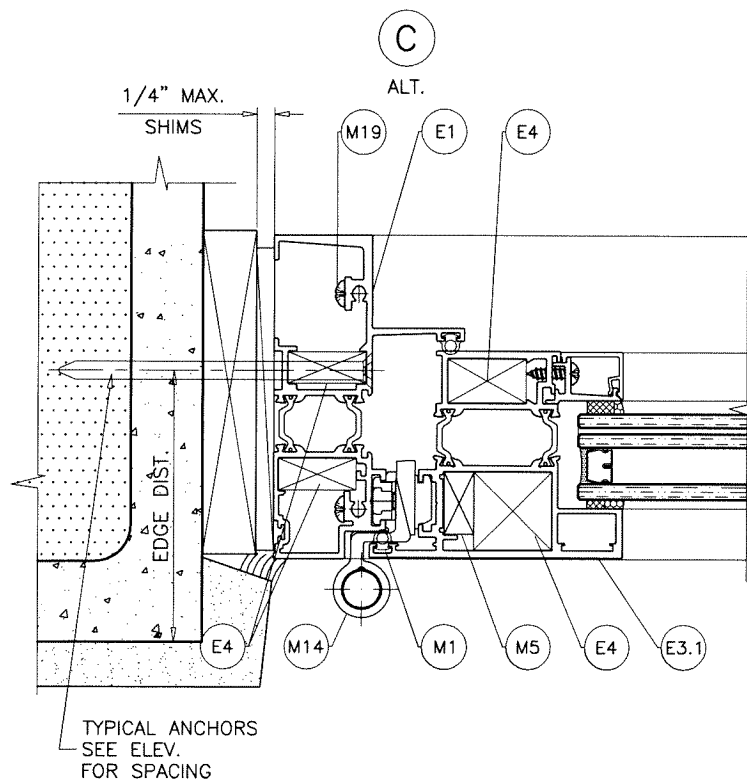
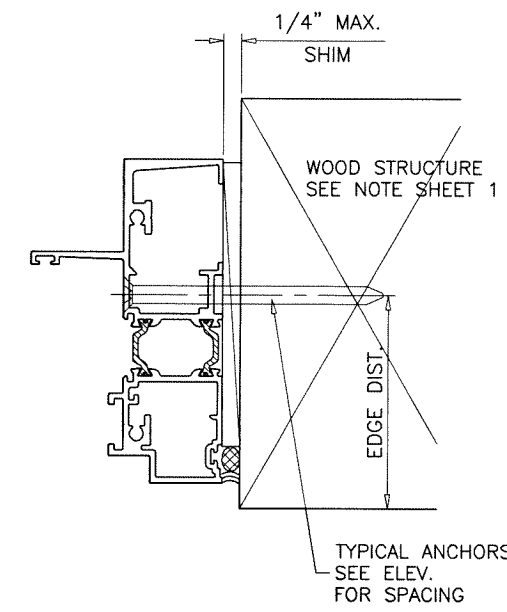
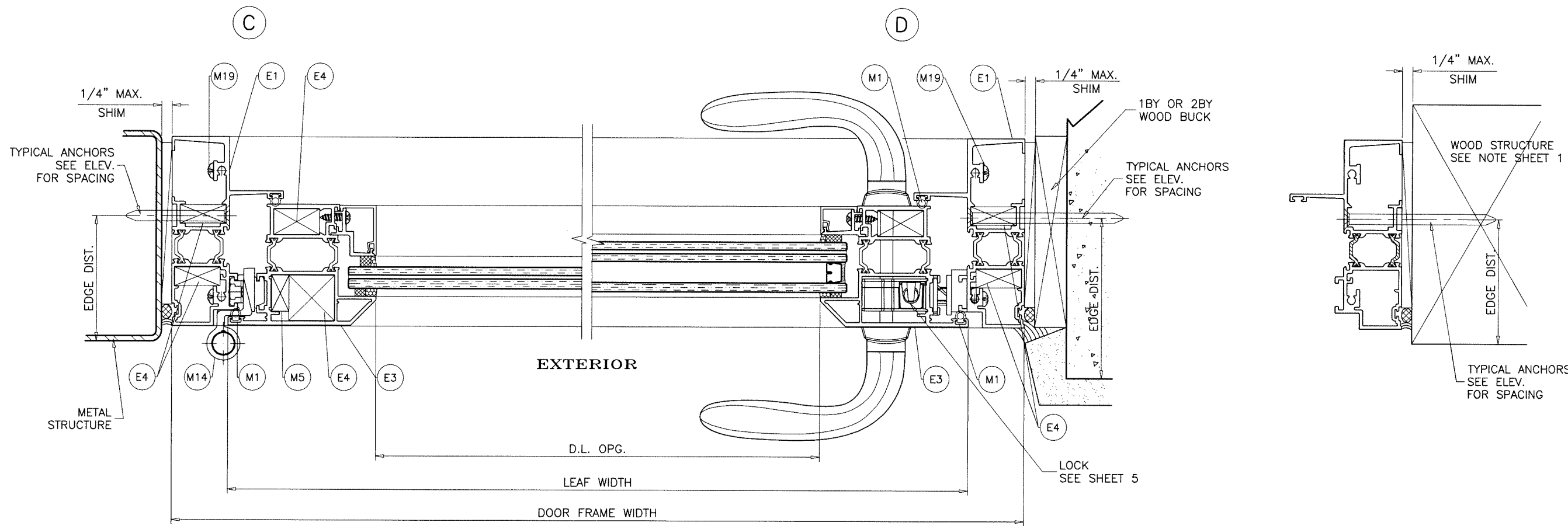
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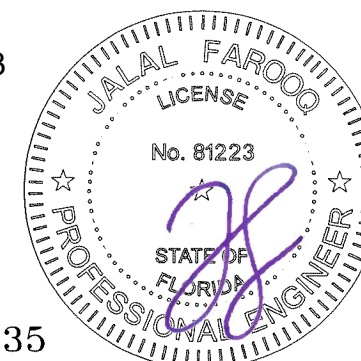
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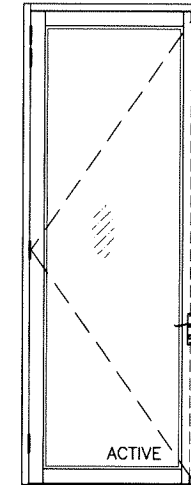
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ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-45T-501	3	DOOR FRAME HEAD/JAMB	6063-T6	-
E2	ES-45T-502	1	FRAME SILL	6063-T6	-
E2.1	ES-45T-004	1	ALT. FRAME SILL	6063-T6	-
E3	ES-45T-503	4	LEAF STILE	6063-T6	-
E3.1	ES-45T-051	4	ALT. LEAF STILE	6063-T6	-
E4	ES-45T-011	AS REQD.	CORNER KEY	6063-T6	-
E5	ES-45T-019	AS REQD.	STRAP ANCHOR CLIP	6063-T6	-
E6	ES-45T-024	4/ LEAF	GLASS STOP (INSUL. LAM. GLASS)	6063-T6	-
E6A	ES-46T-002	4/ LEAF	GLASS STOP (LAM. GLASS)	6063-T6	-
E7	ES-45T-025	4/ LEAF	GLASS STOP COVER (INSUL. LAM. GLASS)	6063-T6	-
E7A	ES-46T-003	4/ LEAF	GLASS STOP COVER (LAM. GLASS)	6063-T6	-
M1	ES-P251-G05	AS REQD.	VENT GASKET	EPDM	DUROMETER 70±5 SHORE A
M2	-	AS REQD.	SINGLE FACE TAPE (1/8" X 1/4")	POLYURETHANE	-
M2A	V2200	AS REQD.	SINGLE FACE TAPE (3/16" X 1/4")	POLYURETHANE	NORTON
M3	-	AS REQD.	SINGLE FACE TAPE (3/16" X 3/8")	POLYURETHANE	-
M3A	V2200	AS REQD.	SINGLE FACE TAPE (1/4" X 1/4")	POLYURETHANE	NORTON
M4	80-356	2/ LITE	SETTING BLOCKS AT 1/4 POINTS (DOOR)	EPDM	DUROMETER 80±5 SHORE A
M5	0337	AS REQD.	CORNER JOINT	DIE CAST ALUMINUM	-
M14	A11990003 SIL	3	KLEMMBAND G HINGES	ALUMINUM	-
M17	WPSA-NI	2	WEEP PAD (3/4" X 3/4" X 2" LONG)	RETICULATED FOAM	30PPI FOAM, AT WEEP HOLES
M18	WA2L	2	WEEP HOLE COVER	RIGID PVC	-
M19	#12 X 1-3/4"	AS REQD.	FRAME ASSEMBLY FASTENERS	ST/ST	PH SMS
M21	#8 X 5/8"	AS REQD.	GLASS STOP FASTENERS, AT 12" O.C.	ST/ST	PH SMS
M22	1673	AS REQD.	20 MM OFFSET	POLYAMIDE	-

