



MIAMI-DADE COUNTY
 PRODUCT CONTROL SECTION
 11805 SW 26 Street, Room 208
 Miami, Florida 33175-2474
 T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
 BOARD AND CODE ADMINISTRATION DIVISION
NOTICE OF ACCEPTANCE (NOA)

E.S. Windows, LLC
3550 NW 49th Street
Miami, FL 33142

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami-Dade County) and/ or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series “ES-8000T Thermally Broken” Aluminum Window Wall System – L.M.I.

APPROVAL DOCUMENT: Drawing No. **W14-38**, titled “ES-8000T Alum. Window Wall System (L.M.I.)”, sheets 1 through of 21 of 21, dated 10/01/14, with revision **I** dated 05/07/24, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, **Barranquilla, Colombia**, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/ or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

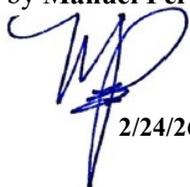
ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises and renews NOA No. 20-1118.02** and consists of this page 1 and evidence pages E-1, E-2, E-3, E-4 and E-5, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**




 2/24/26

NOA No. 21-0914.03
Expiration Date: August 25, 2031
Approval Date: March 5, 2026
 Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's

A. DRAWINGS

1. Manufacturer's die drawings and sections.
(Submitted under NOA No. 15-0826.26)
2. Drawing No. **W14-38**, titled "ES-8000T Alum. Window Wall System (L.M.I.)", sheets 1, 1.1, 2, 3, 4, 5, 6, 7, 7.1, 8, 9, 10, 11, 11.1, 12 and 13 of 13, dated 10/01/14, with revision **F** dated 11/12/20, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 20-1118.02)

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Drop Load Test, per ANSI Z97.1 (400 foot-pound impact)
along with marked-up drawings and installation diagram of an aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-9605**, dated 08/16/17, signed and sealed by Idalmis Ortega, P.E.
(Submitted under NOA No. 18-0129.07)
2. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Forced Entry Test, per FBC 2411.3.2.1, and TAS 202-94
7) Drop Load Test, per CPCS 16 CFR 1201 (Cat 11)
8) Safety Performance Test, (class A) per ANSI Z97.1
along with marked-up drawings and installation diagram of an aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-7546**, dated 04/14/15, signed and sealed by Idalmis Ortega, P.E.
(Submitted under NOA No. 15-0826.26)


Manuel Perez, P.E.
Product Control Examiner
NOA No. 21-0914.03
Expiration Date: August 25, 2031
Approval Date: March 5, 2026

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's (CONTINUED)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC 6th Edition (2017), dated 01/15/18, supporting technical information for approved modification, dated 03/12/19, and further updated to comply with FBC 7th Edition (2020), prepared by Al-Farooq Corporation, dated 11/16/20, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 20-1118.02)
2. Glazing complies with **ASTM E1300-09**

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **18-0725.11** issued to **Kuraray America, Inc.** for their "**Kuraray SentryGlas® Xtra™ (SGX™) Clear Glass Interlayer**" dated 05/23/19, expiring on 05/23/24.
2. Notice of Acceptance No. **19-0305.02** issued to **Kuraray America, Inc.** for their "**Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers**" dated 05/09/19, expiring on 07/08/24.
3. Bayer Material Science, LLC Part No. **Baydur TB 100-30 Thermal Break System** complying with ASTM D638 Tensile Strength of 5,700 psi, ASTM D 790 Flexural Modulus of 225 ksi, ASTM D 256 Notched Izod of 1.9 ft.-lb./in., ASTM D 648 Heat Distortion of 178°F @ 66 psi, ASTM D 2240 Hardness Shore D @ 5 sec. of ±78 Durometer, ASTM D 1622 Density of 72 pcf and ¼" thickness.
4. 0.375" (Length) by 0.26" (Height) by 0.0059" (Thickness) (9.5x6.6x0.15mm) Aluminum Low Profile Insulated-Glass spacer **Helima AH 956 N** (P/N.: USA K 001 000 000 R7) with Aluminum Alloy **AW-3000** (F_t_u=17 ksi and F_t_y=12ksi) by **Helmut Lingemann GmbH & Co., KG**.


Manuel Perez, P.E.
Product Control Examiner
NOA No. 21-0914.03

Expiration Date: August 25, 2031
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E.S. Windows, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's (CONTINUED)
F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 6th Edition (2017)**, with **FBC 7th Edition (2020)**, and of no financial interest, dated November 16, 2020, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 20-1118.02)
2. Distributor Agreement between ES Windows–Energia Solar, S.A., Barranquilla, Columbia, S.A. and E.S. Windows, LLC, Miami, Florida, dated 09/12/13, signed by Ms. Adriana Montoya, Manager and Andres Chamorro, General Manager respectively on behalf of the companies.
(Submitted under NOA No. 15-0826.26)
3. Laboratory compliance letters for Test Report No. **FTL-7546**, dated 04/14/15, issued by Fenestration Testing Laboratory, Inc., signed and sealed by Idalmis Ortega, P.E.
(Submitted under NOA No. 15-0826.26)
4. Proposal issued by Product Control, dated 11/08/13, signed by Jaime D. Gascon, P.E.
(Submitted under NOA No. 15-0826.26)
5. Proposal No. **17-0417R** issued by the Product Control Section, dated June 6, 2017 and revised on August 8, 2017, signed by Manuel Perez, P.E.
(Submitted under NOA No. 18-0129.07)

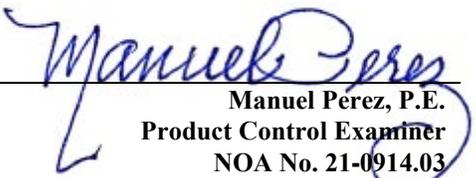
G. OTHERS

1. Notice of Acceptance No. **19-0326.07**, issued to E.S. Windows, LLC for their Series “ES-8000T Thermally Broken” Aluminum Window Wall System – L.M.I., approved on 05/09/19 and expiring on 08/25/21.

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **W14-38**, titled “ES-8000T Alum. Window Wall System (L.M.I.)”, sheets 1 through 21 of 21, dated 10/01/14, with revision **I** dated 05/07/24, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.


Manuel Perez, P.E.
Product Control Examiner
NOA No. 21-0914.03
Expiration Date: August 25, 2031
Approval Date: March 5, 2026

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED (CONTINUED)

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Forced Entry Test, per ASTM 588-07, AAMA 1304-18, TAS 202-94
along with marked-up drawings and installation diagram of “ES-8000T” aluminum window wall system, prepared by Blackwater Technical Services, Inc., Test Report No. **BT-ESW-20-036B**, dated 06/15/21, signed and sealed by Michael D. Caldwell, P.E.
2. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
6) Forced Entry Test, per ASTM 588-07 and TAS 202-94
7) Safety Performance Test, (class A) per ANSI Z97.1
along with marked-up drawings and installation diagram of a series “ES-8000T” aluminum window wall system, prepared by Blackwater Technical Services, Inc., Test Report No. **BT-ESW-20-046**, dated 03/22/21, signed and sealed by Michael D. Caldwell, P.E.
3. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
3) Water Resistance Test, per FBC, TAS 202-94
4) Large Missile Impact Test per FBC, TAS 201-94
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series “ES-8000T” aluminum fixed window, prepared by Fenestration Testing Laboratory, a QAIK Company, Test Report No. **FTL-12525**, dated 04/07/21, signed and sealed by Idalmis Ortega, P.E.

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC 7th Edition (2020), dated 07/16/21, and further updated on to comply with FBC 8th Edition (2023), prepared by Al-Farooq Corporation, dated 01/28/26, signed and sealed by Jalal Farooq, P.E.
2. Glazing complies with **ASTM E1300-09**


Manuel Perez, P.E.
Product Control Examiner
NOA No. 21-0914.03
Expiration Date: August 25, 2031
Approval Date: March 5, 2026

E.S. Windows, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED (CONTINUED)

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **23-0717.30** issued to **Kuraray America, Inc.** for their “**SentryGlas® (Clear and White) Glass Interlayers**” dated 08/31/23, expiring on 07/04/28.
2. Notice of Acceptance No. **24-0205.08** issued to **Kuraray America, Inc.** for their “**Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers**” dated 03/21/24, expiring on 07/08/29.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 8th Edition (2023)**, and of no financial interest, dated February 5, 2024, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.

G. OTHERS

1. Notice of Acceptance No. **20-1118.02**, issued to E.S. Windows, LLC for their Series “**ES-8000T Thermally Broken**” Aluminum Window Wall System – L.M.I., approved on 02/11/21 and expiring on 08/25/26.



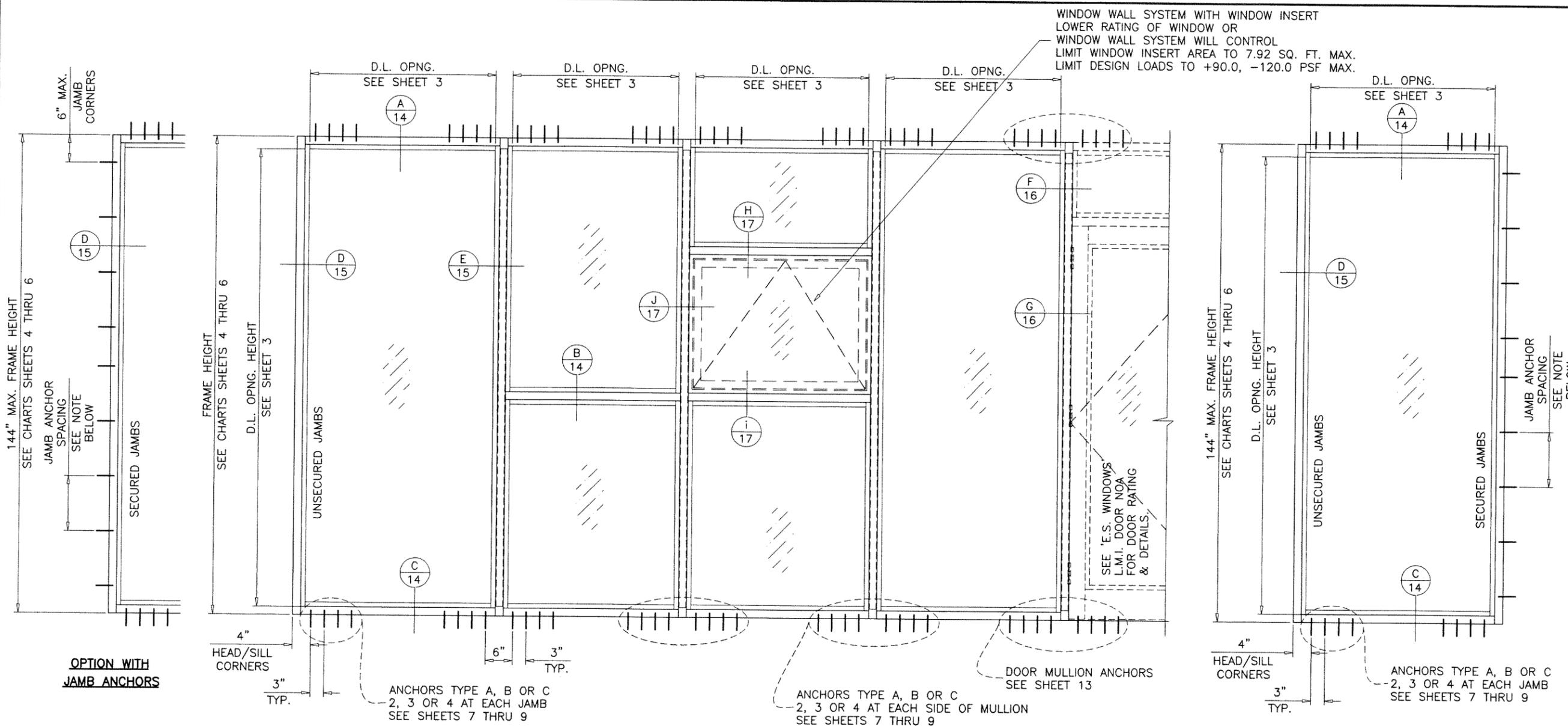
Manuel Perez, P.E.

