



Product Approval
USER: Public User

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OFFICE OF THE
SECRETARY

FL #

Application Type

Code Version

Application Status

FL17897-R16

Revision

2023

Approved

Comments

Archived

☐

Product Manufacturer

Address/Phone/Email

E.S. Windows, Inc.

10653 NE Quaybridge Ct.

Miami, FL 33138

(305) 638-5151

ssabagh@energiasolarsa.com

Authorized Signature

Jalal Farooq

veronica@afceng.com

Technical Representative

Address/Phone/Email

Samir Sabagh

3550 NW 49th St.

Miami, FL 33142

(305) 638-5151

ssabagh@energiasolarsa.com

Quality Assurance Representative

Address/Phone/Email

Category

Subcategory

Panel Walls

Storefronts

Compliance Method

Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer

☐ Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report

Jalal Farooq

Florida License

PE-81223

Quality Assurance Entity

Keystone Certifications, Inc.

Quality Assurance Contract Expiration Date

03/21/2035

Validated By

Abel Carrasco, PE

☒ Validation Checklist - Hardcopy Received

Certificate of Independence

[FL17897_R16_COI_SS - Certificate of Independence 2023.pdf](#)

Referenced Standard and Year (of Standard)

Standard

Year

AAMA 501

2015

TAS 201

1994

TAS 202

1994

TAS 203

1994

Equivalence of Product Standards

Certified By

Product Approval Method

Method 1 Option D

Date Submitted

03/19/2025

Date Validated

04/24/2025

Date Pending FBC Approval

04/25/2025

Date Approved

06/10/2025

Summary of Products

FL #	Model, Number or Name	Description
17897.1	Series ES-8000 Aluminum Window Wall System	Large missile impact resistant aluminum window wall system.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +130/-130 Other: See drawing W17-92 for span vs load combinations and installation details.		Installation Instructions FL17897_R16_II_SS - 8000 WW (LMI) - DWG W17-92 2023 R1.1.pdf Verified By: Jalal Farooq PE# 81223 Created by Independent Third Party: Yes Evaluation Reports FL17897_R16_AE_SS - ES-8000 WW (LMI)-PAE 2023.pdf Created by Independent Third Party: Yes
17897.2	Series ES-8000 Aluminum Window Wall System	Small missile impact resistant aluminum window wall system.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +100/-150 Other: See drawing 23-06F for span vs load combinations and installation details.		Installation Instructions FL17897_R16_II_SS - 8000 WW (SMI) - DWG 23-06F 2023 R1.1.pdf Verified By: Jalal Farooq PE # 81223 Created by Independent Third Party: Yes Evaluation Reports FL17897_R16_AE_SS - ES-8000 WW (SMI)-PAE 2023.pdf Created by Independent Third Party: Yes
17897.3	Series ES-8000T Aluminum Window Wall System	Non-impact resistant aluminum window wall system.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: +80/-100 Other: See drawing 24-71F for span vs load combinations and installation details.		Installation Instructions FL17897_R16_II_SS - ES-8000T WW (NI) - DWG 24-71F 2023 R1.pdf Verified By: Jalal Farooq PE 81223 Created by Independent Third Party: Yes Evaluation Reports FL17897_R16_AE_SS - ES-8000T Window Wall (NI)-PAE 2023.pdf Created by Independent Third Party: Yes
17897.4	Series ES-8000T Aluminum Window Wall System	Small missile impact resistant aluminum window wall system.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +60/-60 Other: See drawing 21-12F for span vs load combinations and installation details.		Installation Instructions FL17897_R16_II_SS - 8000T WW (SMI) - DWG 21-12F 2023 R1.pdf Verified By: Jalal Farooq PE #81223 Created by Independent Third Party: Yes Evaluation Reports FL17897_R16_AE_SS - ES-8000T WW (SMI)-PAE 2023.pdf Created by Independent Third Party: Yes
17897.5	Series ES-8000T Aluminum Window Wall System	Large missile impact resistant aluminum window wall system.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +90/-120 Other: See drawing W15-37 for span vs load combinations and installation details.		Installation Instructions FL17897_R16_II_SS - 8000T WW (LMI) - DWG W15-37 2023 R1.pdf Verified By: Jalal Farooq PE# 81223 Created by Independent Third Party: Yes Evaluation Reports FL17897_R16_AE_SS - ES-8000T WW (LMI)-PAE 2023.pdf Created by Independent Third Party: Yes
17897.6	Series ES-8000T Jumbo Aluminum Window Wall System	Large missile impact resistant aluminum window wall system.

Limits of Use**Approved for use in HVHZ:** Yes**Approved for use outside HVHZ:** Yes**Impact Resistant:** Yes**Design Pressure:** +70/-70**Other:** See drawing 21-58F for span vs load combinations and installation details.**Installation Instructions**[FL17897_R16_II_SS - 8000T \(JUMBO\) WW \(LMI\) - DWG 21-58F 2023 R1.pdf](#)

Verified By: Jalal Farooq PE # 81223

Created by Independent Third Party: Yes

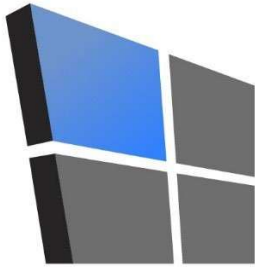
Evaluation Reports[FL17897_R16_AE_SS - ES-8000T Jumbo WW \(LMI\)-PAE 2023.pdf](#)

Created by Independent Third Party: Yes

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Product Approval Accepts:



AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

January 23, 2023

Product Approval Administrator
Building Codes & Standards Section
Department of Business & Professional Regulations
1940 North Monroe Street, Suite 90
Tallahassee, FL 32399-2100

To whom it may concern,

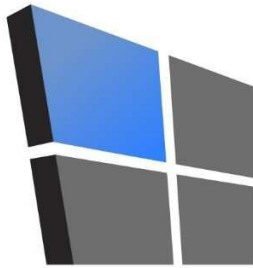
As the design engineer retained to prepare the product approval(s) associated with this letter as shown below on this same web page, I do hereby declare that I do not have and will not have any financial interest in any company manufacturing or distributing the referenced product(s), nor do I have or will have any financial interest with any other entity involved in the approval process of the referenced product(s).

Sincerely,



Jalal Farooq, P.E.
CFO

Sealed: 1/23/2023



AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

PRODUCT APPROVAL EVALUATION RULE CHAPTER #61G20-3 • METHOD 1 OPTION D

FL 17897

Date: 07/31/2023

Detailed Product Description:

Manufacturer: E.S. WINDOWS, LLC.

Manufacturer Address: 3550 N.W. 49 STREET – MIAMI, FL. 33142

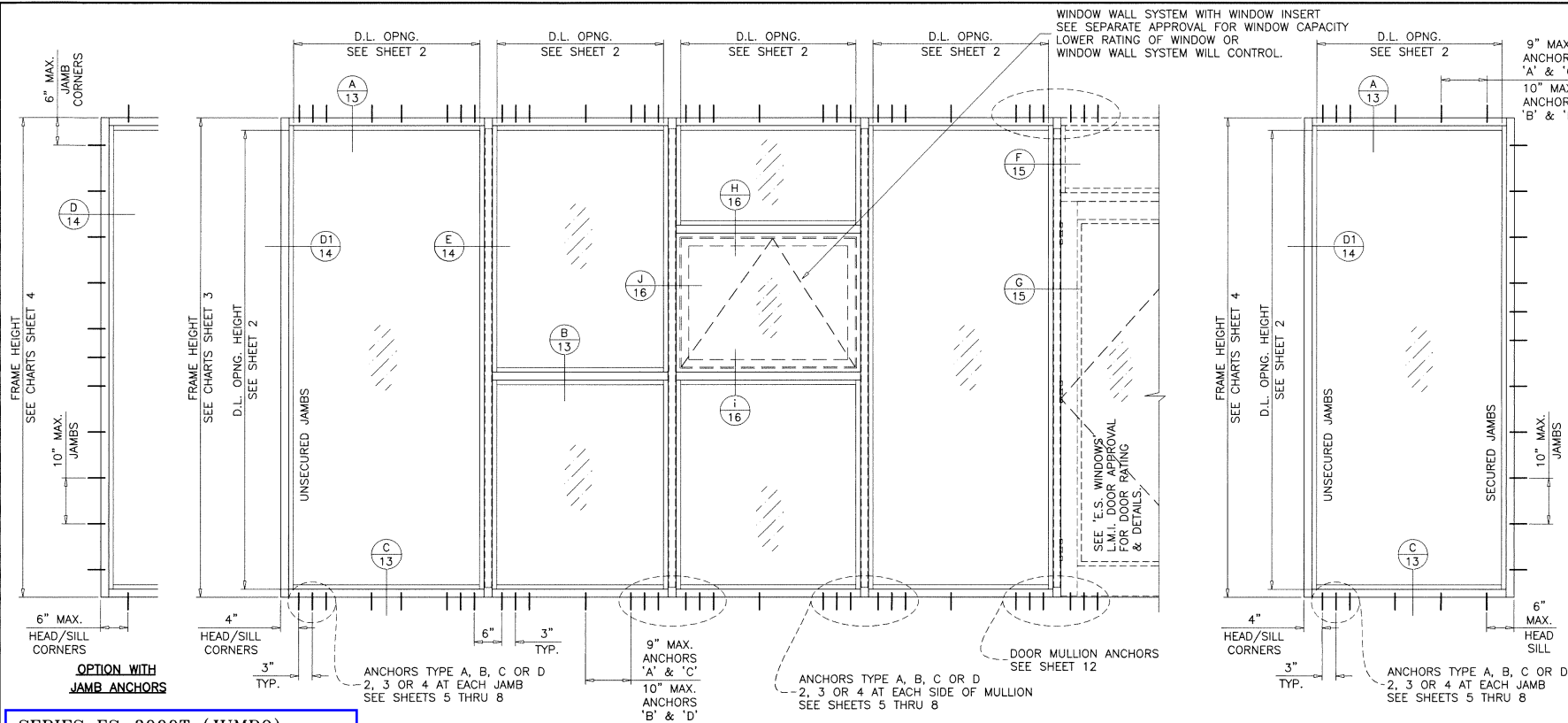
Model Name: SERIES ES-8000T JUMBO ALUMINUM WINDOW WALL SYSTEM

Maximum Load: +70 PSF, -70 PSF (Large Missile Impact)

Installation Drawings # 21-58F

This product complies with the High Velocity Hurricane Zone (HVHZ) testing requirements.					
For maximum sizes, combination of span vs loads and anchor type refer to installation drawings.					
Comparative analysis used ☒ Yes ☐ No					
Mandatory Tests (Tested in accordance with AAMA 501/101/I.S.2/NAFS/TAS-202)					
TEST	DESCRIPTION	TEST LOCATION	TEST REPORT DATE	TEST REPORT #	Test Sealed by
ASTM E283	Air Infiltration Leakage	Fenestration Testing Laboratory, Inc. Blackwater Technical Services Inc.	12/19/2007 04/14/2015 08/16/2017 03/08/2021 05/17/2021	FTL-5447 FTL-7546 FTL-9605 BT-ESW-20-046 BT-ESW-20-049	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Michael D. Caldwell, P.E. Michael D. Caldwell, P.E.
ASTM E331 OR ASTM 547 & TAS 202	Water Penetration	Fenestration Testing Laboratory, Inc. Blackwater	12/19/2007 04/14/2015 08/16/2017 03/08/2021 05/17/2021	FTL-5447 FTL-7546 FTL-9605 BT-ESW-20-046 BT-ESW-20-049	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Michael D. Caldwell, P.E. Michael D. Caldwell, P.E.
ASTM E330 & TAS 202	Uniform Static Air Press.	Fenestration Testing Laboratory, Inc. Blackwater Technical Services Inc.	12/19/2007 04/14/2015 08/16/2017 03/08/2021 05/17/2021 01/12/2023	FTL-5447 FTL-7546 FTL-9605 BT-ESW-20-046 BT-ESW-20-049 BT-ESW-22-023	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Michael D. Caldwell, P.E. Michael D. Caldwell, P.E. Michael D. Caldwell, P.E.
ASTM F588	Forced Entry	Blackwater Technical Services Inc.	03/08/2021 05/17/2021	BT-ESW-20-046 BT-ESW-20-049	Michael D. Caldwell, P.E. Michael D. Caldwell, P.E.