LOCK SINGLE DOOR:

ACTIVE LEAF:

SURFACE MOUNT 9 POINT LOCK SYSTEM
 KEY OPERATED ON EXTERIOR AND THUMB TURN ON INTERIOR
 LEVER TYPE HANDLE AT 38" FROM BOTTOM ACTIVATES SHOOT BOLTS ENGAGING AT HEAD AND SILL AND (7) BOLTS ENGAGING AT JAMB/INACTIVE STILE FASTENED WITH
 (2) #8 X 3/4" FH SMS
 (1) 12-28 X 2" FH MACHINE SCREWS
 (2) 8-36 X 1/2" FH MACHINE SCREWS



JAMB FACING LOCK:

(6) SURFACE MOUNT METALLIC KEEPERS AT 5", 10", 24", 43", 68" AND 73" FROM BOTTOM FASTENED WITH
 (1) 10-32 X 5/16" FH MACHINE SCREWS

(1) SURFACE MOUNT METALLIC KEEPERS AT 38" FROM BOTTOM FASTENED WITH
 (3) #8 X 3/4" FH SMS

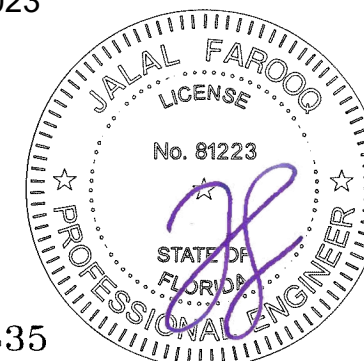
HINGES:

SURFACE MOUNT METALLIC PIVOT HINGES
 (3) HINGES FOR DOORS UPTO 108" HEIGHT
 (4) HINGES FOR DOORS ABOVE 108" HEIGHT
 BOTTOM HINGE AT 8" FROM BOTTOM
 TOP HINGES AT 8" AND 16" FROM TOP
 ADDL. HINGE FOR DOORS ABOVE 108" HEIGHT AT MIDSPAN FASTENED TO FRAME AND LEAF WITH
 (2) 1/4-28 X 1/2" FH MACHINE SCREWS AND (1) METALLIC BACKING PLATE.
 BACKING PLATE FASTENED WITH
 (2) 1/4-28 X 3/8" SOCKET SET SCREWS

SEALANTS:

ALL FRAME JOINTS AND SEAMS SEALED WITH SCHNEE-MOREHEAD SM5504 ACRYL-R SEAM SEALER.

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