Product Control Examiner

NOA No. 21-0914.03

Expiration Date: August 25, 2031

Approval Date: March 5, 2026



WINDOW WALL SYSTEM WITH WINDOW INSERT
 LOWER RATING OF WINDOW OR
 WINDOW WALL SYSTEM WILL CONTROL.
 LIMIT WINDOW INSERT AREA TO 7.92 SQ. FT. MAX.
 LIMIT DESIGN LOADS TO +90.0, -120.0 PSF MAX.

SEE 'E.S. WINDOWS'
 L.M.I. DOOR NOA
 FOR DOOR RATING
 & DETAILS.

**SERIES ES-8000T
 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)'.

TYPICAL ELEVATIONS

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 3 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE.
 - STEP 3** CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 4 THRU 6 FOR WINDOW WALL MULLION AND SHEETS 10 THRU 12 FOR DOOR MULLION. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
 - STEP 4** CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 7 THRU 9 FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 13. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
 - STEP 5** VERIFY UNANCHORED JAMBS, IF USED AS PER SHEET 15.
 - STEP 6** THE LOWEST VALUE RESULTING FROM STEPS 2, 3, 4 AND 5 SHALL APPLY TO ENTIRE SYSTEM.

JAMB ANCHORS:

FOR 12" MAX. SPACING LIMIT MAX. LOADS TO 80.0 PSF FOR ANCHOR TYPES 'A' & 'B' TO 74.0 PSF FOR ANCHOR TYPE 'C'
 FOR LOADS HIGHER THAN SHOWN ABOVE LIMIT ANCHOR SPACING TO 6" MAX.

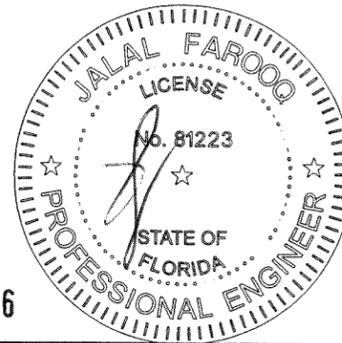
SINGLE 'O' PANEL:

FRAME WIDTH = D.L.O. WIDTH + 5.50"
 FRAME HEIGHT = D.L.O. HEIGHT + 5.50"

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

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

PRODUCT REVISED
 as complying with the Florida Building Code
NOA-No. 21-0914.03
Expiration Date: 08/25/2031
 By: *Manuel Perez*
 Miami-Dade Product Control



JAN 28 2026

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AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220
 MIAMI, FLORIDA 33173 (C.A.N. 3538)
 TEL. (305) 262-6978 FAX. (305) 262-6978
 COMP-ANL\W14-38ES

ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.)

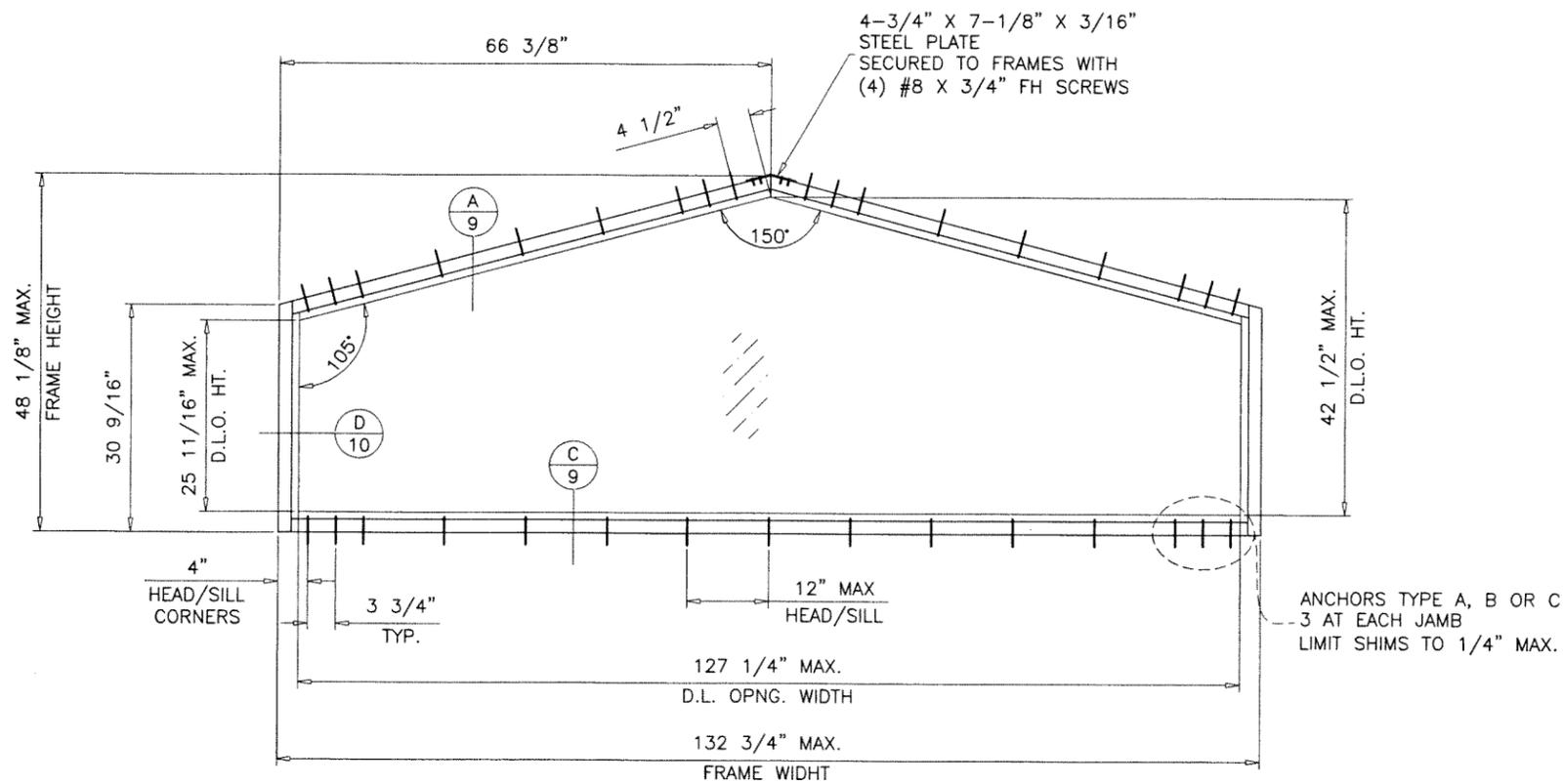
E.S. WINDOWS, LLC
 3550 N.W. 49 STREET
 MIAMI, FL. 33142
 TEL. (305) 638-5151 FAX. (305) 638-5158

no	date	by	description
F	11.12.20		UPDATED TO 2020 FBC
G	07.07.21		GENERAL REVISION
H	02.06.24		REV. PER RER COMMENTS
I	05.07.24		REV. PER RER COMMENTS

revisions:

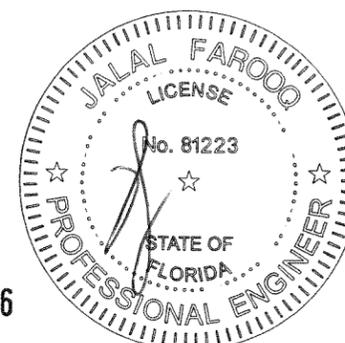
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 scale: 1/2"=1'-0"
 dr. by: TARIQ
 chk. by:

drawing no. **W14-38**
 sheet 1 of 21



GLASS TYPE 'GL2R'
 MAXIMUM DESIGN LOAD RATING = + 80.0 PSF
 - 80.0 PSF
 (FOR SINGLE UNIT SHAPE AND SIZE SHOWN ABOVE ONLY)

PRODUCT REVISED
 as complying with the Florida
 Building Code
 NOA-No. **21-0914.03**
 Expiration Date: **08/25/2031**
 By: *Manuel Ferrer*
 Miami-Dade Product Control



JAN 28 2026

afc

AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220 (C.A.N. 3538)
 MIAMI, FLORIDA 33173 FAX. (305) 262-6978
 TEL. (305) 264-8100 COMP-ANL\W14-38ES

ES-8000T 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

no	date	by	description
G	07.07.21		GENERAL REVISION
H	02.06.24		REV. PER PER COMMENTS
I	05.07.24		NO CHANGE THIS SHEET

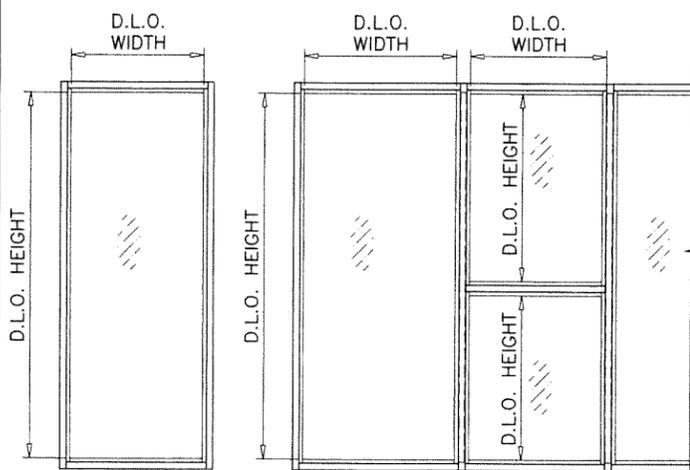
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 chk. by:

drawing no.
W14-38

sheet 2 of 21

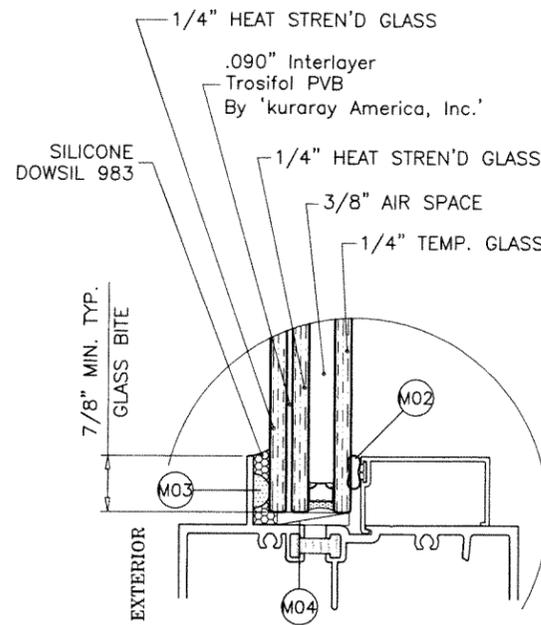
GLASS LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPES	
		'GL1'/'GL1R'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)
26-1/4"	105-1/2"	60.0	70.0
32-1/4"		60.0	70.0
38-1/4"		60.0	70.0
44-1/4"		60.0	70.0
50-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"	108-1/2"	60.0	70.0
32-1/4"		60.0	70.0
38-1/4"		60.0	70.0
44-1/4"		60.0	70.0
50-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"	114-1/2"	60.0	70.0
32-1/4"		60.0	70.0
38-1/4"		60.0	70.0
44-1/4"		60.0	70.0
50-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"	120-1/2"	60.0	70.0
32-1/4"		60.0	70.0
38-1/4"		60.0	70.0
44-1/4"		60.0	70.0
50-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"	126-1/2"	60.0	70.0
32-1/4"		60.0	70.0
38-1/4"		60.0	70.0
44-1/4"		60.0	70.0
48-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"	132-1/2"	60.0	70.0
32-1/4"		60.0	70.0
38-1/4"		60.0	70.0
44-1/4"		60.0	70.0
46-1/4"		60.0	70.0
56-1/4"		60.0	70.0
26-1/4"	138-1/2"	60.0	70.0
32-1/4"		60.0	70.0
38-1/4"		60.0	70.0
44-1/4"		60.0	70.0