Supplemental Tests (Tested in accordance with TAS-201 and TAS-203)					
TEST	DESCRIPTION	TEST LOCATION	TEST REPORT DATE	TEST REPORT #	Test Sealed by
FBC 1626.2 (TAS 201 & 203) ANSI Z97.1 ASTM E1886/1996	Large Missile Impact & Cyclic	Fenestration Testing Laboratory, Inc. Blackwater Technical Services Inc.	12/19/2007 04/14/2015 08/16/2017 03/08/2021 05/17/2021 01/12/2023	FTL-5447 FTL-7546 FTL-9605 BT-ESW-20-046 BT-ESW-20-049 BT-ESW-22-023	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Michael D. Caldwell, P.E. Michael D. Caldwell, P.E. Michael D. Caldwell, P.E.
Under the limitations of the attached installation drawings, to the best of my knowledge and ability, the above product conforms to the requirements of the 2023 Florida Building Code.					
Evaluation Report Engineer: Jalal Farooq Al-Farooq Corporation			 Sealed: 8/1/2023		
PE # 81223 EB # 3538					



SERIES ES-8000T (JUMBO) ALUMINUM WINDOW WALL 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).

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 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 LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEET 2 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE.
- STEP 3** CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 3 FOR WINDOW WALL MULLION AND SHEETS 9 THRU 11 FOR DOOR MULLION. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 5 THRU 8 FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 12. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 5** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

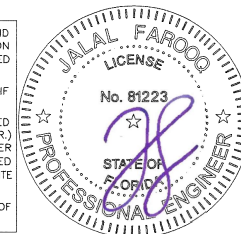
THIS SYSTEM IS RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

WINDOW WALL SYSTEM COMPLY WITH REQUIREMENTS OF ANSI Z97.1.

Sealed: 3/13/2025

FL #17897

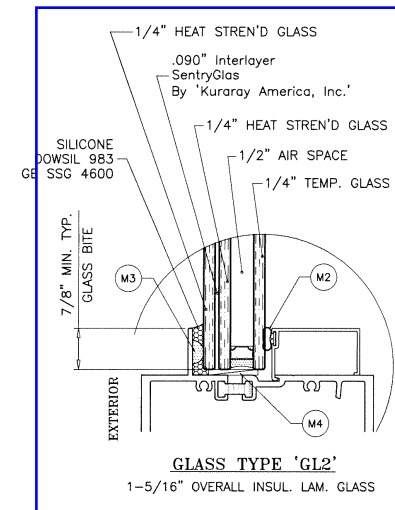
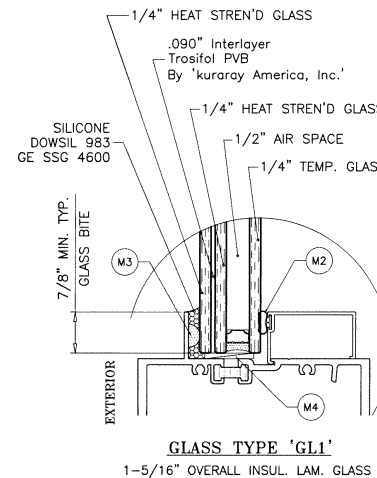
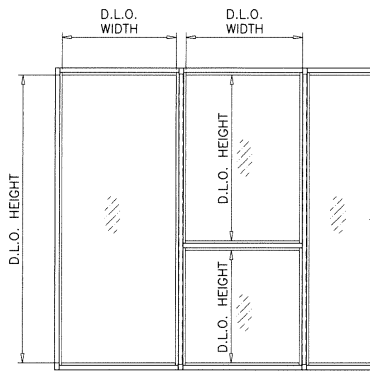
- A- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.
- B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.
- C- 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 (C.A.N. 3538) TEL. (305) 264-8100 FAX. (305) 262-6978		COMP-ANL121-58FES
ES-8000T (JUMBO) ALUM WINDOW WALL SYS. (L.M.I.) E.S. WINDOWS, LLC 3550 N.W. 49 STREET MIAMI, FL. 33142 TEL. (305) 638-5151 FAX. (305) 638-5158		21-58F sheet 1 of 18

GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES			
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
60-1/2"	102-1/2"	70.0	70.0	70.0	70.0
66-1/2"		70.0	70.0	70.0	70.0
72-1/2"		70.0	70.0	70.0	70.0
78-1/2"		70.0	70.0	70.0	70.0
84-1/2"		70.0	70.0	70.0	70.0
90-1/2"		70.0	70.0	70.0	70.0
96-1/2"	114-1/2"	70.0	70.0	70.0	70.0
102-1/2"		66.1	66.1	66.1	66.1
60-1/2"		70.0	70.0	70.0	70.0
66-1/2"		70.0	70.0	70.0	70.0
72-1/2"		70.0	70.0	70.0	70.0
78-1/2"		70.0	70.0	70.0	70.0
84-1/2"	118-1/2"	70.0	70.0	70.0	70.0
90-1/2"		70.0	70.0	70.0	70.0
96-1/2"		70.0	70.0	70.0	70.0
102-1/2"		-	-	54.4	54.4
60-1/2"		70.0	70.0	70.0	70.0
66-1/2"		70.0	70.0	70.0	70.0
72-1/2"	126-1/2"	70.0	70.0	70.0	70.0
78-1/2"		70.0	70.0	70.0	70.0
84-1/2"		70.0	70.0	70.0	70.0
90-1/2"		-	-	61.3	61.3
96-1/2"		-	-	57.6	57.6
102-1/2"		-	-	54.4	54.4
60-1/2"	138-1/2"	70.0	70.0	70.0	70.0
66-1/2"		70.0	70.0	70.0	70.0
72-1/2"		70.0	70.0	70.0	70.0
78-1/2"		70.0	70.0	70.0	70.0
84-1/2"		-	-	65.3	65.3
90-1/2"		-	-	61.3	61.3
96-1/2"	150-1/2"	-	-	57.6	57.6
60-1/2"		70.0	70.0	70.0	70.0
66-1/2"		70.0	70.0	70.0	70.0
72-1/2"		70.0	70.0	70.0	70.0
78-1/2"		-	-	70.0	70.0
84-1/2"		-	-	65.3	65.3
90-1/2"	162-1/2"	-	-	61.3	61.3
60-1/2"		70.0	70.0	70.0	70.0
66-1/2"		69.1	69.1	70.0	70.0
72-1/2"		-	-	70.0	70.0
78-1/2"	174-1/2"	-	-	70.0	70.0
84-1/2"		-	-	65.3	65.3
60-1/2"		70.0	70.0	70.0	70.0
66-1/2"	174-1/2"	-	-	70.0	70.0
72-1/2"		-	-	70.0	70.0
78-1/2"		-	-	70.0	70.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

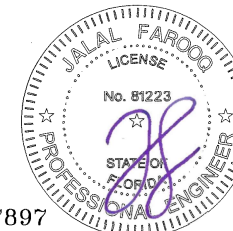


1/2" AIR SPACE CONSISTING OF:
SPACER:
 'HELIMA' LOW PROFILE ALUMINUM SPACER
 BY 'LINGERMANN GMBH'
 AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
 SILICONE
 DOWSIL 791
 GE 2000

Sealed: 3/13/2025

GLASS

FL #17897



af c
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\21-58FES

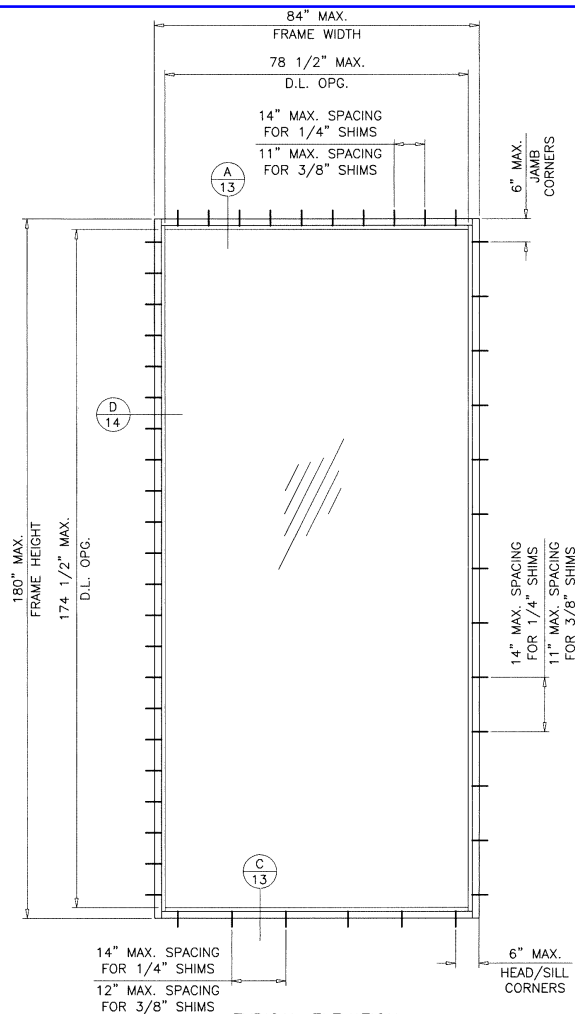
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revisions:	no	date	by	description

date: 07-29-21
 scale: 3/8" = 1"
 dr. by: TARIQ
 chk. by:

drawing no.
21-58F

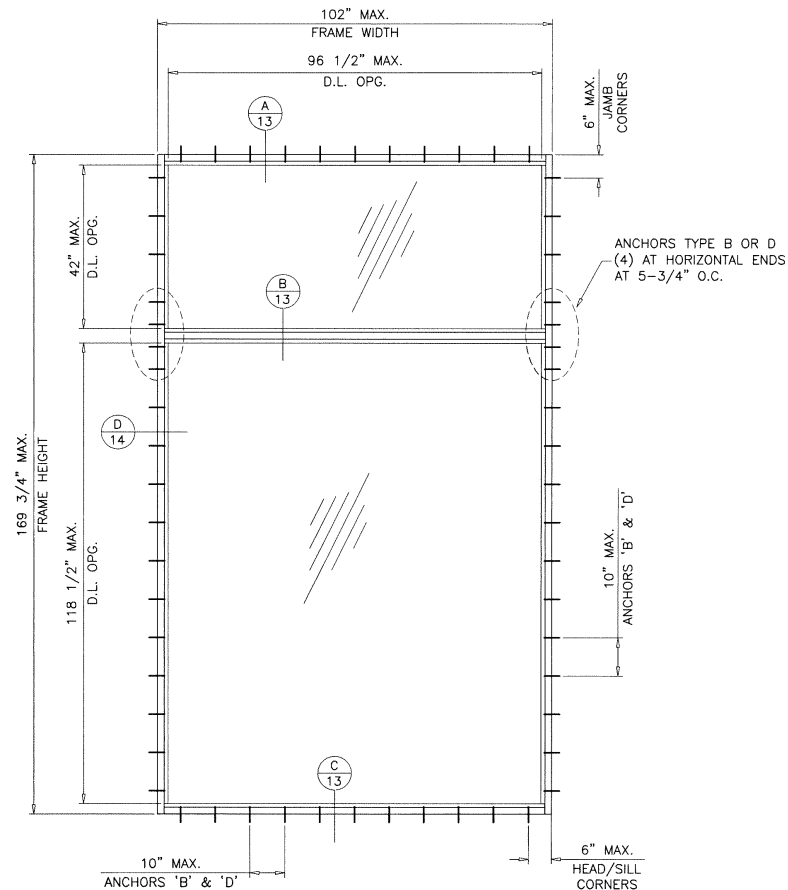
sheet 2 of 18



TYPICAL ELEVATION
SINGLE (O) PANEL

GLASS TYPE 'GL2'
MAXIMUM DESIGN LOAD RATING = + 70.0 PSF
- 70.0 PSF
(FOR SINGLE UNITS SHOWN ABOVE OR SMALLER)

THESE FRAMES CAN BE USED AT ALL SUBSTRATES SHOWN
ON SHEETS 13 AND 14.



GLASS TYPES 'GL1' & 'GL2'
MAXIMUM DESIGN LOAD RATING = + 70.0 PSF
- 70.0 PSF
(FOR SINGLE UNIT SHOWN ABOVE ONLY)

THESE FRAMES CAN BE USED AT ALL SUBSTRATES SHOWN
ON SHEETS 13 AND 14.

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FL #17897



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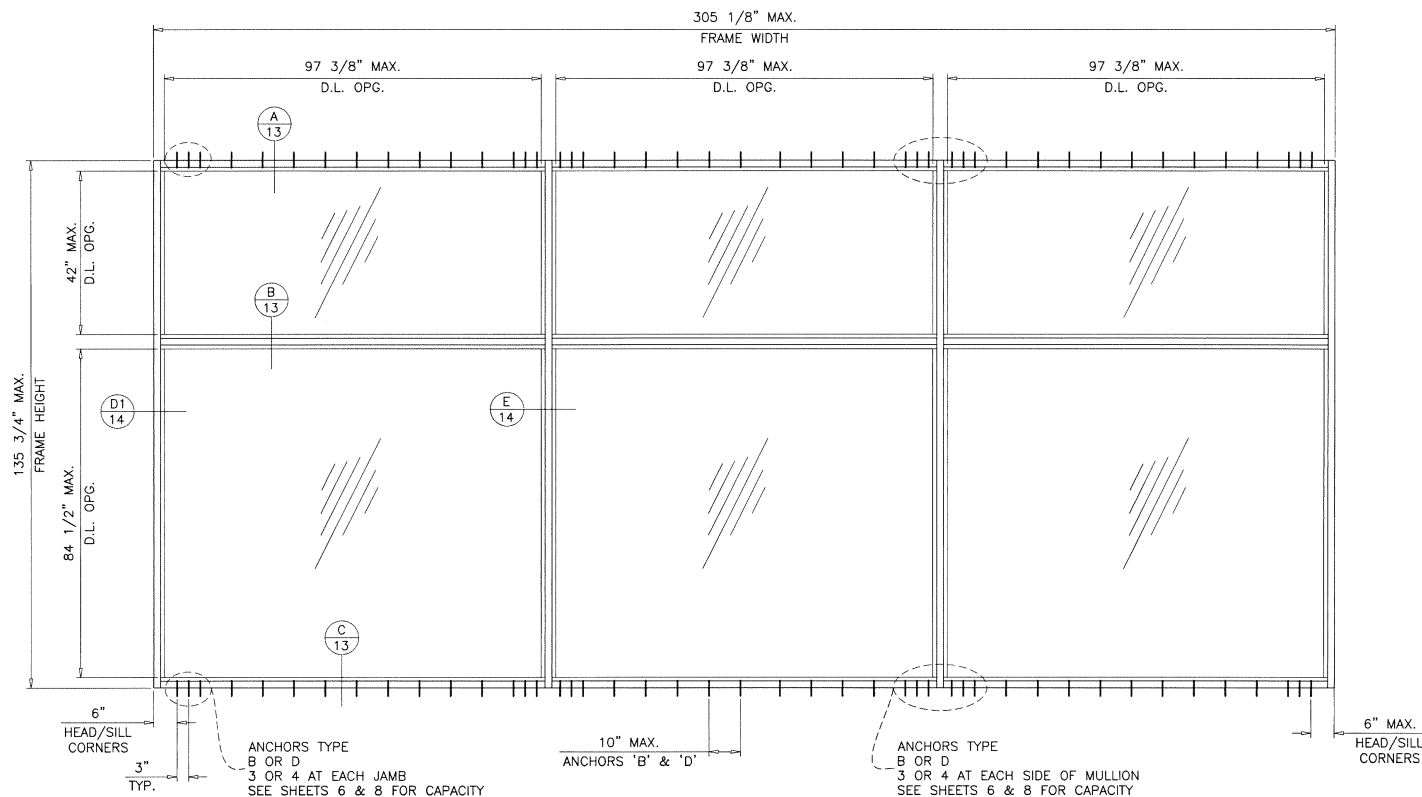
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dr. by: TARIQ
chk. by:

drawing no.
21-58F

sheet 3 of 18

COMP-ANL\21-58FES



GLASS TYPES 'GL1' & 'GL2'
 MAXIMUM DESIGN LOAD RATING = + 66.9 PSF
 - 66.9 PSF
 (FOR SINGLE UNIT SHOWN ABOVE ONLY)

THESE FRAMES CAN BE USED AT ALL SUBSTRATES SHOWN
 ON SHEETS 13 AND 14.

Sealed: 3/13/2025

FL #17897



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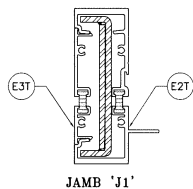
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 chk: by:

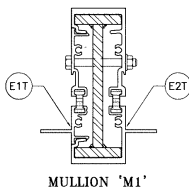
drawing no.
21-58F
 sheet 3.1 of 18

DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS					
NOMINAL DIMS.		JAMB 'J1'		MULLION 'M1'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
72"	108"	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0
96"		70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	70.0
72"	120"	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0
96"		70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	70.0
72"	132"	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0
96"		70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	70.0
72"	135-3/4"	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0
96"		70.0	70.0	70.0	70.0
101-1/8"		70.0	70.0	70.0	70.0

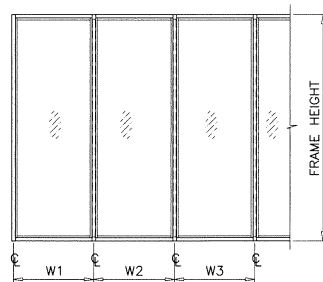
INTERPOLATION BETWEEN WIDTHS ALLOWED.



	Ix IN ⁴	Sx IN ³
ALUMINUM	6.7077	2.6264
STEEL	3.7533	1.6681
TOTAL		
Ix ALUM + Ix STL X 2.9	17.4845	



	Ix IN ⁴	Sx IN ³
ALUMINUM	6.8787	2.6933
STEEL	5.8308	2.5559
TOTAL		
Ix ALUM + Ix STL X 2.9	23.6206	



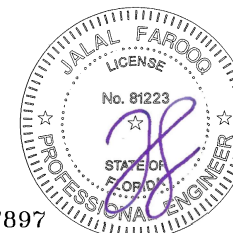
WIDTH (W) = W1
AT FRAME JAMB

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

MULLIONS

Sealed: 3/13/2025

FL #17897



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\21-58FES

ES-800T (JUMBO) ALUM WINDOW WALL SYS. (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

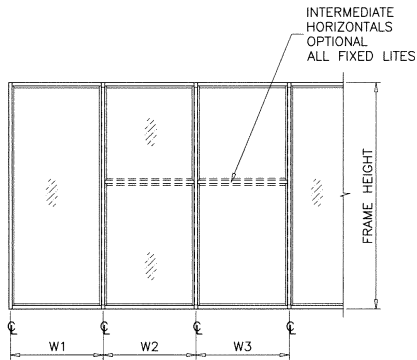
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scale: -
dr: by: TARIQ
chk. by:

drawing no.
21-58F

sheet 4 of 18

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS. WIDTH (W) FRAME HEIGHT		ANCHORS TYPE 'A'							
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
		A2	A3	A4	A2	A3	A4	A3	A4
36"	84"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	68.6	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	65.2	70.0	70.0	70.0	70.0
36"	90"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	66.7	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	62.1	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	58.7	70.0	70.0	68.4	70.0
36"	96"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	67.1	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	61.1	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	56.7	70.0	70.0	66.1	70.0
60"		70.0	70.0	70.0	53.4	70.0	70.0	62.2	70.0
36"	102"	70.0	70.0	70.0	69.9	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	62.1	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	56.4	70.0	70.0	65.8	70.0
54"		70.0	70.0	70.0	52.2	70.0	70.0	60.8	70.0
60"		69.6	70.0	70.0	48.9	70.0	70.0	57.0	70.0
36"	108"	70.0	70.0	70.0	65.2	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	57.8	70.0	70.0	67.4	70.0
48"		70.0	70.0	70.0	52.4	70.0	70.0	61.1	70.0
54"		70.0	70.0	70.0	48.3	70.0	70.0	56.3	70.0
60"		68.7	70.0	70.0	45.1	67.7	70.0	52.7	70.0
36"	114"	70.0	70.0	70.0	61.1	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	54.1	70.0	70.0	63.1	70.0
48"		69.6	70.0	70.0	48.9	70.0	70.0	57.0	70.0
54"		64.0	70.0	70.0	45.0	67.5	70.0	52.5	69.9
60"		59.7	70.0	70.0	41.9	62.9	70.0	48.9	65.2
36"	120"	70.0	70.0	70.0	57.5	70.0	70.0	67.1	70.0
42"		70.0	70.0	70.0	50.8	70.0	70.0	59.3	70.0
48"		65.3	70.0	70.0	45.9	68.8	70.0	53.5	70.0
54"		59.9	70.0	70.0	42.1	63.1	70.0	49.1	65.4
60"		55.7	70.0	70.0	39.1	58.7	70.0	45.6	60.8

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

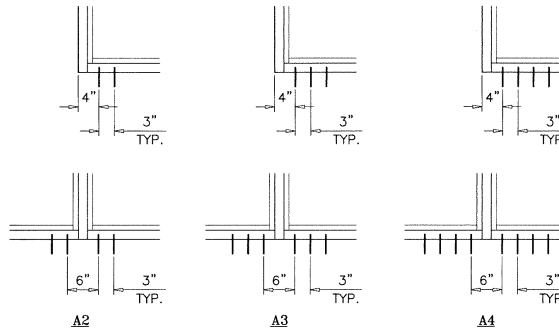


$$\text{WIDTH (W)} = W1$$

AT FRAME JAMB

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

AT FRAME MULLION

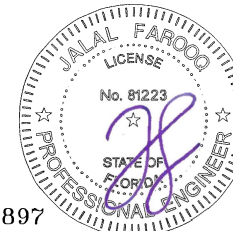


ANCHORS TYPES: SEE SHEET 13 FOR DESCRIPTION

- A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION

Sealed: 3/13/2025

FL #17897



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
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ES-8000T (JUMBO) ALUM WINDOW WALL SYS. (L.M.I.)
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Revisions:	no	date	by	description