GLASS LOAD CAPACITY - PSF					
NOMINAL DIMS.		GLASS TYPES			
		'GL2'	'GL2R'		
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
26-1/4"	84-1/2"	90.0	120.0	90.0	90.0
32-1/4"		90.0	120.0	90.0	90.0
38-1/4"		90.0	120.0	90.0	90.0
44-1/4"		90.0	120.0	90.0	90.0
50-1/4"		90.0	120.0	90.0	90.0
56-1/4"		90.0	120.0	90.0	90.0
26-1/4"	96-1/2"	90.0	120.0	90.0	90.0
32-1/4"		90.0	120.0	90.0	90.0
38-1/4"		90.0	120.0	90.0	90.0
44-1/4"		90.0	120.0	90.0	90.0
50-1/4"		90.0	120.0	90.0	90.0
56-1/4"		-	-	60.0	60.0
26-1/4"	102-1/2"	90.0	120.0	90.0	90.0
32-1/4"		90.0	120.0	90.0	90.0
38-1/4"		90.0	120.0	90.0	90.0
44-1/4"		90.0	120.0	90.0	90.0
49"		90.0	120.0	90.0	90.0
50-1/4"		-	-	66.7	66.7
56-1/4"	-	-	60.0	60.0	
26-1/4"	105-1/2"	90.0	120.0	90.0	90.0
32-1/4"		90.0	120.0	90.0	90.0
38-1/4"		90.0	120.0	90.0	90.0
44-1/4"		90.0	120.0	90.0	90.0
48"		90.0	120.0	90.0	90.0
50-1/4"		-	-	66.7	66.7
56-1/4"	-	-	60.0	60.0	
26-1/4"	108-1/2"	90.0	120.0	90.0	90.0
32-1/4"		90.0	120.0	90.0	90.0
38-1/4"		90.0	120.0	90.0	90.0
44-1/4"		90.0	120.0	90.0	90.0
46"		90.0	120.0	90.0	90.0
50-1/4"		-	-	66.7	66.7
56-1/4"	-	-	60.0	60.0	
26-1/4"	114-1/2"	90.0	120.0	90.0	90.0
32-1/4"		90.0	120.0	90.0	90.0
38-1/4"		90.0	120.0	90.0	90.0
44-1/4"		90.0	120.0	90.0	90.0
50-1/4"		-	-	66.7	66.7
56-1/4"		-	-	60.0	60.0
26-1/4"	126-1/2"	-	-	70.0	70.0
32-1/4"		-	-	70.0	70.0
38-1/4"		-	-	70.0	70.0
44-1/4"		-	-	70.0	70.0
50-1/4"		-	-	66.3	66.3
56-1/4"		-	-	60.0	60.0
26-1/4"	138-1/2"	-	-	70.0	70.0
32-1/4"		-	-	70.0	70.0
38-1/4"		-	-	70.0	70.0
44-1/4"		-	-	70.0	70.0
50-1/4"		-	-	65.0	65.0
56-1/4"		-	-	60.0	60.0

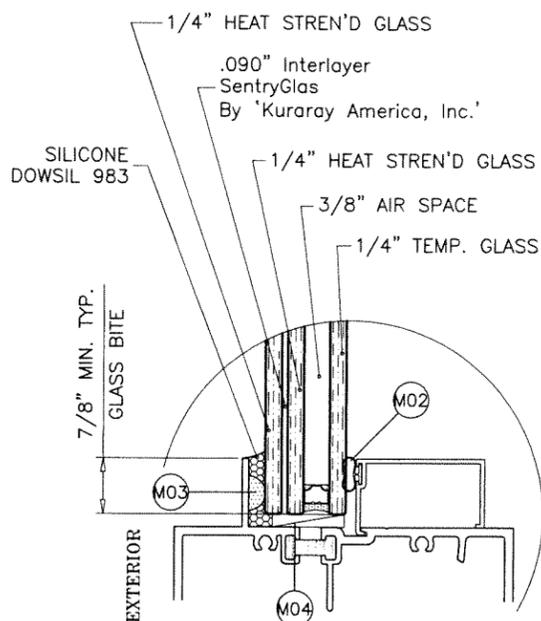


SINGLE 'O' PANEL:
 FRAME WIDTH = D.L.O. WIDTH + 5.50"
 FRAME HEIGHT = D.L.O. HEIGHT + 5.50"

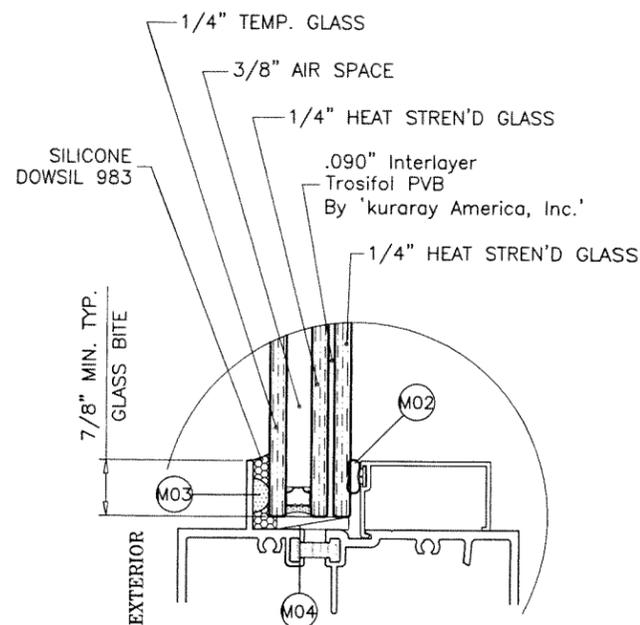
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



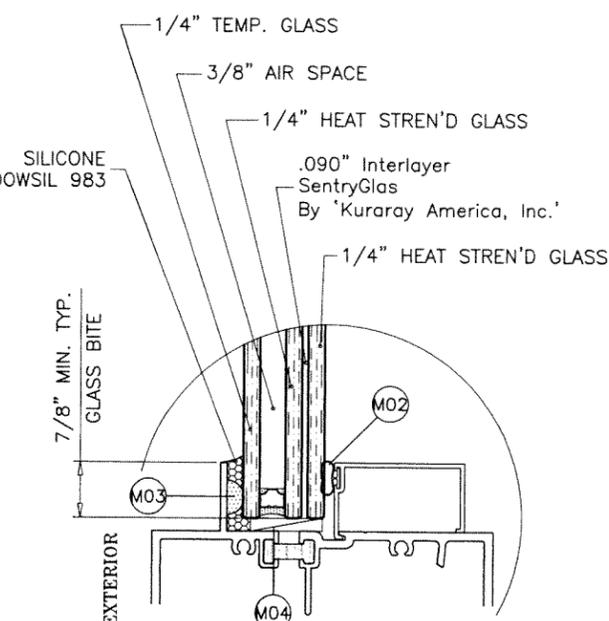
GLASS TYPE 'GL1'
 1-3/16" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'GL2'
 1-3/16" OVERALL INSUL. LAM. GLASS



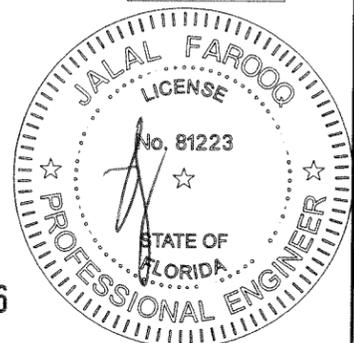
GLASS TYPE 'GL1R'
 1-3/16" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'GL2R'
 1-3/16" OVERALL INSUL. LAM. GLASS

3/8" 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

PRODUCT REVISED
 as complying with the Florida
 Building Code
 NOA-No. **21-0914.03**
 Expiration Date: **08/25/2031**
 By: *Manuel Perez*
 Miami-Dade Product Control



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

JAN 28 2026

af c
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. 3538)

ES-8000T 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

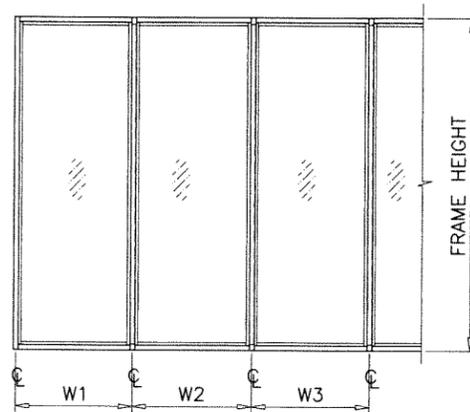
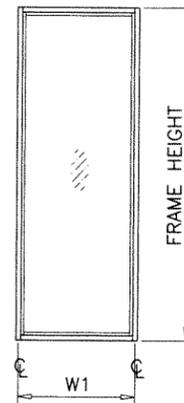
NO	DATE	DESCRIPTION
F	11.12.20	UPDATED TO 2020 FBC
G	07.07.21	GENERAL REVISION
H	02.06.24	REV. PER PER COMMENTS
I	05.07.24	REV. PER PER COMMENTS

date: 10-01-14
 scale: -
 dr. by: TARIQ
 chk. by:
 drawing no. **W14-38**
 sheet **3** of **21**

COMP-ANL W14-38ES

DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS								
NOMINAL DIMS.		JAMB 'J1'		MULLION 'M1'		MULLION 'M2'		
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	60.0	60.0	
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	
40"		60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
54"		60.0	60.0	-	-	60.0	60.0	
60"	60.0	60.0	-	-	60.0	60.0		
30"	102"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
54"		60.0	60.0	-	-	60.0	60.0	
60"		60.0	60.0	-	-	60.0	60.0	
30"	108"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
54"		60.0	60.0	-	-	60.0	60.0	
60"		60.0	60.0	-	-	60.0	60.0	
30"	126"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
60"		60.0	60.0	-	-	60.0	60.0	
60"		60.0	60.0	-	-	60.0	60.0	
30"	132"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
44-3/4"		60.0	60.0	-	-	60.0	60.0	
30"		137"	60.0	60.0	-	-	60.0	60.0
36"			60.0	60.0	-	-	60.0	60.0
42"	60.0		60.0	-	-	58.1	58.1	
44-3/4"	54.0		54.0	-	-	54.0	54.0	

INTERPOLATION BETWEEN WIDTHS ALLOWED.

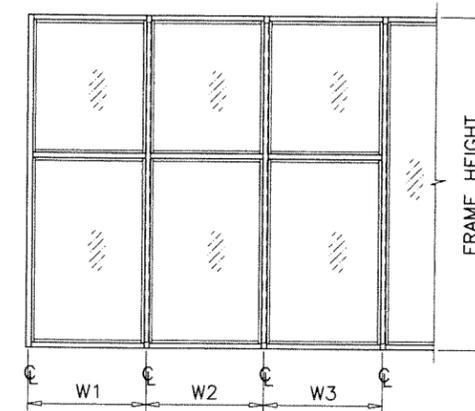
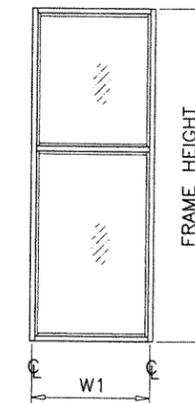


WIDTH (W) = W1
AT FRAME JAMB

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

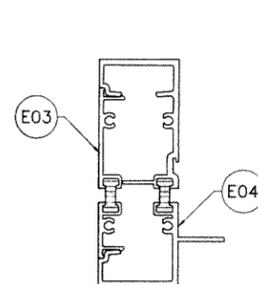
DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITH INTERMEDIATE HORIZONTALS								
NOMINAL DIMS.		JAMB 'J1'		MULLION 'M1'		MULLION 'M2'		
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	
30"	90"	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	60.0	60.0	60.0	60.0	
48"		60.0	60.0	60.0	60.0	60.0	60.0	
54"		60.0	60.0	60.0	60.0	60.0	60.0	
60"		60.0	60.0	60.0	60.0	60.0	60.0	
30"	96"	60.0	60.0	60.0	60.0	60.0	60.0	
36"		60.0	60.0	60.0	60.0	60.0	60.0	
40"		60.0	60.0	60.0	60.0	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
54"		60.0	60.0	-	-	60.0	60.0	
60"	60.0	60.0	-	-	60.0	60.0		
30"	102"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
54"		60.0	60.0	-	-	60.0	60.0	
60"		60.0	60.0	-	-	60.0	60.0	
30"	108"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
54"		60.0	60.0	-	-	60.0	60.0	
60"		60.0	60.0	-	-	60.0	60.0	
30"	126"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
48"		60.0	60.0	-	-	60.0	60.0	
54"		60.0	60.0	-	-	60.0	60.0	
60"		60.0	60.0	-	-	60.0	60.0	
30"	132"	60.0	60.0	-	-	60.0	60.0	
36"		60.0	60.0	-	-	60.0	60.0	
42"		60.0	60.0	-	-	60.0	60.0	
44-3/4"		60.0	60.0	-	-	58.8	58.8	
30"		137"	60.0	60.0	-	-	60.0	60.0
36"			60.0	60.0	-	-	60.0	60.0
42"	60.0		60.0	-	-	56.1	56.1	
44-3/4"	54.0		54.0	-	-	52.6	52.6	

INTERPOLATION BETWEEN WIDTHS ALLOWED.



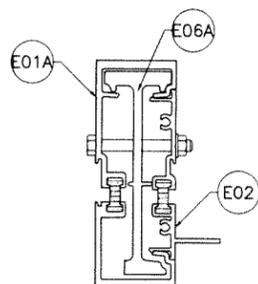
WIDTH (W) = W1
AT FRAME JAMB

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



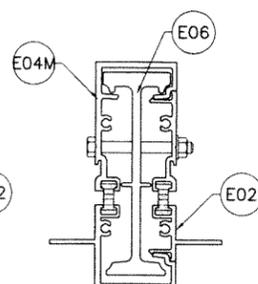
JAMB 'J1'

Ix IN^4	Sx IN^3
5.6469	2.1997



MULLION 'M1'

Ix IN^4	Sx IN^3
10.5913	4.2065

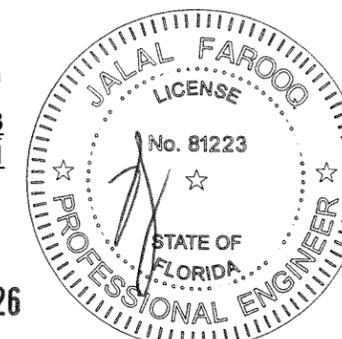


MULLION 'M2'

Ix IN^4	Sx IN^3
10.2689	4.1244

MULLIONS

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Perez*
Miami-Dade Product Control



JAN 28 2026

af c
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)

ES-8000T 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

no	date	by	description
F	11.12.20		UPDATED TO 2020 FBC
G	07.07.21		GENERAL REVISION
H	02.06.24		REV. PER PER COMMENTS
I	05.07.24		NO CHANGE THIS SHEET

date: 10-01-14
scale: -
dr. by: TARIQ
chk. by:

drawing no.

W14-38

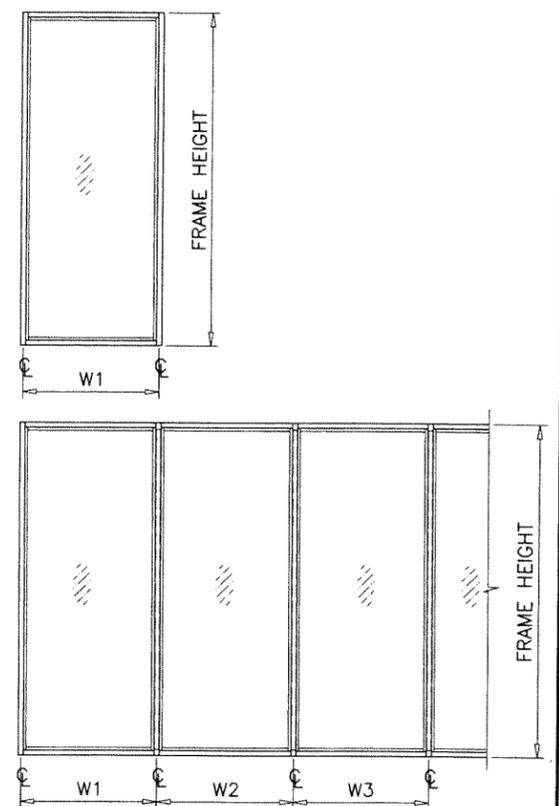
sheet 4 of 21

COMP-ANL W14-38ES

DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS											
NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	96"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
30"	98-1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	102"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	108"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	110-1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	116.1	90.0	116.1	90.0	116.1	90.0	116.1	90.0	116.1
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	114"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	118.1	90.0	118.1	90.0	118.1	90.0	118.1	90.0	118.1
48"		90.0	105.2	90.0	105.2	90.0	105.2	90.0	105.2	90.0	105.2
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
30"	120"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	116.0	90.0	116.0	90.0	116.0	90.0	116.0	90.0	116.0
42"		90.0	100.7	90.0	100.7	90.0	100.7	90.0	100.7	90.0	100.7
48"		89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
54"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
57"		60.0	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	
30"	126"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		60.0	69.4	70.0	70.0	69.4	69.4	70.0	70.0	70.0	70.0
60"		-	-	70.0	70.0	63.6	63.6	70.0	70.0	70.0	70.0

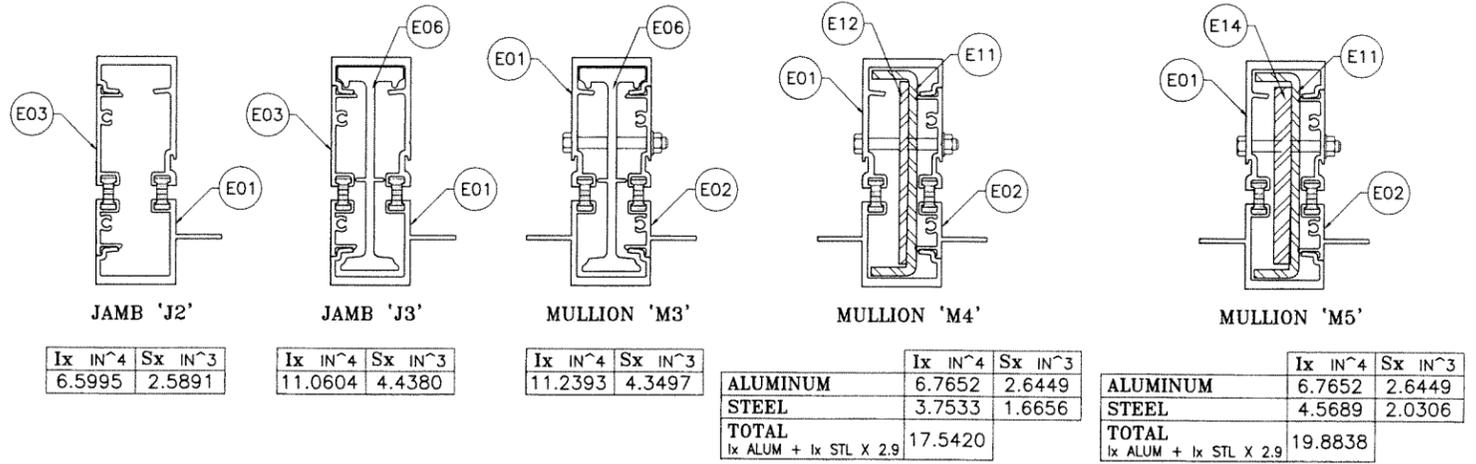
DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITHOUT INTERMEDIATE HORIZONTALS											
NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	132"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	66.5	70.0	70.0	66.5	66.5	70.0	70.0	70.0	70.0
52"		60.0	62.0	70.0	70.0	62.0	62.0	70.0	70.0	70.0	70.0
54"		-	-	70.0	70.0	59.9	59.9	70.0	70.0	70.0	70.0
60"	-	-	70.0	70.0	54.8	54.8	69.2	69.2	70.0	70.0	
30"	138"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	65.4	70.0	70.0	65.4	65.4	70.0	70.0	70.0	70.0
48"		57.9	57.9	70.0	70.0	57.9	57.9	70.0	70.0	70.0	70.0
50"		55.8	55.8	70.0	70.0	55.8	55.8	70.0	70.0	70.0	70.0
54"		-	-	70.0	70.0	52.1	52.1	69.0	69.0	70.0	70.0
60"	-	-	70.0	70.0	47.6	47.6	62.9	62.9	70.0	70.0	
30"	144"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	66.4	70.0	70.0	66.4	66.4	70.0	70.0	70.0	70.0
42"		57.4	57.4	70.0	70.0	57.4	57.4	70.0	70.0	70.0	70.0
48"		50.8	50.8	70.0	70.0	50.8	50.8	70.0	70.0	70.0	70.0
54"		-	-	70.0	70.0	45.6	45.6	63.1	63.1	70.0	70.0
60"		-	-	60.0	60.0	41.6	41.6	57.5	57.5	60.0	60.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

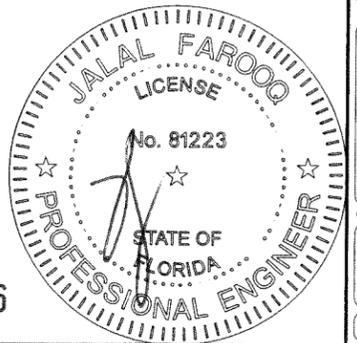


WIDTH (W) = W1
AT FRAME JAMB

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



PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Perez*
Miami-Dade Product Control



MULLIONS

JAN 28 2026

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\W14-38ES

ES-8000T 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

no	date	by	description
G	07.07.21		GENERAL REVISION
H	02.06.24		REV. PER PER COMMENTS
I	05.07.24		NO CHANGE THIS SHEET

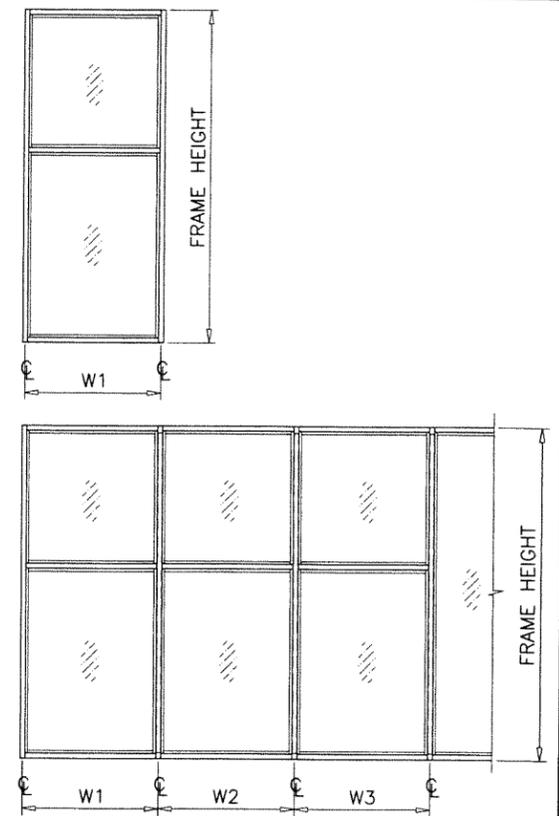
date: 10-01-14
scale: -
dr. by: TARIQ
chk. by:

drawing no.
W14-38
sheet 5 of 21

DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITH INTERMEDIATE HORIZONTALS											
NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	96"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
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	
30"	98-1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
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	
30"	102"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
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	
30"	108"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	115.3	90.0	115.3	90.0	115.3	90.0	115.3	90.0	115.3
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	
30"	110-1/2"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
48"		90.0	107.7	90.0	107.7	90.0	107.7	90.0	107.7	90.0	107.7
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	
30"	114"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
42"		90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1
48"		90.0	98.1	90.0	98.1	90.0	98.1	90.0	98.1	90.0	98.1
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	
30"	120"	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0	90.0	120.0
36"		90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1	90.0	112.1
42"		90.0	96.1	90.0	96.1	90.0	96.1	90.0	96.1	90.0	96.1
48"		84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1	84.1
54"		-	-	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
60"	-	-	70.0	70.0	67.2	67.2	70.0	70.0	70.0	70.0	
30"	126"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
54"		-	-	70.0	70.0	64.5	64.5	70.0	70.0	70.0	70.0
60"	-	-	70.0	70.0	58.0	58.0	70.0	70.0	70.0	70.0	