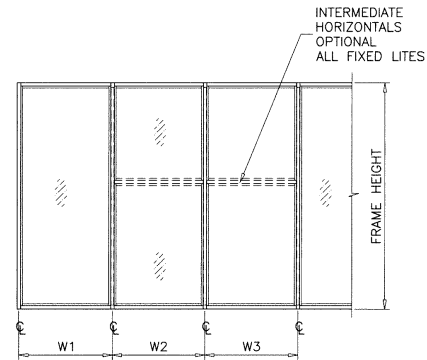
date: 07-29-21
scale: -
dr. by: FARQ
chk. by:

drawing no.
21-58F
sheet 5 of 18

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHORS TYPE 'B'							
WIDTH (W)	FRAME HEIGHT	1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
		B2	B3	B4	B2	B3	B4	B3	B4
36"	90"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
96"	96"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	69.6	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	67.6	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	66.3	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	65.5	70.0	70.0	70.0	70.0
96"		70.0	70.0	70.0	65.3	70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	65.3	70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	65.3	70.0	70.0	70.0	70.0
36"	102"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	69.6	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	66.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	63.3	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	61.2	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	59.7	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	58.6	70.0	70.0	69.4	70.0
96"	108"	70.0	70.0	70.0	58.0	70.0	70.0	68.7	70.0
102"		70.0	70.0	70.0	57.8	70.0	70.0	68.4	70.0
108"		70.0	70.0	70.0	57.8	70.0	70.0	68.4	70.0
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	68.7	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	64.2	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	60.7	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	58.0	70.0	70.0	68.7	70.0
78"		70.0	70.0	70.0	55.9	70.0	70.0	66.1	70.0
84"		70.0	70.0	70.0	54.2	70.0	70.0	64.2	70.0
90"		69.3	70.0	70.0	53.0	70.0	70.0	62.8	70.0
96"		68.2	70.0	70.0	52.2	70.0	70.0	61.8	70.0
102"		67.6	70.0	70.0	51.7	70.0	70.0	61.2	70.0
108"		67.4	70.0	70.0	51.6	70.0	70.0	61.0	70.0

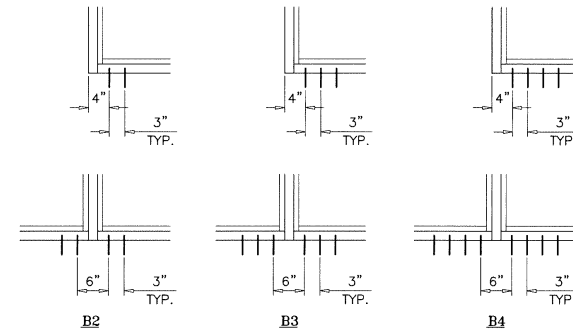
ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHORS TYPE 'B'							
WIDTH (W)	FRAME HEIGHT	1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
		B2	B3	B4	B2	B3	B4	B3	B4
36"	114"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	69.6	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	64.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	59.7	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	56.2	70.0	70.0	66.6	70.0
72"		69.9	70.0	70.0	53.5	70.0	70.0	63.4	70.0
78"		67.2	70.0	70.0	51.4	70.0	70.0	60.8	70.0
84"		65.0	70.0	70.0	49.7	70.0	70.0	58.9	70.0
90"		63.3	70.0	70.0	48.4	70.0	70.0	57.3	70.0
96"	120"	62.0	70.0	70.0	47.5	70.0	70.0	56.2	70.0
102"		61.1	70.0	70.0	46.8	70.0	70.0	55.4	70.0
108"		60.6	70.0	70.0	46.4	69.6	70.0	54.9	70.0
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	65.3	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	59.9	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	55.7	70.0	70.0	65.9	70.0
66"		68.4	70.0	70.0	52.4	70.0	70.0	62.0	70.0
72"		65.0	70.0	70.0	49.7	70.0	70.0	58.9	70.0
78"		62.2	70.0	70.0	47.6	70.0	70.0	56.3	70.0
84"	132"	60.0	70.0	70.0	45.9	68.8	70.0	54.3	70.0
90"		58.2	70.0	70.0	44.5	66.8	70.0	52.7	70.0
96"		—	70.0	70.0	—	65.3	70.0	51.5	68.7
102"		—	70.0	70.0	—	64.1	70.0	50.6	67.4
108"		—	70.0	70.0	—	63.3	70.0	49.9	66.6
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	64.5	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	58.0	70.0	70.0	68.7	70.0
54"		69.3	70.0	70.0	53.0	70.0	70.0	62.8	70.0
60"		64.2	70.0	70.0	49.1	70.0	70.0	58.2	70.0
66"		60.1	70.0	70.0	46.0	69.0	70.0	54.5	70.0
72"	132"	—	70.0	70.0	—	65.3	70.0	51.5	68.7
78"		—	70.0	70.0	—	62.2	70.0	49.1	65.4
84"		—	70.0	70.0	—	59.7	70.0	47.1	62.8
90"		—	70.0	70.0	—	57.6	70.0	45.5	60.6
96"		—	70.0	70.0	—	55.9	70.0	44.1	58.9
102"		—	70.0	70.0	—	54.6	70.0	43.1	57.4
36"	135-3/4"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	62.4	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	56.1	70.0	70.0	66.4	70.0
54"		66.9	70.0	70.0	51.2	70.0	70.0	60.6	70.0
60"		61.9	70.0	70.0	47.4	70.0	70.0	56.1	70.0
66"		57.9	70.0	70.0	44.3	66.5	70.0	52.5	70.0
72"		—	70.0	70.0	—	62.8	70.0	49.6	66.1
78"		—	70.0	70.0	—	59.8	70.0	47.2	62.9
84"		—	70.0	70.0	—	57.3	70.0	45.2	60.3
90"		—	70.0	70.0	—	55.2	70.0	43.6	58.1
96"	101-1/8"	—	69.9	70.0	—	53.5	70.0	42.3	56.3
		—	68.4	70.0	—	52.4	69.8	41.3	55.1

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



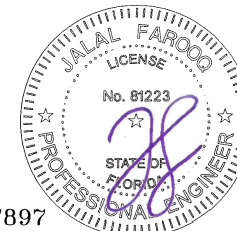
ANCHORS TYPES: SEE SHEET 13 FOR DESCRIPTION

B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION

Sealed: 3/13/2025

ANCHORS

FL #17897



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL V21-58FES

ES-800T (JUMBO) ALUM WINDOW WALL SYS. (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

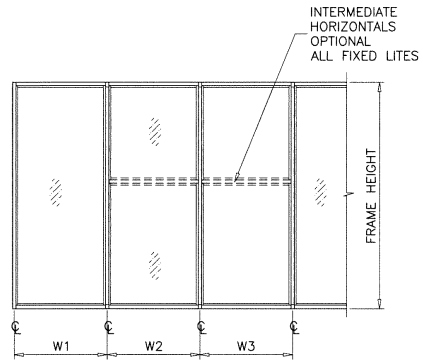
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scale: —
dr: by: TARIQ
chk: by:

drawing no.
21-58F

sheet 6 of 18

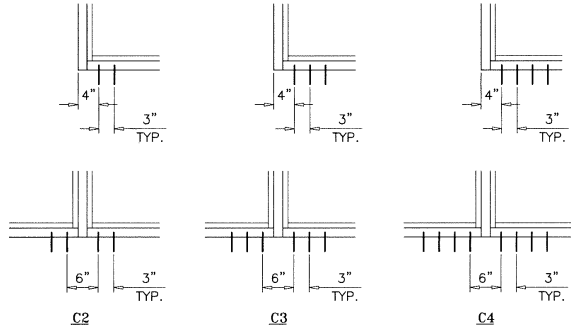
ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHORS TYPE 'C'							
		1/4" MAX. SHIM				3/8" MAX. SHIM		1/2" SHIM	
WIDTH (W)	FRAME HEIGHT	C2	C3	C4	C2	C3	C4	C3	C4
36"	84"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	69.6	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	66.1	70.0	70.0	70.0	70.0
36"	90"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	67.6	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	63.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	59.5	70.0	70.0	70.0	70.0
36"	96"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	68.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	62.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	57.5	70.0	70.0	68.2	70.0
60"		70.0	70.0	70.0	54.1	70.0	70.0	64.1	70.0
36"	102"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	63.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	57.2	70.0	70.0	67.8	70.0
54"		70.0	70.0	70.0	52.9	70.0	70.0	62.7	70.0
60"		70.0	70.0	70.0	49.6	70.0	70.0	58.8	70.0
36"	108"	70.0	70.0	70.0	66.1	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	58.6	70.0	70.0	69.5	70.0
48"		70.0	70.0	70.0	53.1	70.0	70.0	63.0	70.0
54"		70.0	70.0	70.0	49.0	70.0	70.0	58.1	70.0
60"		70.0	70.0	70.0	45.8	68.7	70.0	54.3	70.0
36"	114"	70.0	70.0	70.0	62.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	54.9	70.0	70.0	65.0	70.0
48"		70.0	70.0	70.0	49.6	70.0	70.0	58.8	70.0
54"		70.0	70.0	70.0	45.6	68.4	70.0	54.1	70.0
60"		70.0	70.0	70.0	42.5	63.8	70.0	50.4	67.2
36"	120"	70.0	70.0	70.0	58.4	70.0	70.0	69.2	70.0
42"		70.0	70.0	70.0	51.5	70.0	70.0	61.1	70.0
48"		70.0	70.0	70.0	46.5	69.8	70.0	55.1	70.0
54"		70.0	70.0	70.0	42.7	64.0	70.0	50.6	67.4
60"		70.0	70.0	70.0	39.7	59.5	70.0	47.0	62.7

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



ANCHORS TYPES: SEE SHEET 13 FOR DESCRIPTION

C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

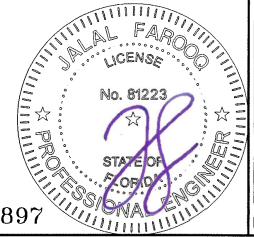
C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

Sealed: 3/13/2025

ANCHORS

FL #17897



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

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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: 07-29-21

scale: -

dr. by: TARIO

chk. by:

drawing no.

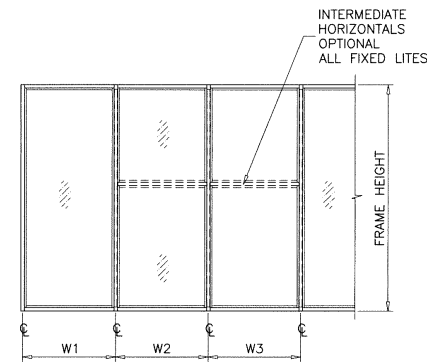
21-58F

sheet 7 of 18

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHORS TYPE 'D'							
WIDTH (W)	FRAME HEIGHT	1/4" MAX. SHIM		3/8" MAX. SHIM		1/2" SHIM			
		D2	D3	D4	D2	D3	D4	D3	D4
36"	90"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
96"	96"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
96"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"	102"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
96"	108"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
96"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0

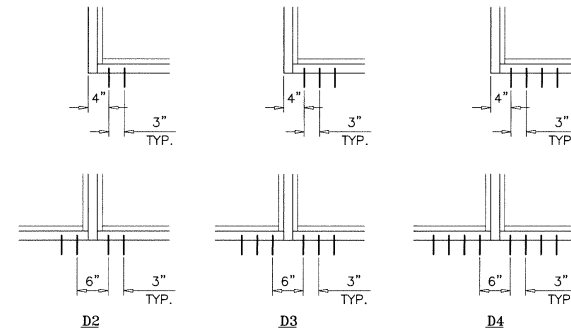
ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHORS TYPE 'D'							
WIDTH (W)	FRAME HEIGHT	1/4" MAX. SHIM		3/8" MAX. SHIM		1/2" SHIM			
		D2	D3	D4	D2	D3	D4	D3	D4
36"	114"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
84"		70.0	70.0	70.0	69.3	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	67.5	70.0	70.0	70.0	70.0
96"	120"	70.0	70.0	70.0	66.2	70.0	70.0	70.0	70.0
102"		70.0	70.0	70.0	65.3	70.0	70.0	70.0	70.0
108"		70.0	70.0	70.0	64.7	70.0	70.0	70.0	70.0
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
72"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78"		70.0	70.0	70.0	66.4	70.0	70.0	70.0	70.0
84"	132"	70.0	70.0	70.0	64.0	70.0	70.0	70.0	70.0
90"		70.0	70.0	70.0	62.1	70.0	70.0	70.0	70.0
96"		-	70.0	70.0	-	70.0	70.0	70.0	70.0
102"		-	70.0	70.0	-	70.0	70.0	70.0	70.0
108"		-	70.0	70.0	-	70.0	70.0	70.0	70.0
36"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	68.5	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	64.2	70.0	70.0	70.0	70.0
72"	132"	-	70.0	70.0	-	70.0	70.0	70.0	70.0
78"		-	70.0	70.0	-	70.0	70.0	68.8	70.0
84"		-	70.0	70.0	-	70.0	70.0	66.1	70.0
90"		-	70.0	70.0	-	70.0	70.0	63.8	70.0
96"		-	70.0	70.0	-	70.0	70.0	61.9	70.0
102"		-	70.0	70.0	-	70.0	70.0	60.4	70.0
36"	135-3/4"	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		70.0	70.0	70.0	66.1	70.0	70.0	70.0	70.0
66"		70.0	70.0	70.0	61.8	70.0	70.0	70.0	70.0
72"		-	70.0	70.0	-	70.0	70.0	69.5	70.0
78"		-	70.0	70.0	-	70.0	70.0	66.2	70.0
84"		-	70.0	70.0	-	70.0	70.0	63.4	70.0
90"		-	70.0	70.0	-	70.0	70.0	61.1	70.0
96"	101-1/8"	-	70.0	70.0	-	70.0	70.0	59.3	70.0
102"		-	70.0	70.0	-	70.0	70.0	58.0	70.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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



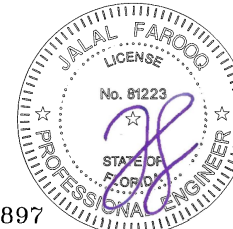
ANCHORS TYPES: SEE SHEET 13 FOR DESCRIPTION

D2 = (2) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
D3 = (3) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
D4 = (4) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

Sealed: 3/13/2025

ANCHORS

FL #17897



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\21-58FES

ES-800T (JUMBO) ALUM WINDOW WALL SYS. (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

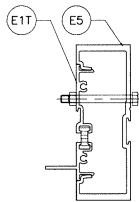
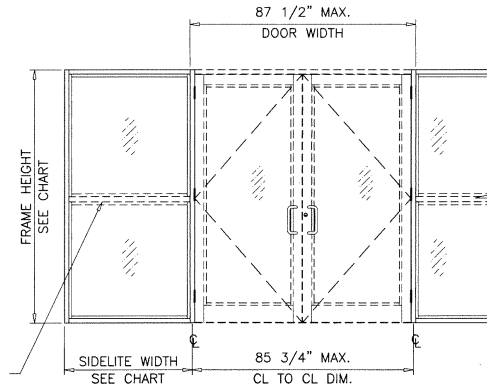
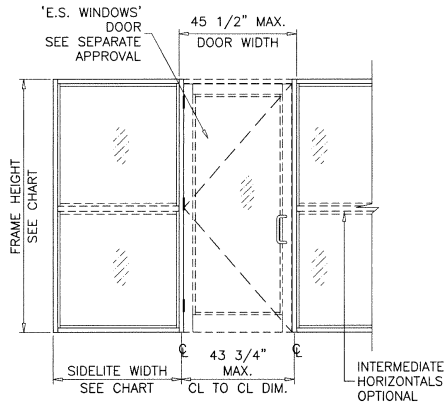
date: 07-29-21
scale: -
dr. by: TARIQ
chk. by:

drawing no.
21-58F

sheet 8 of 18

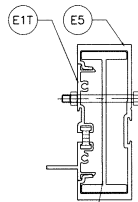
DOOR MULLION LOAD CAPACITY-PSF											
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	MULL 'MD1'		MULL 'MD2'		MULL 'MD3'		MULL 'MD4'		MULL 'MD5'	
		EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
32	86-1/2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
32	98-1/2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
32	110-1/2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48		66.1	66.1	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
32	120	-	-	-	-	-	-	-	-	70.0	70.0
36		-	-	-	-	-	-	-	-	70.0	70.0
42		-	-	-	-	-	-	-	-	70.0	70.0
48		-	-	-	-	-	-	-	-	70.0	70.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



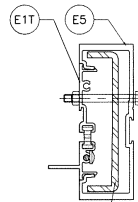
MULLION 'MD1'

1x IN^4	Sx IN^3
6.7517	2.6954



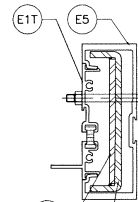
MULLION 'MD2'

1x IN^4	Sx IN^3
10.8394	4.4985



MULLION 'MD3'

1x IN^4	Sx IN^3
ALUMINUM	6.7517
STEEL	2.7506
TOTAL	14.6495
1x ALUM + 1x STL X 2.9	



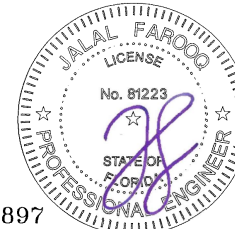
MULLION 'MD4'

1x IN^4	Sx IN^3
ALUMINUM	6.7517
STEEL	3.7533
TOTAL	17.5285
1x ALUM + 1x STL X 2.9	

DOOR-WINDOWALL
TRANSITION MULLION

Sealed: 3/13/2025

FL #17897



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 262-8100 FAX. (305) 262-8978
C.A.N. 3538

ES-800T (JUMBO) ALUM WINDOW WALL SYS. (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:	07-29-21
scale:	-
dr:	TARQ
chk:	by:

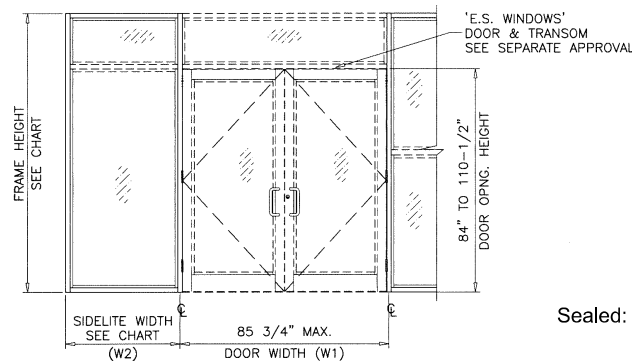
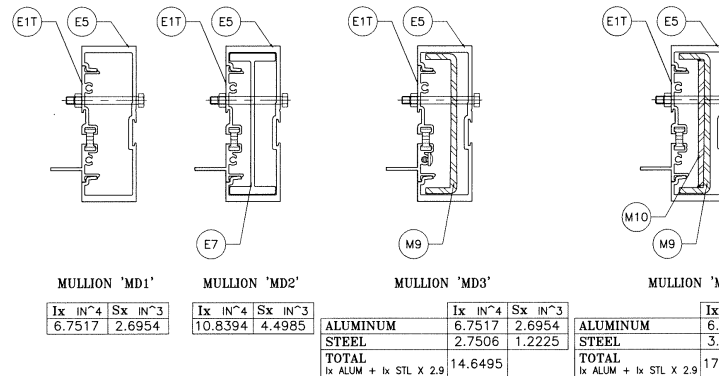
drawing no.
21-58F

sheet 9 of 18

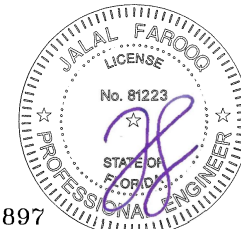
DOOR MULLION LOAD CAPACITY - PSF														
NOMINAL DIMS.				MULL 'MD1'		MULL 'MD2'		MULL 'MD3'		MULL 'MD4'		MULL 'MD5'		
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	
85-3/4	30	96	84	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	36			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	42			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	48			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	54			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	60			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	30	102		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	42			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	48			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	54			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	60			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	30	108		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	42			69.5	69.5	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	48			65.4	65.4	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	54			61.7	61.7	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	60			60.2	60.2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	30	114		56.6	56.6	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36			53.3	53.3	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	42			50.5	50.5	70.0	70.0	69.9	69.9	70.0	70.0	70.0	70.0	70.0
	48			49.7	49.7	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	54			46.8	46.8	70.0	70.0	68.1	68.1	70.0	70.0	70.0	70.0	70.0
	60			44.2	44.2	70.0	70.0	64.8	64.8	70.0	70.0	68.2	68.2	70.0
30	120	41.9		41.9	67.5	67.5	61.7	61.7	70.0	70.0	65.0	65.0	70.0	
36		70.0		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
42		70.0		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
48		70.0		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
54		70.0		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
60		70.0		70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
85-3/4	30	102		90	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	42				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	48				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	54				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	60				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	30	108			70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	42				69.3	69.3	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	48				65.2	65.2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	54				63.9	63.9	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	60				59.9	59.9	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	30	114			56.3	56.3	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36				53.1	53.1	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	42				52.4	52.4	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	48				49.2	49.2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	54				46.3	46.3	70.0	70.0	66.9	66.9	70.0	70.0	69.9	69.9
	60				43.8	43.8	70.0	70.0	63.6	63.6	70.0	70.0	66.5	66.5
85-3/4	30	108		96	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	42				70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	48				68.8	68.8	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	54				68.2	68.2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	60				63.5	63.5	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	30	114	59.5		59.5	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	36		56.0		56.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	42		55.5		55.5	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	48		51.9		51.9	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	54		48.8		48.8	70.0	70.0	69.7	69.7	70.0	70.0	70.0	70.0	
	60		46.0		46.0	70.0	70.0	66.2	66.2	70.0	70.0	68.6	68.6	

DOOR MULLION LOAD CAPACITY - PSF														
NOMINAL DIMS.				MULL 'MD1'	MULL 'MD2'	MULL 'MD3'	MULL 'MD4'	MULL 'MD5'						
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	
85-3/4	30	114	102	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	36			67.2	67.2	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	42			62.7	62.7	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	48			58.8	58.8	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	36	120		59.0	59.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	30			55.0	55.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	42			51.5	51.5	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	
	48			48.4	48.4	70.0	70.0	69.4	69.4	70.0	70.0	70.0	70.0	
85-3/4	30	120		110-1/2	63.7	63.7	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	36				59.0	59.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	42				55.0	55.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
	48				51.5	51.5	70.0	70.0	70.0	70.0	70.0	70.0	77.0	70.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