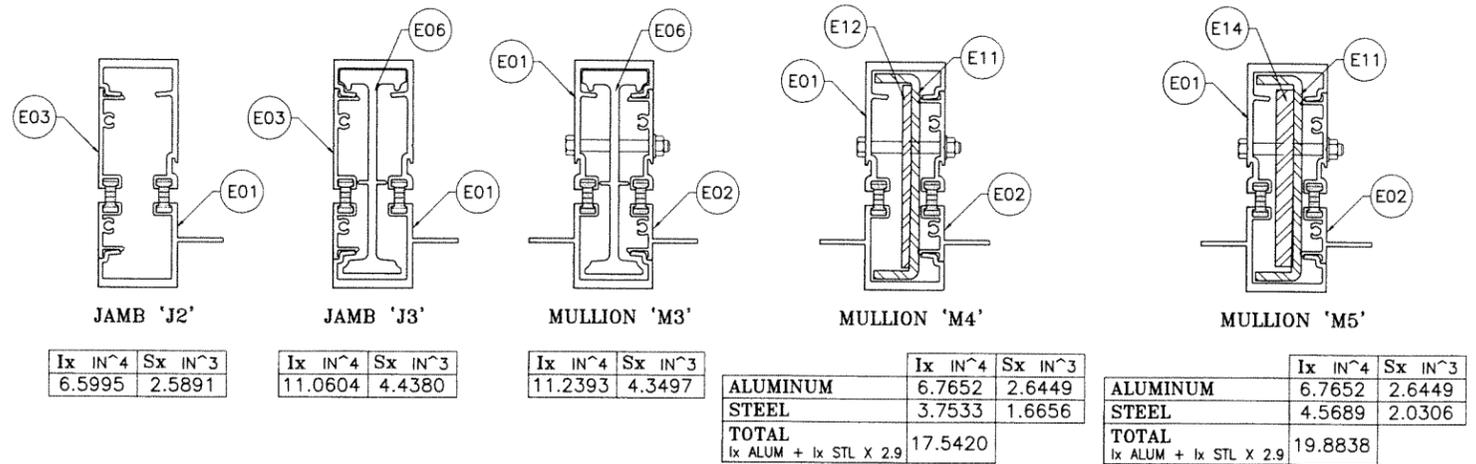
DESIGN LOAD CAPACITY - PSF JAMB/MULLION WITH INTERMEDIATE HORIZONTALS											
NOMINAL DIMS.		JAMB 'J2'		JAMB 'J3'		MULLION 'M3'		MULLION 'M4'		MULLION 'M5'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	132"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
48"		60.0	63.2	70.0	70.0	63.2	63.2	70.0	70.0	70.0	70.0
54"		-	-	70.0	70.0	56.1	56.1	70.0	70.0	70.0	70.0
60"	-	-	70.0	70.0	50.5	50.5	64.5	64.5	70.0	70.0	
30"	138"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
42"		60.0	63.2	70.0	70.0	63.2	63.2	70.0	70.0	70.0	70.0
48"		55.3	55.3	70.0	70.0	55.3	55.3	70.0	70.0	70.0	70.0
54"		-	-	70.0	70.0	49.1	49.1	65.6	65.6	70.0	70.0
60"	-	-	70.0	70.0	44.2	44.2	59.0	59.0	67.0	67.0	
30"	144"	60.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
36"		60.0	64.9	70.0	70.0	64.9	64.9	70.0	70.0	70.0	70.0
42"		55.6	55.6	70.0	70.0	55.6	55.6	70.0	70.0	70.0	70.0
48"		48.7	48.7	70.0	70.0	48.7	48.7	67.8	67.8	70.0	70.0
54"		-	-	70.0	70.0	43.2	43.2	60.2	60.2	68.4	68.4
60"	-	-	60.0	60.0	38.9	38.9	54.2	54.2	60.0	60.0	

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

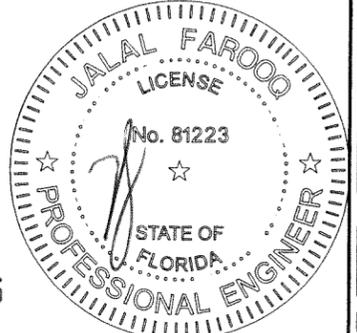


WIDTH (W) = W1
AT FRAME JAMB

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



PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Perez*
Miami-Dade Product Control



MULLIONS

JAN 28 2026

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\W14-38ES

ES-8000T 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

no	date	description
G	07.07.21	GENERAL REVISION
H	02.06.24	REV. PER RER COMMENTS
I	05.07.24	NO CHANGE THIS SHEET

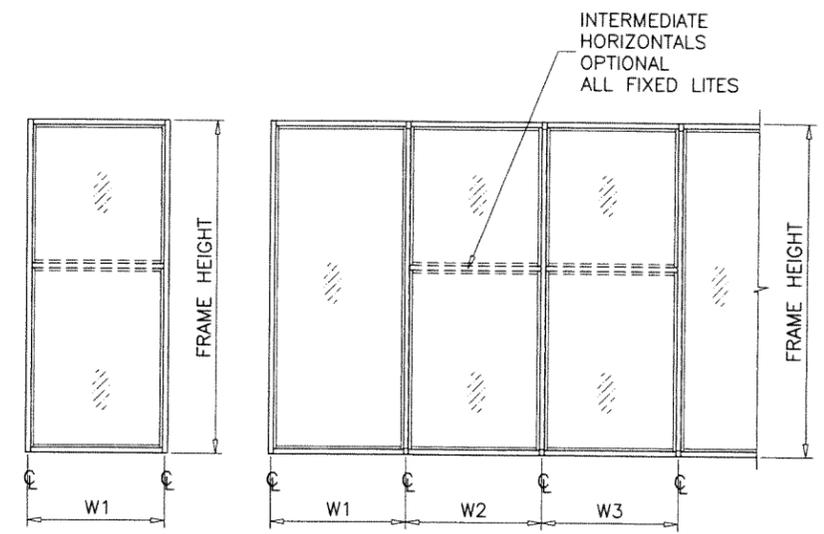
revisions: 10-01-14
date: 10-01-14
scale: -
dr. by: TARIQ
chk. by:

drawing no. **W14-38**
sheet 6 of 21

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHORS TYPE 'A'							
WIDTH (W)	FRAME HEIGHT	1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
		A2	A3	A4	A2	A3	A4	A3	A4
30"	78"	120.0	120.0	120.0	90.3	120.0	120.0	105.3	120.0
36"		107.1	120.0	120.0	75.2	112.9	120.0	87.8	117.0
42"		91.8	120.0	120.0	64.5	96.7	120.0	75.2	100.3
48"		80.3	120.0	120.0	56.4	84.6	112.9	65.8	87.8
54"		71.4	107.1	120.0	50.2	75.2	100.3	58.5	78.0
60"		64.2	96.4	120.0	45.1	67.7	90.3	52.7	70.2
30"	84"	119.3	120.0	120.0	83.8	120.0	120.0	97.8	120.0
36"		99.4	120.0	120.0	69.9	104.8	120.0	81.5	108.6
42"		85.2	120.0	120.0	59.9	89.8	119.8	69.8	93.1
48"		74.6	111.9	120.0	52.4	78.6	104.8	61.1	81.5
54"		66.3	99.4	120.0	46.6	69.9	93.2	54.3	72.4
60"		59.7	89.5	119.3	41.9	62.9	83.8	48.9	65.2
30"	90"	111.4	120.0	120.0	78.3	117.4	120.0	91.3	120.0
36"		92.8	120.0	120.0	65.2	97.8	120.0	76.1	101.4
42"		79.5	119.3	120.0	55.9	83.8	111.8	65.2	86.9
48"		69.6	104.4	120.0	48.9	73.4	97.8	57.0	76.1
54"		61.9	92.8	120.0	43.5	65.2	86.9	50.7	67.6
60"		55.7	83.5	111.4	39.1	58.7	78.3	45.6	60.8
30"	96"	104.4	120.0	120.0	73.4	110.0	120.0	85.6	114.1
36"		87.0	120.0	120.0	61.1	91.7	120.0	71.3	95.1
42"		74.6	111.9	120.0	52.4	78.6	104.8	61.1	81.5
48"		65.3	97.9	120.0	45.9	68.8	91.7	53.5	71.3
54"		58.0	87.0	116.0	40.8	61.1	81.5	47.5	63.4
60"		52.2	78.3	104.4	36.7	55.0	73.4	42.8	57.0
30"	102"	98.3	120.0	120.0	69.0	103.6	120.0	80.5	107.4
36"		81.9	120.0	120.0	57.5	86.3	115.1	67.1	89.5
42"		70.2	105.3	120.0	49.3	74.0	98.6	57.5	76.7
48"		61.4	92.1	120.0	43.2	64.7	86.3	50.3	67.1
54"		54.6	81.9	109.2	38.4	57.5	76.7	44.7	59.6
60"		49.1	70.0	70.0	34.5	51.8	69.0	40.3	53.7
30"	108"	92.8	120.0	120.0	65.2	97.8	120.0	76.1	101.4
36"		77.3	116.0	120.0	54.3	81.5	108.7	63.4	84.5
42"		66.3	99.4	120.0	46.6	69.9	93.2	54.3	72.4
48"		58.0	87.0	116.0	40.8	61.1	81.5	47.5	63.4
54"		51.6	77.3	103.1	36.2	54.3	72.5	42.3	56.3
60"		46.4	69.6	70.0	32.6	48.9	65.2	38.0	50.7
30"	114"	87.9	120.0	120.0	61.8	92.7	120.0	72.1	96.1
36"		73.3	109.9	120.0	51.5	77.2	103.0	60.0	80.1
42"		62.8	94.2	120.0	44.1	66.2	88.3	51.5	68.6
48"		54.9	82.4	109.9	38.6	57.9	77.2	45.0	60.0
54"		48.8	70.0	70.0	34.3	51.5	68.6	40.0	53.4
60"		44.0	65.9	70.0	30.9	46.3	61.8	36.0	48.0
30"	120"	83.5	120.0	120.0	58.7	88.0	117.4	68.4	91.3
36"		69.6	104.4	120.0	48.9	73.4	97.8	57.0	76.1
42"		59.7	89.5	119.3	41.9	62.9	83.8	48.9	65.2
48"		52.2	78.3	104.4	36.7	55.0	73.4	42.8	57.0
54"		46.4	69.6	70.0	32.6	48.9	65.2	38.0	50.7
60"		-	62.6	70.0	-	44.0	58.7	34.2	45.6
30"	126"	70.0	70.0	70.0	55.9	70.0	70.0	65.2	70.0
36"		66.3	70.0	70.0	46.6	69.9	70.0	54.3	70.0
42"		56.8	70.0	70.0	39.9	59.9	70.0	46.6	62.1
48"		49.7	70.0	70.0	34.9	52.4	69.9	40.7	54.3
54"		44.2	66.3	70.0	31.1	46.6	62.1	36.2	48.3
60"		-	59.7	70.0	-	41.9	55.9	32.6	43.5

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHORS TYPE 'A'							
WIDTH (W)	FRAME HEIGHT	1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM	
		A2	A3	A4	A2	A3	A4	A3	A4
30"	132"	70.0	70.0	70.0	53.4	70.0	70.0	62.2	70.0
36"		63.3	70.0	70.0	44.5	66.7	70.0	51.9	69.1
42"		54.2	70.0	70.0	38.1	57.2	70.0	44.4	59.3
48"		47.5	70.0	70.0	33.3	50.0	66.7	38.9	51.9
54"		-	63.3	70.0	-	44.5	59.3	34.6	46.1
60"		-	56.9	70.0	-	40.0	53.4	31.1	41.5
30"	138"	70.0	70.0	70.0	51.0	70.0	70.0	59.5	70.0
36"		60.5	70.0	70.0	42.5	63.8	70.0	49.6	66.1
42"		51.9	70.0	70.0	36.5	54.7	70.0	42.5	56.7
48"		45.4	68.1	70.0	31.9	47.8	63.8	37.2	49.6
54"		-	60.5	70.0	-	42.5	56.7	33.1	44.1
60"		-	54.5	70.0	-	38.3	51.0	29.8	39.7
30"	144"	69.6	70.0	70.0	48.9	70.0	70.0	57.0	70.0
36"		58.0	70.0	70.0	40.8	61.1	70.0	47.5	63.4
42"		49.7	70.0	70.0	34.9	52.4	69.9	40.7	54.3
48"		43.5	65.3	70.0	30.6	45.9	61.1	35.7	47.5
54"		-	58.0	70.0	-	40.8	54.3	31.7	42.3
60"		-	52.2	60.0	-	36.7	48.9	28.5	38.0

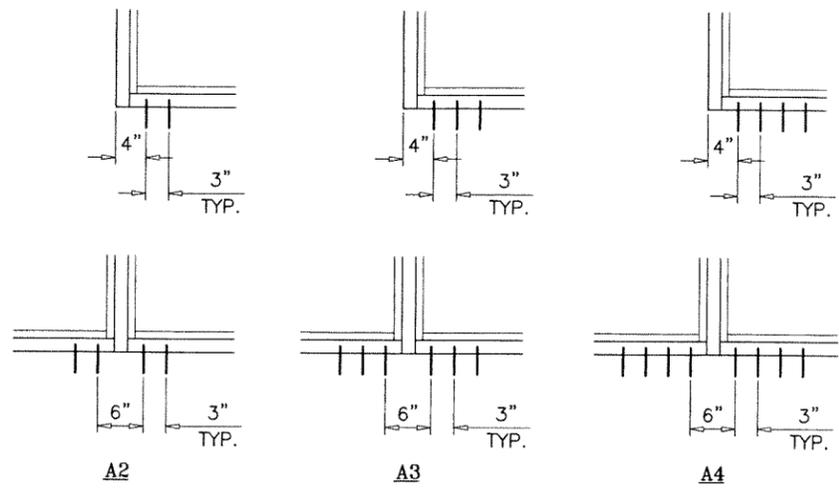
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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

NOTE:
FOR JAMB/MULLION ANCHOR LOAD CAPACITY SEE CHART ABOVE
FOR GLASS LOAD CAPACITY SEE CHARTS ON SHEET 3
FOR JAMB/MULLION LOAD CAPACITY (WITH OR WITHOUT INTERMEDIATE HORIZONTALS)
SEE CHARTS ON SHEETS 4 THRU 6
LOWER VALUES FROM THESE CHARTS SHALL APPLY TO ENTIRE SYSTEM.