DOOR-WINDOWALL
TRANSITION MULLION



Sealed: 3/13/2025

FL #17897

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL (305) 262-6978 FAX (305) 264-8100
COMP-ANL \21-58FES

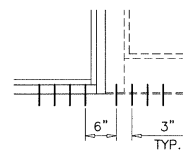
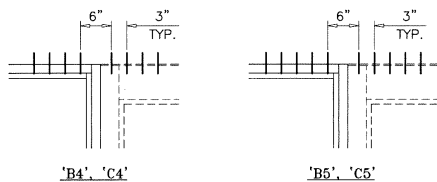
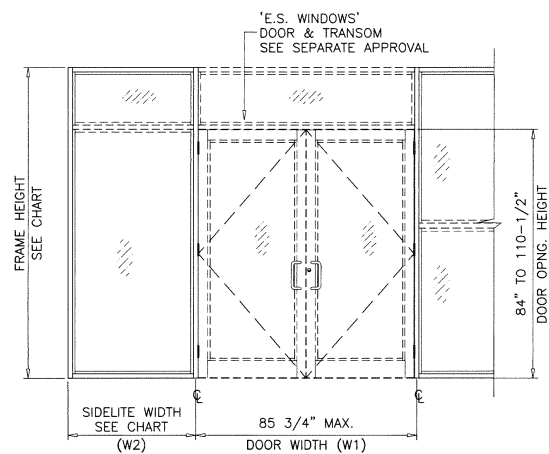
ES-800T (JUMBO) ALUM WINDOW WALL SYS. (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL (305) 638-5151 FAX (305) 638-5158

revisions:
no date by description

DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF					
NOMINAL DIMS.				'B4'/'C4'	'B5'/'C5'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)
85–3/4	30	96	84	70.0	70.0
	36			70.0	70.0
	42			70.0	70.0
	48			70.0	70.0
	54			70.0	70.0
	60			70.0	70.0
	30	102		70.0	70.0
	36			70.0	70.0
	42			70.0	70.0
	48			70.0	70.0
	54	108		70.0	70.0
	30			70.0	70.0
	36			70.0	70.0
	42			70.0	70.0
	48	114		70.0	70.0
	30			70.0	70.0
	36			70.0	70.0
	42			68.0	70.0
48	120	70.0	70.0		
30		70.0	70.0		
36		70.0	70.0		
42		68.9	70.0		
48		65.4	70.0		
85–3/4	30	102	90	70.0	70.0
	36			70.0	70.0
	42			70.0	70.0
	48			70.0	70.0
	54			69.1	70.0
	30			70.0	70.0
	36	108		70.0	70.0
	42			70.0	70.0
	48			69.4	70.0
	30			114	70.0
	36	70.0			70.0
	42	70.0			70.0
	48	66.8			70.0
	30	120		70.0	70.0
	36			70.0	70.0
	42			67.6	70.0
	48			64.3	70.0

DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF					
NOMINAL DIMS.				'B4'/'C4'	'B5'/'C5'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)
85-3/4	30	108	96	70.0	70.0
	36			70.0	70.0
	42			70.0	70.0
	48			68.1	70.0
	30	114		70.0	70.0
	36			70.0	70.0
	42			68.8	70.0
	48			65.6	70.0
	30	120		70.0	70.0
	36			69.9	70.0
42	66.4		70.0		
48	63.2		70.0		
85-3/4	30	114	102	70.0	70.0
	36			70.0	70.0
	42			67.6	70.0
	48			64.4	70.0
	30	120		70.0	70.0
	36			68.6	70.0
	42			65.2	70.0
	48			62.1	70.0
85-3/4	30	120	110-1/2	70.0	70.0
	36			66.8	70.0
	42			63.6	70.0
	48			60.7	70.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



'B4' AT SILL ALL CASES

TRANSITION MULLION ANCHORS

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

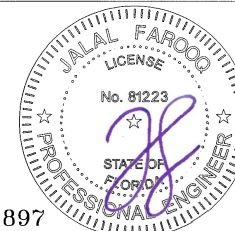
B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION
B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION

C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION
C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.
SHIM SPACE FOR ANCHORS TYPE 'C' LIMITED TO 1/4\" MAX.

Sealed: 3/13/2025

FL #17897



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 262-6978 FAX. (305) 262-6978
(C.A.N. 9538)

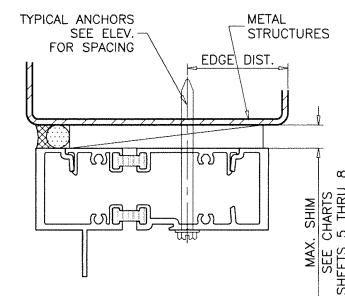
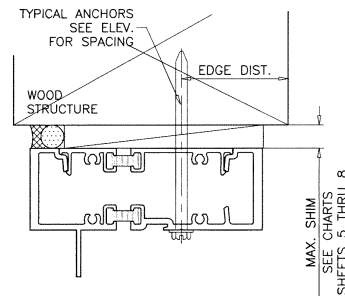
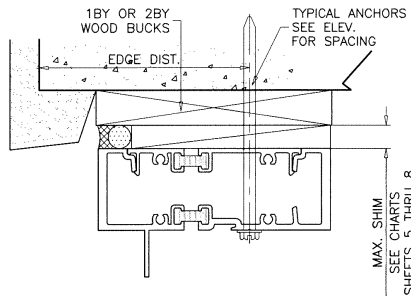
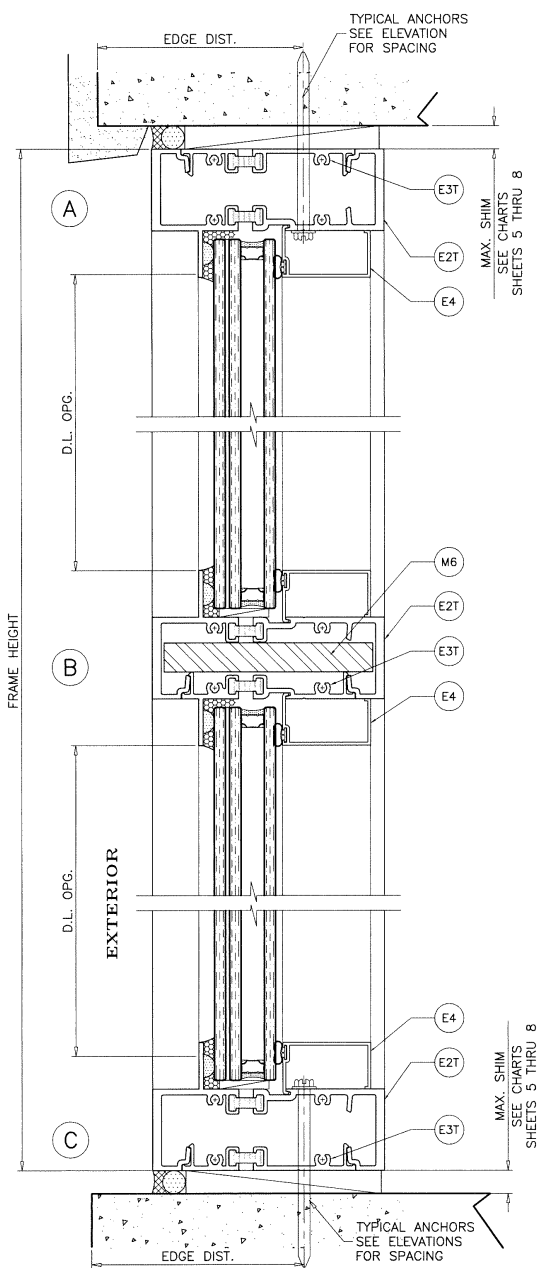
ES-8000T (JUMBO) ALUM WINDOW WALL SYS. (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	no	date	by	description

date:	07-29-21
scale:	—
dr. by:	TARIO
chk. by:	

drawing no.
21-58F

sheet 12 of 18



1BY OR 2BY 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

TYPE 'A' - 1/4" DIA. ULTRACON+ BY 'DEWALT' ($F_u=164$ KSI, $F_y=148$ KSI)
 INTO WOOD STRUCTURES
 2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)
 THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)
 DIRECTLY INTO CONC. OR BLOCKS
 2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)
ANCHOR EDGE DISTANCES
 INTO CONCRETE AND MASONRY = 2-1/2" MIN.
 INTO WOOD STRUCTURE = 1" MIN.

TYPE 'B' - 5/16" DIA. ULTRACON BY 'DEWALT' ($F_u=177$ KSI, $F_y=155$ KSI)
 INTO WOOD STRUCTURES
 2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)
 THRU 1BY OR 2BY BUCKS INTO CONC. OR BLOCKS
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)
 DIRECTLY INTO CONC. OR BLOCKS
 2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
 2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)
ANCHOR EDGE DISTANCES
 INTO CONCRETE AND MASONRY = 2-1/2" MIN.
 INTO WOOD STRUCTURE = 1-1/4" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
 CONCRETE AT HEAD, SILL OR JAMBS f'_c = 3000 PSI MIN.
 C-90 GROUT-FILLED NORMAL WEIGHT BLOCK AT JAMBS f'_m = 2000 PSI MIN.

TYPE 'C' - 1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
 INTO F.B.C. APPROVED MULLIONS
 OR
 INTO METAL STRUCTURES (HEAD/SILL/JAMBS)
 (3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
 ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
 STEEL: 1/8" THK. MIN. (F_y = 36 KSI MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES
 INTO METAL STRUCTURE = 1/2" MIN.

TYPE 'D' - 5/16" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
 INTO F.B.C. APPROVED MULLIONS
 OR
 INTO METAL STRUCTURES (HEAD/SILL/JAMBS)
 (3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
 ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
 STEEL: 1/8" THK. MIN. (F_y = 36 KSI MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

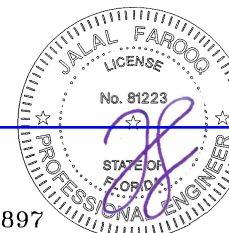
ANCHOR EDGE DISTANCES
 INTO METAL STRUCTURE = 1/2" MIN.

SEALANTS:

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

Sealed: 3/13/2025

FL #17897



AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220
 MIAMI, FLORIDA 33173 (C.A.N. 9538)
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 COMP-ANL\21-58FES

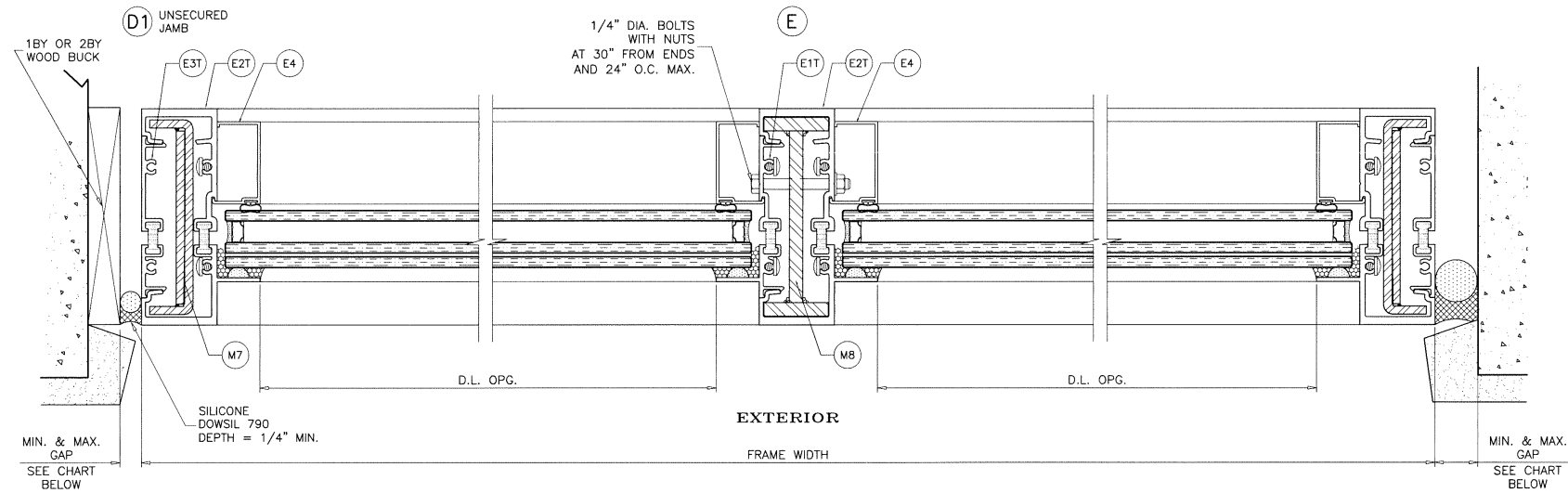
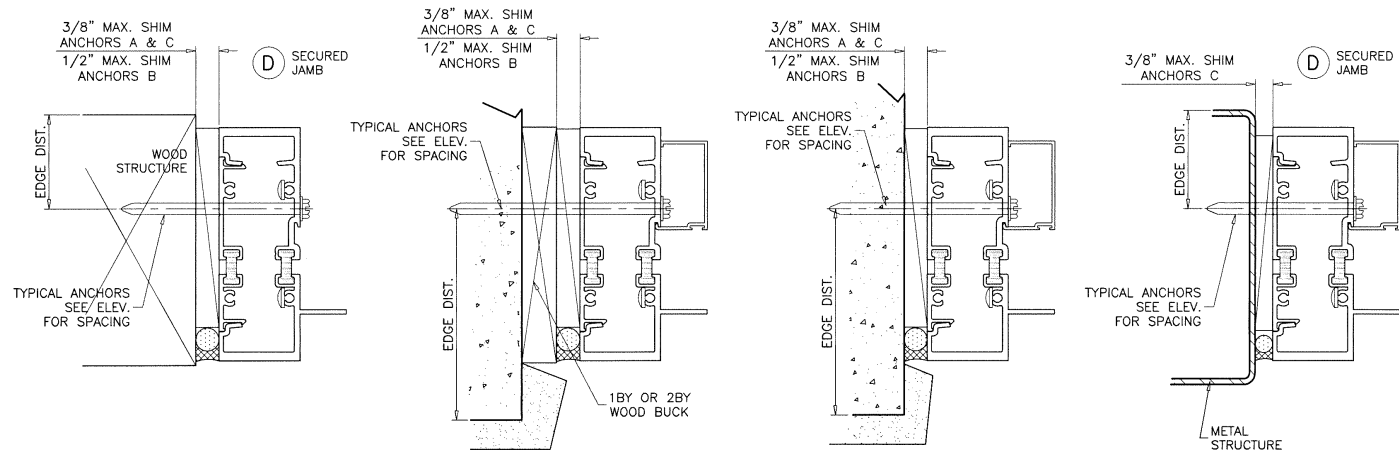
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revisions:	no	date	by	description

date: 07-29-21
 scale: 3/8" = 1"
 dr: by: TARIQ
 chk: by:

drawing no.
21-58F

sheet 13 of 18



MAX. GAPS FOR UNANCHORED JAMBS		
MAX. FRAME HEIGHT	JAMB J1	
	MIN.	MAX.
96"	1/4"	1"
102"	1/4"	1"
108"	3/8"	1"
120"	3/8"	1"
132"	3/8"	1"
135-3/4"	3/8"	1"

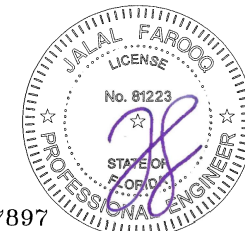
NOTE:
 MAX. MOVEMENT CONSIDERED=100% STRETCH.
 PLEASE REFER TO SEALANT MANUFACTURER'S DATA AND APPLICATION MANUAL FOR COMPATABILITY OF SEALANT TO SUBSTRATE & WINDOW WALL MATERIAL/FINISH AND COMPLIANCE FOR WARRANTY.
 REFER TO ACI-117-10 FOR CONSTRUCTION TOLERANCES.

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.

Sealed: 3/13/2025

FL #17897



af c
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\21-58FES

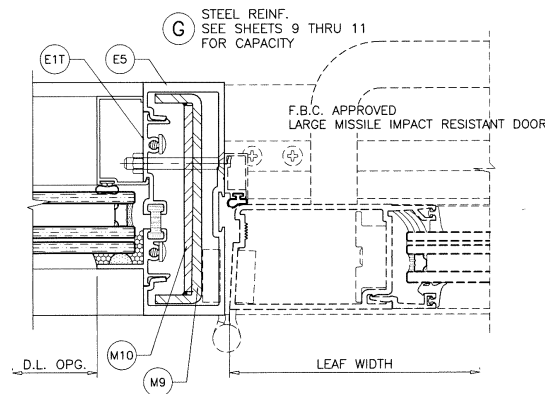
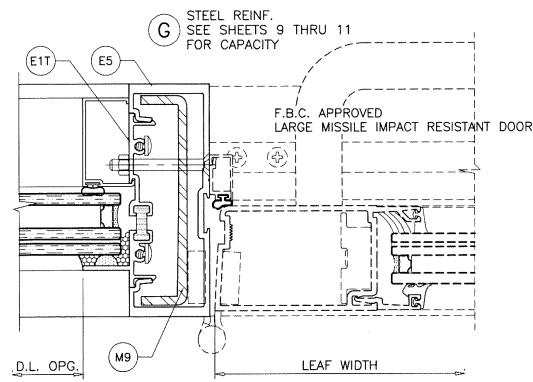
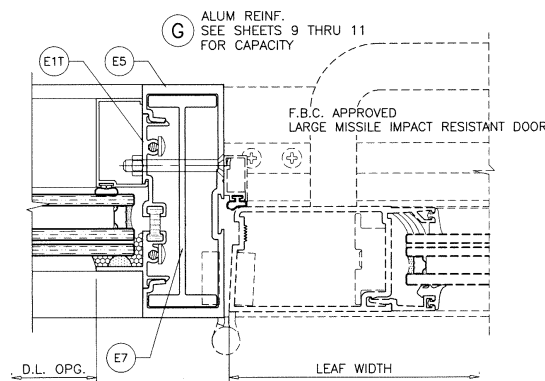
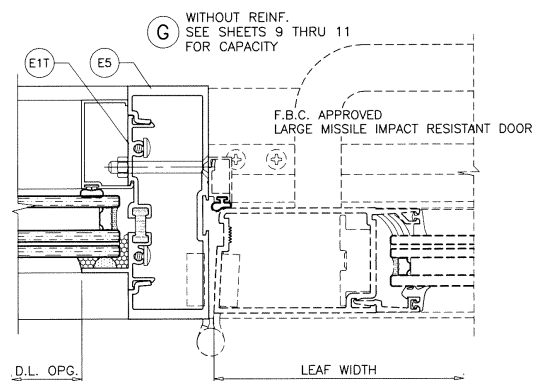
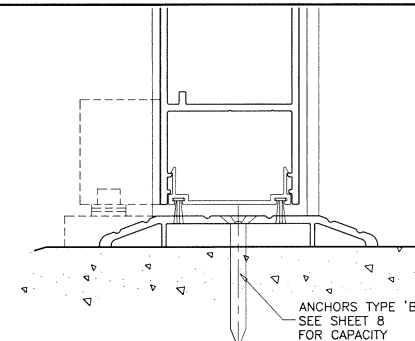
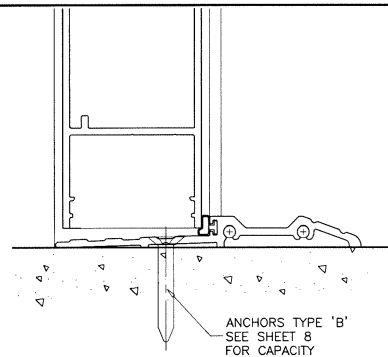
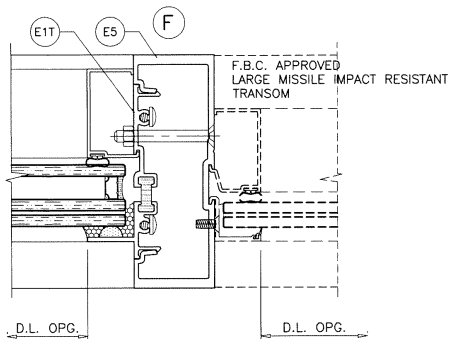
ES-800T (JUMBO) ALUM WINDOW WALL SYS. (L.M.I.)
E.S. WINDOWS, LLC
 3550 N.W. 49 STREET
 MIAMI, FL. 33142
 TEL. (305) 638-5151 FAX. (305) 638-5158

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drawing no.
21-58F

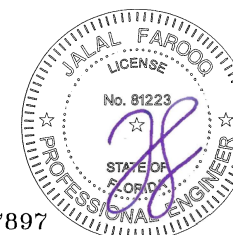
sheet 14 of 18



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

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FL #17897



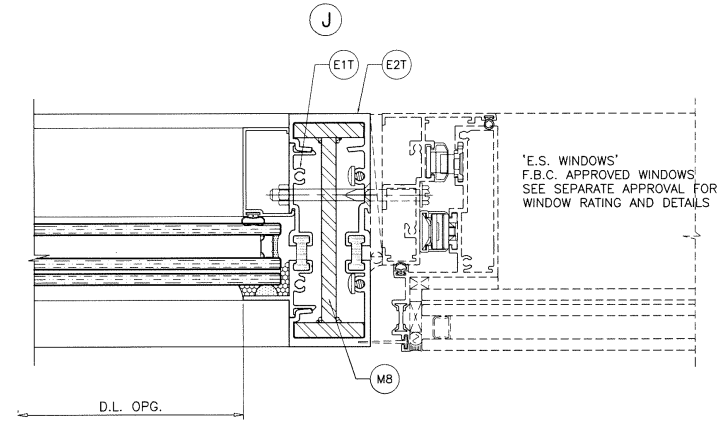
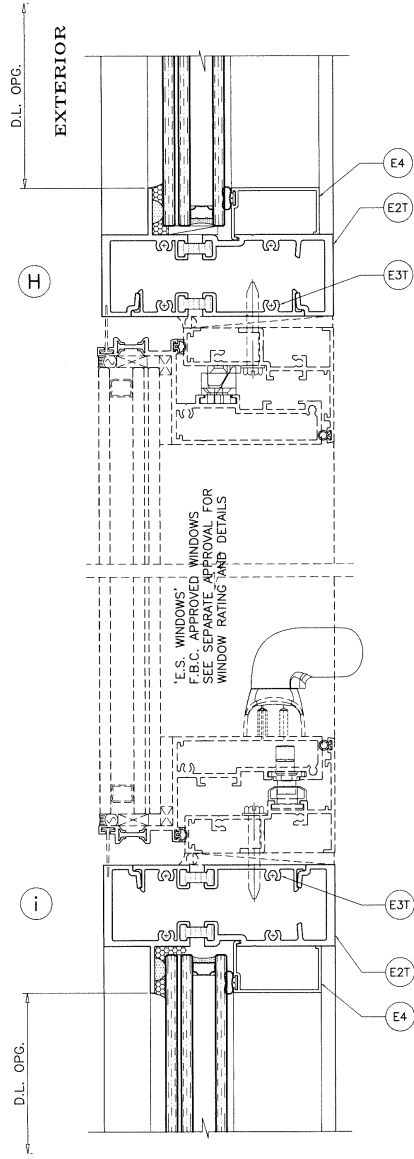
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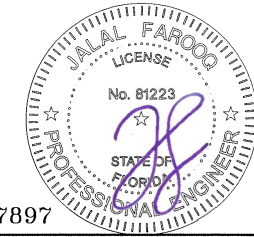
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sheet 15 of 18