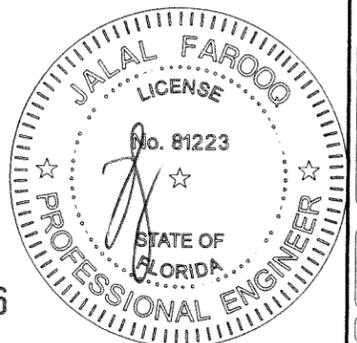


ANCHORS TYPES: SEE SHEET 14 FOR DESCRIPTION
A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION

ANCHORS

JAN 28 2026

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Perez*
Miami-Dade Product Control



af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220 (C.A.N. 3538)
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
COMP-ANL\W14-38ES

ES-800T 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

no	date	by	description
F	11.12.20		UPDATED TO 2020 FBC
G	07.07.21		GENERAL REVISION
H	02.06.24		REV. PER RER COMMENTS
I	05.07.24		REV. PER RER COMMENTS

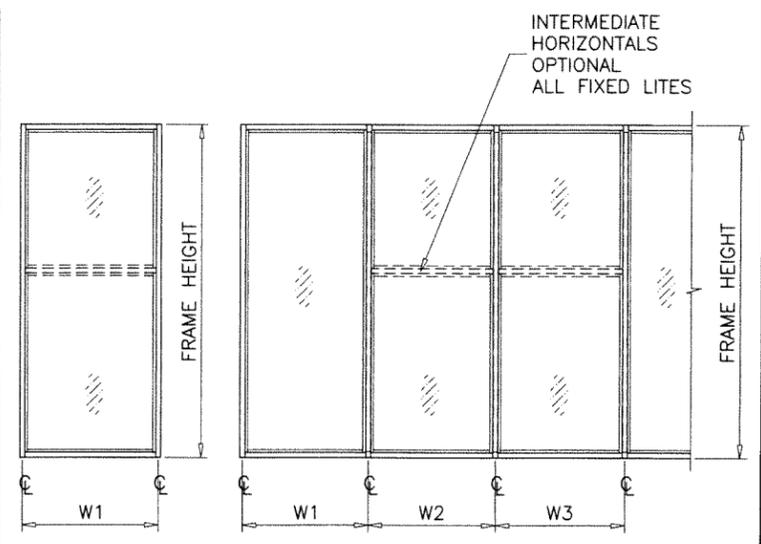
date: 10-01-14
scale: -
dr. by: TARIQ
chk. by:

drawing no. **W14-38**
sheet 7 of 21

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)										
NOMINAL DIMS.		ANCHORS TYPE 'B'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM		
WIDTH (W)	FRAME HEIGHT	B2	B3	B4	B2	B3	B4	B2	B3	B4
30"	78"	120.0	120.0	120.0	120.0	120.0	120.0	101.4	120.0	120.0
36"		120.0	120.0	120.0	107.1	120.0	120.0	84.5	120.0	120.0
42"		119.9	120.0	120.0	91.8	120.0	120.0	72.4	108.7	120.0
48"		104.9	120.0	120.0	80.3	120.0	120.0	63.4	95.1	120.0
54"		93.3	120.0	120.0	71.4	107.1	120.0	56.3	84.5	112.7
60"		83.9	120.0	120.0	64.2	96.4	120.0	50.7	76.1	101.4
30"	84"	120.0	120.0	120.0	119.3	120.0	120.0	94.2	120.0	120.0
36"		120.0	120.0	120.0	99.4	120.0	120.0	78.5	117.7	120.0
42"		111.3	120.0	120.0	85.2	120.0	120.0	67.3	100.9	120.0
48"		97.4	120.0	120.0	74.6	111.9	120.0	58.9	88.3	117.7
54"		86.6	120.0	120.0	66.3	99.4	120.0	52.3	78.5	104.6
60"		77.9	116.9	120.0	59.7	89.5	119.3	47.1	70.6	94.2
30"	90"	120.0	120.0	120.0	111.4	120.0	120.0	87.9	120.0	120.0
36"		120.0	120.0	120.0	92.8	120.0	120.0	73.2	109.9	120.0
42"		103.9	120.0	120.0	79.5	119.3	120.0	62.8	94.2	120.0
48"		90.9	120.0	120.0	69.6	104.4	120.0	54.9	82.4	109.9
54"		80.8	120.0	120.0	61.9	92.8	120.0	48.8	73.2	97.7
60"		72.7	109.1	120.0	55.7	83.5	111.4	43.9	65.9	87.9
30"	96"	120.0	120.0	120.0	104.4	120.0	120.0	82.4	120.0	120.0
36"		113.7	120.0	120.0	87.0	120.0	120.0	68.7	103.0	120.0
42"		97.4	120.0	120.0	74.6	111.9	120.0	58.9	88.3	117.7
48"		85.3	120.0	120.0	65.3	97.9	120.0	51.5	77.3	103.0
54"		75.8	113.7	120.0	58.0	87.0	116.0	45.8	68.7	91.6
60"		68.2	102.3	120.0	52.2	78.3	104.4	41.2	61.8	82.4
30"	102"	120.0	120.0	120.0	98.3	120.0	120.0	77.6	116.3	120.0
36"		107.0	120.0	120.0	81.9	120.0	120.0	64.6	96.9	120.0
42"		91.7	120.0	120.0	70.2	105.3	120.0	55.4	83.1	110.8
48"		80.2	120.0	120.0	61.4	92.1	120.0	48.5	72.7	96.9
54"		71.3	107.0	120.0	54.6	81.9	109.2	43.1	64.6	86.2
60"		64.2	70.0	70.0	49.1	70.0	70.0	38.8	58.2	70.0
30"	108"	120.0	120.0	120.0	92.8	120.0	120.0	73.2	109.9	120.0
36"		101.0	120.0	120.0	77.3	116.0	120.0	61.0	91.6	120.0
42"		86.6	120.0	120.0	66.3	99.4	120.0	52.3	78.5	104.6
48"		75.8	113.7	120.0	58.0	87.0	116.0	45.8	68.7	91.6
54"		67.4	101.0	120.0	51.6	77.3	103.1	40.7	61.0	81.4
60"		60.6	70.0	70.0	46.4	69.6	70.0	36.6	54.9	70.0
30"	114"	114.9	120.0	120.0	87.9	120.0	120.0	69.4	104.1	120.0
36"		95.7	120.0	120.0	73.3	109.9	120.0	57.8	86.7	115.6
42"		82.0	120.0	120.0	62.8	94.2	120.0	49.6	74.3	99.1
48"		71.8	107.7	120.0	54.9	82.4	109.9	43.4	65.1	86.7
54"		63.8	70.0	70.0	48.8	70.0	70.0	38.5	57.8	70.0
60"		57.4	70.0	70.0	44.0	65.9	70.0	34.7	52.0	69.4
30"	120"	109.1	120.0	120.0	83.5	120.0	120.0	65.9	98.9	120.0
36"		90.9	120.0	120.0	69.6	104.4	120.0	54.9	82.4	109.9
42"		77.9	116.9	120.0	59.7	89.5	119.3	47.1	70.6	94.2
48"		68.2	102.3	120.0	52.2	78.3	104.4	41.2	61.8	82.4
54"		60.6	70.0	70.0	46.4	69.6	70.0	36.6	54.9	70.0
60"		-	70.0	70.0	-	62.6	70.0	-	49.4	65.9
30"	126"	70.0	70.0	70.0	70.0	70.0	70.0	62.8	70.0	70.0
36"		70.0	70.0	70.0	66.3	70.0	70.0	52.3	70.0	70.0
42"		70.0	70.0	70.0	56.8	70.0	70.0	44.8	67.3	70.0
48"		65.0	70.0	70.0	49.7	70.0	70.0	39.2	58.9	70.0
54"		57.7	70.0	70.0	44.2	66.3	70.0	34.9	52.3	69.8
60"		-	70.0	70.0	-	59.7	70.0	-	47.1	62.8

ANCHOR LOAD CAPACITY - PSF EXT.(+) & INT.(-)										
NOMINAL DIMS.		ANCHORS TYPE 'B'								
		1/4" MAX. SHIM			3/8" MAX. SHIM			1/2" SHIM		
WIDTH (W)	FRAME HEIGHT	B2	B3	B4	B2	B3	B4	B2	B3	B4
30"	132"	70.0	70.0	70.0	70.0	70.0	70.0	59.9	70.0	70.0
36"		70.0	70.0	70.0	63.3	70.0	70.0	49.9	70.0	70.0
42"		70.0	70.0	70.0	54.2	70.0	70.0	42.8	64.2	70.0
48"		62.0	70.0	70.0	47.5	70.0	70.0	37.5	56.2	70.0
54"		-	70.0	70.0	-	63.3	70.0	-	49.9	66.6
60"		-	70.0	70.0	-	56.9	70.0	-	44.9	59.9
30"	138"	70.0	70.0	70.0	70.0	70.0	70.0	57.3	70.0	70.0
36"		70.0	70.0	70.0	60.5	70.0	70.0	47.8	70.0	70.0
42"		67.8	70.0	70.0	51.9	70.0	70.0	40.9	61.4	70.0
48"		59.3	70.0	70.0	45.4	68.1	70.0	35.8	53.7	70.0
54"		-	70.0	70.0	-	60.5	70.0	-	47.8	63.7
60"		-	70.0	70.0	-	54.5	70.0	-	43.0	57.3
30"	144"	70.0	70.0	70.0	69.6	70.0	70.0	54.9	70.0	70.0
36"		70.0	70.0	70.0	58.0	70.0	70.0	45.8	68.7	70.0
42"		65.0	70.0	70.0	49.7	70.0	70.0	39.2	58.9	70.0
48"		56.8	70.0	70.0	43.5	65.3	70.0	34.3	51.5	68.7
54"		-	70.0	70.0	-	58.0	70.0	-	45.8	61.0
60"		-	60.0	60.0	-	52.2	60.0	-	41.2	54.9

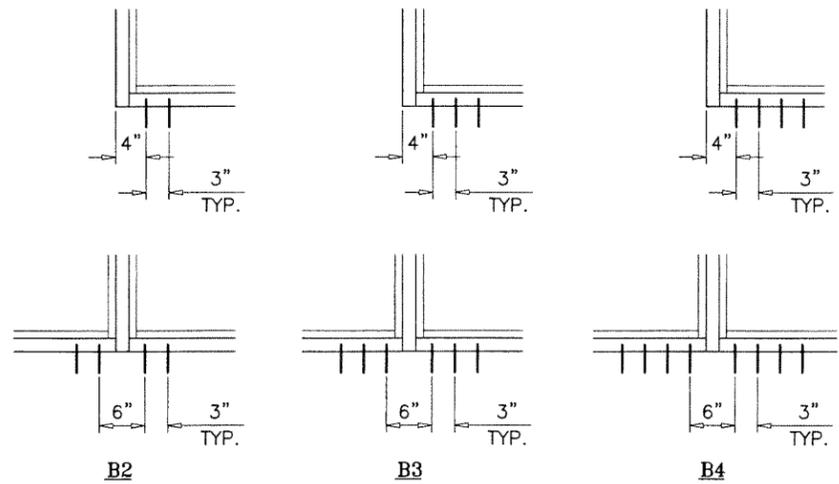
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

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

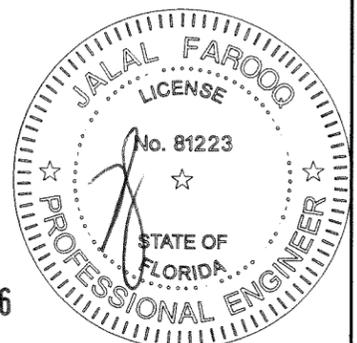
NOTE:
FOR JAMB/MULLION ANCHOR LOAD CAPACITY SEE CHART ABOVE
FOR GLASS LOAD CAPACITY SEE CHARTS ON SHEET 3
FOR JAMB/MULLION LOAD CAPACITY (WITH OR WITHOUT INTERMEDIATE HORIZONTALS)
SEE CHARTS ON SHEETS 4 THRU 6
LOWER VALUES FROM THESE CHARTS SHALL APPLY TO ENTIRE SYSTEM.