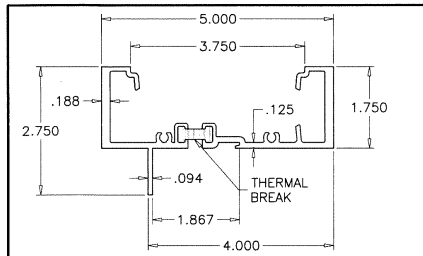


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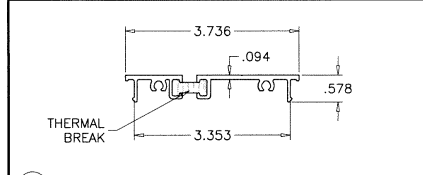
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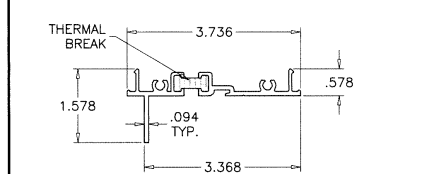
AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 TEL. (305) 264-8100 FAX. (305) 262-6978 COMP-ANL 21-58FES																					
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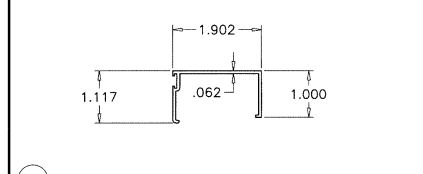
(E2T) WINDOW WALL FRAME



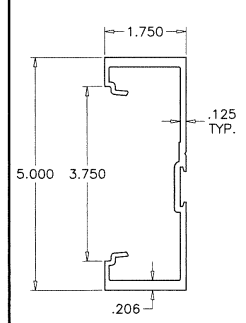
(E3T) SHEAR CLIP



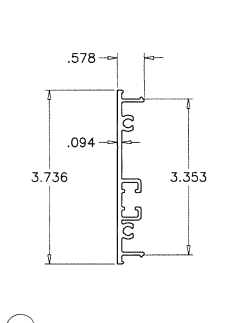
(E1T) INTERMEDIATE SNAP



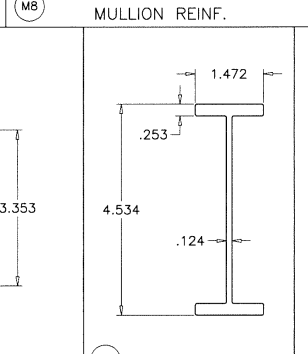
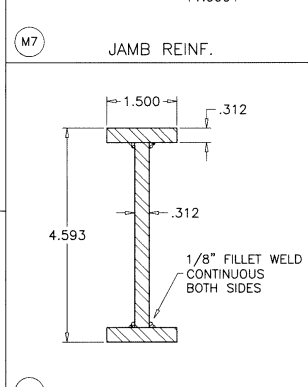
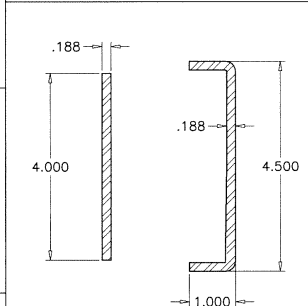
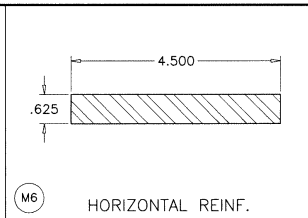
(E4) GLAZING BEAD



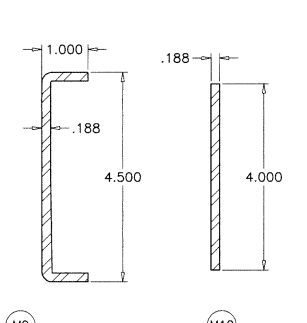
(E5) DOOR MULLION



(E6) DOOR MULL SNAP-IN PLATE



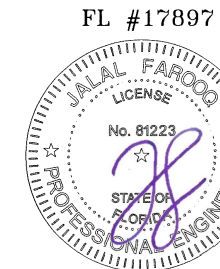
(E7) DOOR MULL STIFFENER



(M9) DOOR MULL STEEL REINF.

ITEM #	PART #	REQ'D	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1T	ES-8000T-013T	AS REQD.	INTERMEDIATE SNAP	6005-T5	-
E2T	ES-8000T-008T	AS REQD.	WINDOW WALL FRAME	6063-T6	-
E3T	ES-8000T-003T	AS REQD.	SHEAR CLIP	6063-T6	-
E4	ES-8000T-005	AS REQD.	GLAZING BEAD	6005-T5	-
E5	-	AS REQD.	DOOR MULLION	6005-T5	-
E6	ES-8000T-003	AS REQD.	DOOR MULL SNAP-IN PLATE	6005-T5	-
E7	-	AS REQD.	DOOR MULLION STIFFENER	6005-T5	-
M1	#12 X 1-1/2"	AS REQD.	ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M2	ES-8010A	AS REQD.	INTERIOR GLAZING GASKET	SILICONE	DUROMETER 70±3 SHORE A
M3	ES-8011A	AS REQD.	1/4" GLASS SPACER	SILICONE	DUROMETER 85±5 SHORE A
M4	ES-9550-B01A	2/ LITE	SETTING BLOCKS AT 1/4 POINTS	SILICONE	DUROMETER 80±5 SHORE A
M5	1/4" X 2-1/8"	AS REQD.	MULLION FASTENERS	ST. STEEL	BOLT WITH NUT
M6	-	AS REQD.	HORIZONTAL REINFORCING	STEEL	A36, Fu MIN. = 58 KSI
M7	-	AS REQD.	JAMB REINFORCING	STEEL	A36, Fu MIN. = 58 KSI
M8	-	AS REQD.	MULLION REINFORCING	STEEL	A36, Fu MIN. = 58 KSI
M9	-	AS REQD.	DOOR MULLION REINFORCING CHANNEL	STEEL	A36, Fu MIN. = 58 KSI
M10	-	AS REQD.	DOOR MULLION REINFORCING BAR	STEEL	A36, Fu MIN. = 58 KSI

THERMAL BREAK:
FRAME MEMBERS FILLED AND DEBRIDGED USING
'BAYDUR TB 100-30' MANUFACTURED BY
'BAYER MATERIALSCIENCE, LLC.



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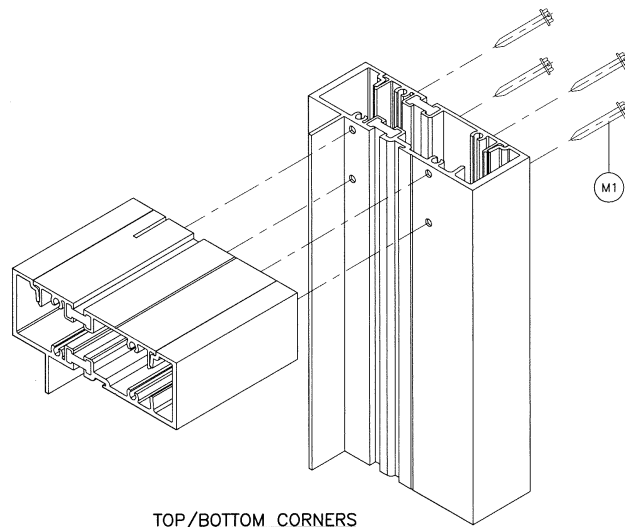
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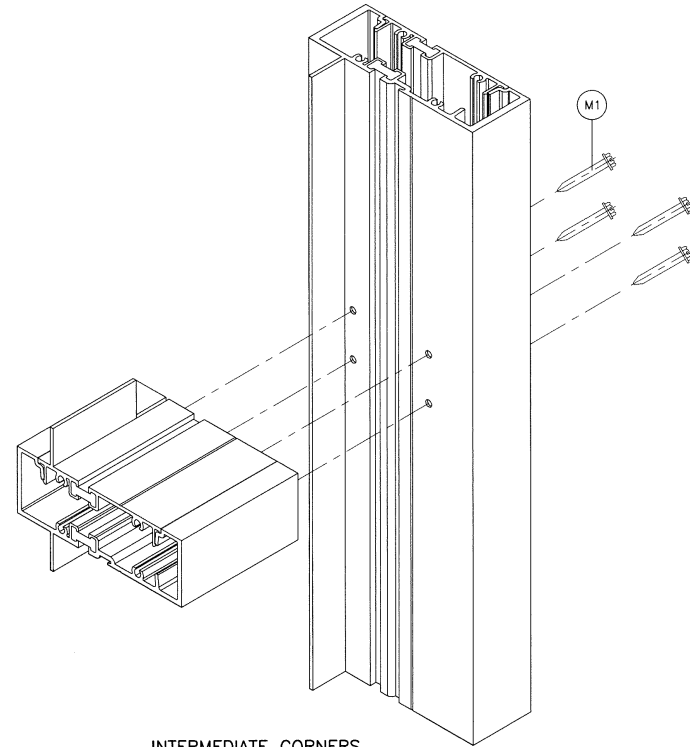
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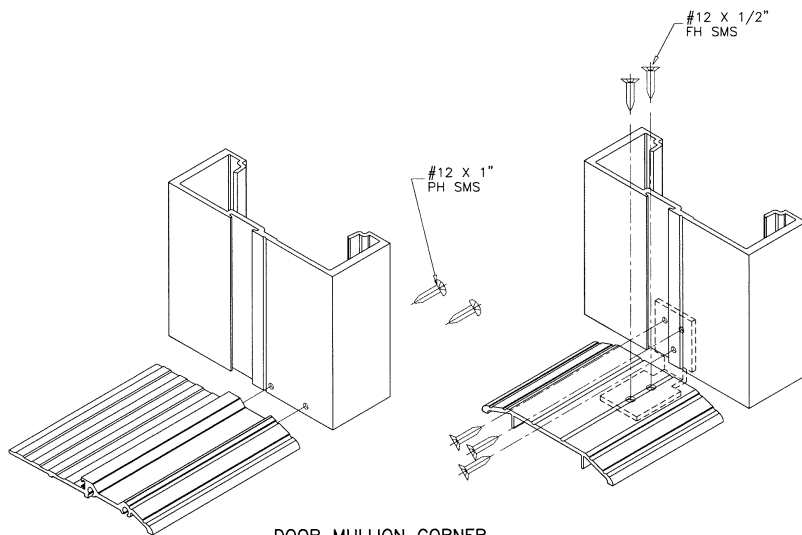
sheet 17 of 18



TOP/BOTTOM CORNERS



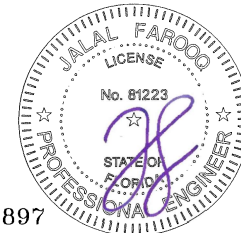
INTERMEDIATE CORNERS



DOOR MULLION CORNER

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 sheet 18 of 18