ANCHORS TYPES: SEE SHEET 14 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

ANCHORS

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Perez*
Miami-Dade Product Control



JAN 28 2026

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\W14-38ES

ES-800T 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

no	date	description	by
F	11.12.20	UPDATED TO 2020 FBC	
G	07.07.21	GENERAL REVISION	
H	02.06.24	REV. PER RER COMMENTS	
I	05.07.24	REV. PER RER COMMENTS	

revisions:

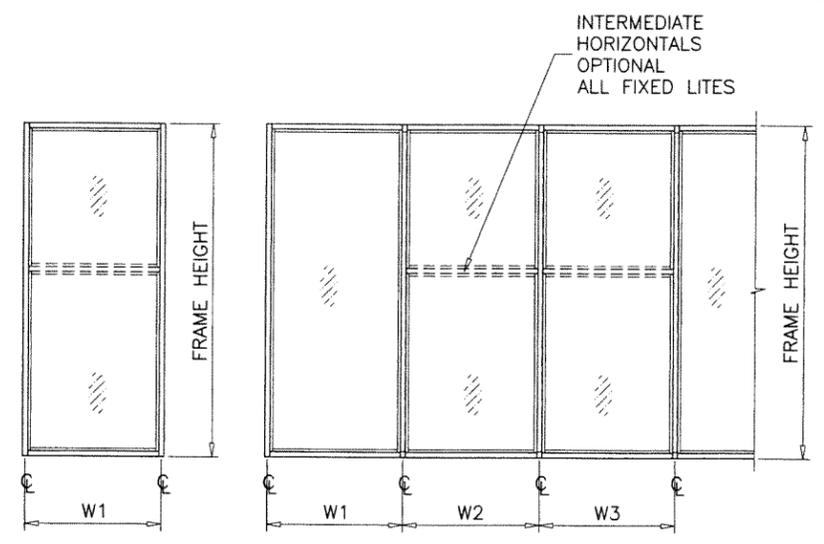
date: 10-01-14
scale: -
dr. by: TARIQ
chk. by:

drawing no. **W14-38**
sheet 8 of 21

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
30"	78"	120.0	120.0	120.0	91.6	120.0	120.0	108.6	120.0
36"		120.0	120.0	120.0	76.3	114.5	120.0	90.5	120.0
42"		120.0	120.0	120.0	65.4	98.1	120.0	77.5	103.4
48"		120.0	120.0	120.0	57.2	85.8	114.5	67.8	90.5
54"		106.9	120.0	120.0	50.9	76.3	101.7	60.3	80.4
60"	96.2	120.0	120.0	45.8	68.7	91.6	54.3	72.4	
30"	84"	120.0	120.0	120.0	85.0	120.0	120.0	100.8	120.0
36"		120.0	120.0	120.0	70.9	106.3	120.0	84.0	112.0
42"		120.0	120.0	120.0	60.7	91.1	120.0	72.0	96.0
48"		111.7	120.0	120.0	53.1	79.7	106.3	63.0	84.0
54"		99.3	120.0	120.0	47.2	70.9	94.5	56.0	74.7
60"	89.4	120.0	120.0	42.5	63.8	85.0	50.4	67.2	
30"	90"	120.0	120.0	120.0	79.4	119.0	120.0	94.1	120.0
36"		120.0	120.0	120.0	66.1	99.2	120.0	78.4	104.5
42"		119.2	120.0	120.0	56.7	85.0	113.4	67.2	89.6
48"		104.3	120.0	120.0	49.6	74.4	99.2	58.8	78.4
54"		92.7	120.0	120.0	44.1	66.1	88.2	52.3	69.7
60"	83.4	120.0	120.0	39.7	59.5	79.4	47.0	62.7	
30"	96"	120.0	120.0	120.0	74.4	111.6	120.0	88.2	117.6
36"		120.0	120.0	120.0	62.0	93.0	120.0	73.5	98.0
42"		111.7	120.0	120.0	53.1	79.7	106.3	63.0	84.0
48"		97.8	120.0	120.0	46.5	69.8	93.0	55.1	73.5
54"		86.9	120.0	120.0	41.3	62.0	82.7	49.0	65.3
60"	78.2	117.3	120.0	37.2	55.8	74.4	44.1	58.8	
30"	102"	120.0	120.0	120.0	70.0	105.0	120.0	83.0	110.7
36"		120.0	120.0	120.0	58.4	87.5	116.7	69.2	92.2
42"		105.1	120.0	120.0	50.0	75.0	100.0	59.3	79.1
48"		92.0	120.0	120.0	43.8	65.6	87.5	51.9	69.2
54"		81.8	120.0	120.0	38.9	58.4	77.8	46.1	61.5
60"	70.0	70.0	70.0	35.0	52.5	70.0	41.5	55.3	
30"	108"	120.0	120.0	120.0	66.1	99.2	120.0	78.4	104.5
36"		115.9	120.0	120.0	55.1	82.7	110.2	65.3	87.1
42"		99.3	120.0	120.0	47.2	70.9	94.5	56.0	74.7
48"		86.9	120.0	120.0	41.3	62.0	82.7	49.0	65.3
54"		77.2	115.9	120.0	36.7	55.1	73.5	43.6	58.1
60"	69.5	70.0	70.0	33.1	49.6	66.1	39.2	52.3	
30"	114"	120.0	120.0	120.0	62.7	94.0	120.0	74.3	99.0
36"		109.8	120.0	120.0	52.2	78.3	104.4	61.9	82.5
42"		94.1	120.0	120.0	44.8	67.1	89.5	53.1	70.7
48"		82.3	120.0	120.0	39.2	58.7	78.3	46.4	61.9
54"		70.0	70.0	70.0	34.8	52.2	69.6	41.3	55.0
60"	65.9	70.0	70.0	31.3	47.0	62.7	37.1	49.5	
30"	120"	120.0	120.0	120.0	59.5	89.3	119.0	70.6	94.1
36"		104.3	120.0	120.0	49.6	74.4	99.2	58.8	78.4
42"		89.4	120.0	120.0	42.5	63.8	85.0	50.4	67.2
48"		78.2	117.3	120.0	37.2	55.8	74.4	44.1	58.8
54"		69.5	70.0	70.0	33.1	49.6	66.1	39.2	52.3
60"	-	70.0	70.0	-	44.6	59.5	35.3	47.0	
30"	126"	70.0	70.0	70.0	56.7	70.0	70.0	67.2	70.0
36"		70.0	70.0	70.0	47.2	70.0	70.0	56.0	70.0
42"		70.0	70.0	70.0	40.5	60.7	70.0	48.0	64.0
48"		70.0	70.0	70.0	35.4	53.1	70.0	42.0	56.0
54"		66.2	70.0	70.0	31.5	47.2	63.0	37.3	49.8
60"	-	70.0	70.0	-	42.5	56.7	33.6	44.8	

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
30"	132"	70.0	70.0	70.0	54.1	70.0	70.0	64.1	70.0
36"		70.0	70.0	70.0	45.1	67.6	70.0	53.5	70.0
42"		70.0	70.0	70.0	38.6	58.0	70.0	45.8	61.1
48"		70.0	70.0	70.0	33.8	50.7	67.6	40.1	53.5
54"		-	70.0	70.0	-	45.1	60.1	35.6	47.5
60"	-	70.0	70.0	-	40.6	54.1	32.1	42.8	
30"	138"	70.0	70.0	70.0	51.8	70.0	70.0	61.4	70.0
36"		70.0	70.0	70.0	43.1	64.7	70.0	51.1	68.2
42"		70.0	70.0	70.0	37.0	55.5	70.0	43.8	58.4
48"		68.0	70.0	70.0	32.3	48.5	64.7	38.3	51.1
54"		-	70.0	70.0	-	43.1	57.5	34.1	45.4
60"	-	70.0	70.0	-	38.8	51.8	30.7	40.9	
30"	144"	70.0	70.0	70.0	49.6	70.0	70.0	58.8	70.0
36"		70.0	70.0	70.0	41.3	62.0	70.0	49.0	65.3
42"		70.0	70.0	70.0	35.4	53.1	70.0	42.0	56.0
48"		65.2	70.0	70.0	31.0	46.5	62.0	36.8	49.0
54"		-	70.0	70.0	-	41.3	55.1	32.7	43.6
60"	-	60.0	60.0	-	37.2	49.6	29.4	39.2	

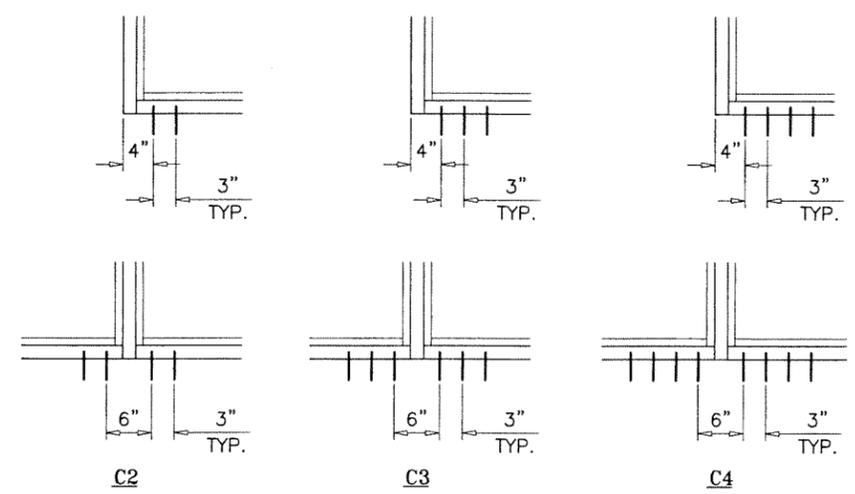
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



WIDTH (W) = W1
AT FRAME JAMB

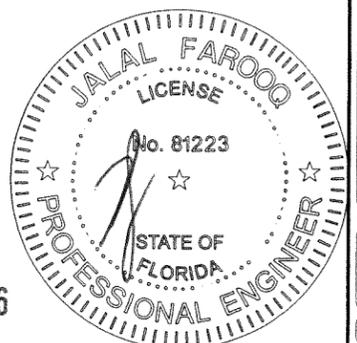
WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION

NOTE:
FOR JAMB/MULLION ANCHOR LOAD CAPACITY SEE CHART ABOVE
FOR GLASS LOAD CAPACITY SEE CHARTS ON SHEET 3
FOR JAMB/MULLION LOAD CAPACITY (WITH OR WITHOUT INTERMEDIATE HORIZONTALS)
SEE CHARTS ON SHEETS 4 THRU 6
LOWER VALUES FROM THESE CHARTS SHALL APPLY TO ENTIRE SYSTEM.



ANCHORS TYPES: SEE SHEET 14 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

PRODUCT REVISED
as complying with the Florida Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Perez*
Miami-Dade Product Control



ANCHORS

JAN 28 2026

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 W14-38ES

ES-8000T 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

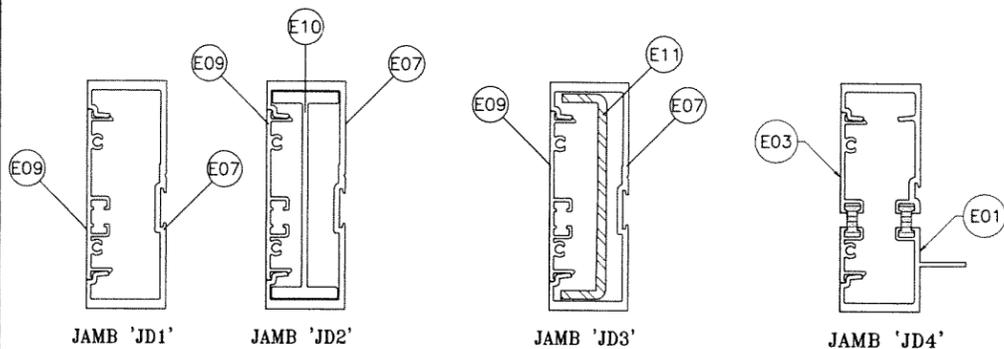
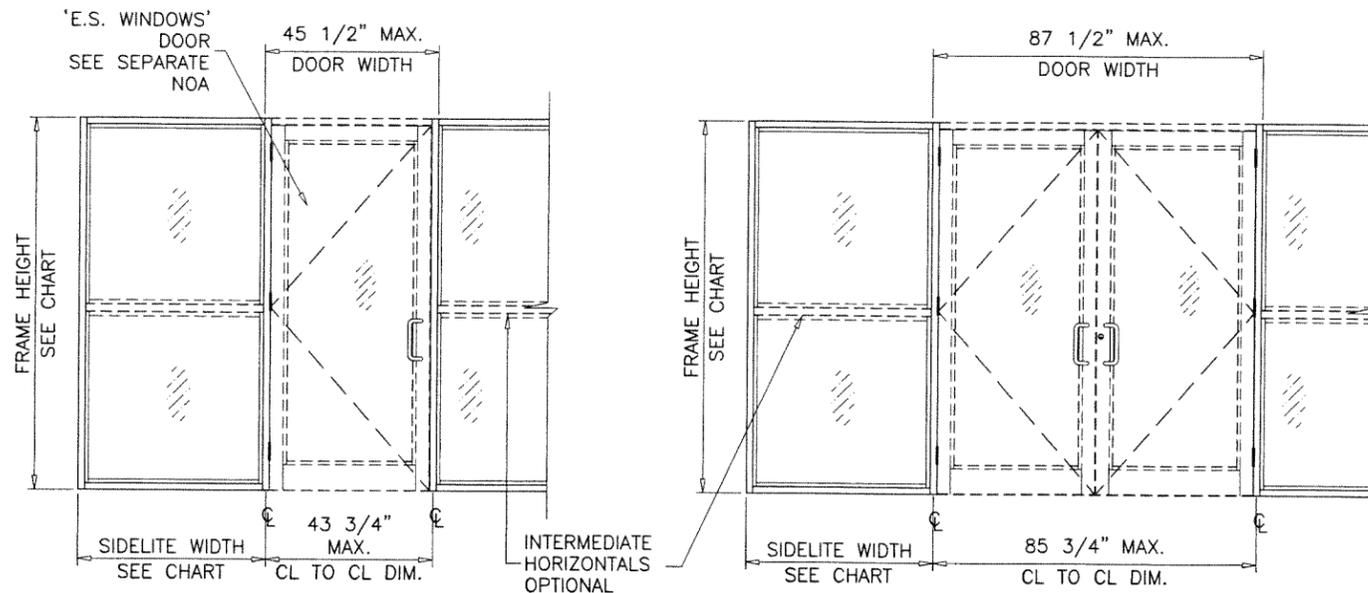
no	date	description	by
F	11.12.20	UPDATED TO 2020 FBC	
G	07.07.21	GENERAL REVISION	
H	02.06.24	REV. PER PER COMMENTS	
I	05.07.24	REV. PER PER COMMENTS	

revisions: 10-01-14
date: 10-01-14
scale: -
dr. by: TARIQ
chk. by:

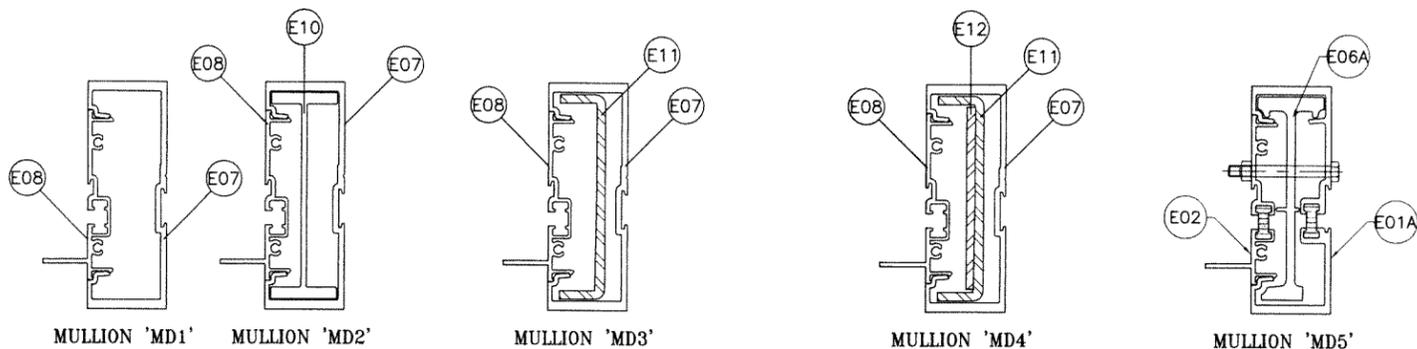
drawing no. **W14-38**
sheet 9 of 21

DOOR MULLION LOAD CAPACITY-PSF

SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1'		JAMB 'JD1' MULL 'MD2'		JAMB 'JD2' JAMB 'JD3' MULL 'MD3'		JAMB 'JD3' MULL 'MD4'		JAMB 'JD4' MULL 'MD5'	
		EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
32	86-1/2	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
36		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
42		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
48		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
54		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
60		120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
32	98-1/2	112.6	112.6	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
36		107.1	107.1	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
42		99.7	99.7	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
48		93.3	93.3	120.0	120.0	120.0	120.0	120.0	120.0	80.0	90.0
54		87.7	87.7	120.0	120.0	116.1	116.1	120.0	120.0	80.0	90.0
60		82.1	82.1	120.0	120.0	110.5	110.5	120.0	120.0	80.0	90.0
32	110-1/2	79.8	79.8	120.0	120.0	118.5	118.5	120.0	120.0	80.0	90.0
36		75.8	75.8	120.0	120.0	112.6	112.6	120.0	120.0	80.0	90.0
42		70.6	70.6	113.6	113.6	104.9	104.9	120.0	120.0	80.0	90.0
48		66.1	66.1	106.3	106.3	98.2	98.2	120.0	120.0	80.0	90.0
32	120	-	-	-	-	-	-	-	-	80.0	90.0
36		-	-	-	-	-	-	-	-	80.0	90.0
42		-	-	-	-	-	-	-	-	80.0	88.7
48		-	-	-	-	-	-	-	-	80.0	82.9



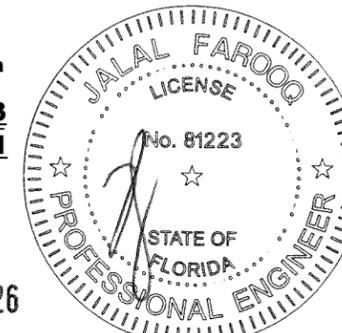
Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³	ALUMINUM	Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³
6.570	2.7226	10.6577	3.8057	6.570	2.7226	6.5995	2.5891	
				STEEL	2.7506	1.2224		
				TOTAL	14.5467			
				Ix ALUM + Ix STL X 2.9				



Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³	ALUMINUM	Ix IN ⁴	Sx IN ³	ALUMINUM	Ix IN ⁴	Sx IN ³
6.7195	2.6757	10.8072	4.4788	6.7195	2.6757	10.5913	4.2065	6.7195	2.6757
				STEEL	2.7506	1.224		3.7533	3.5717
				TOTAL	14.6962			17.6041	
				Ix ALUM + Ix STL X 2.9					

DOOR-WINDOW WALL TRANSITION MULLION

PRODUCT REVISED
 as complying with the Florida Building Code
NOA-No. 21-0914.03
Expiration Date: 08/25/2031
 By: *Manuel Ferrer*
 Miami-Dade Product Control



JAN 28 2026

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\W14-38ES

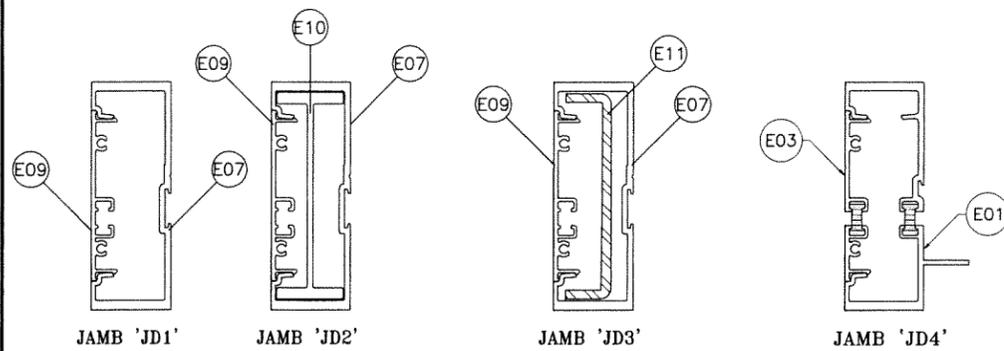
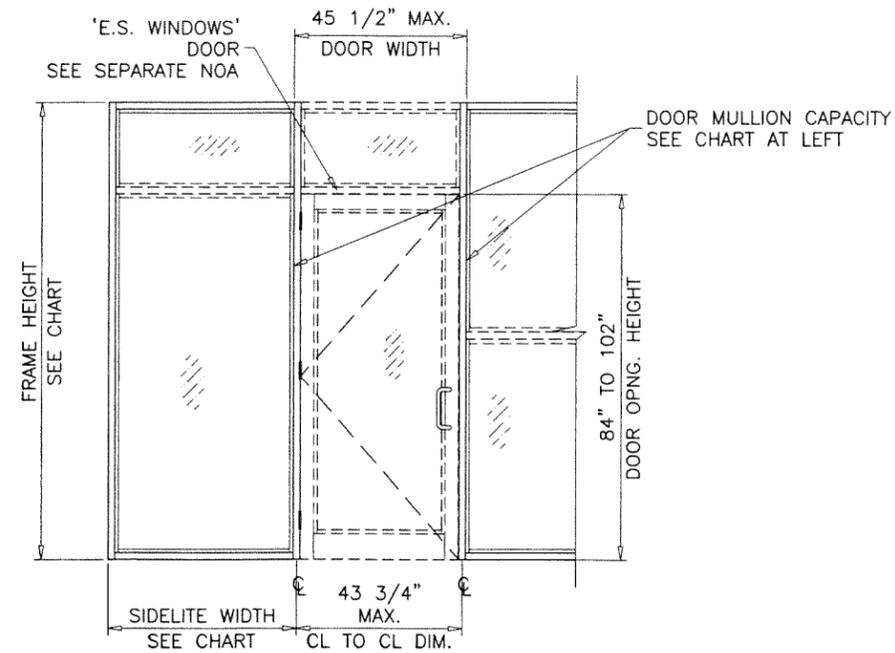
ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.)
E.S. WINDOWS, LLC
 3550 N.W. 49 STREET
 MIAMI, FL. 33142
 TEL. (305) 638-5151 FAX. (305) 638-5158

no	date	description
F	11.12.20	UPDATED TO 2020 FBC
G	07.07.21	GENERAL REVISION
H	02.06.24	NO CHANGE THIS SHEET
I	05.07.24	NO CHANGE THIS SHEET

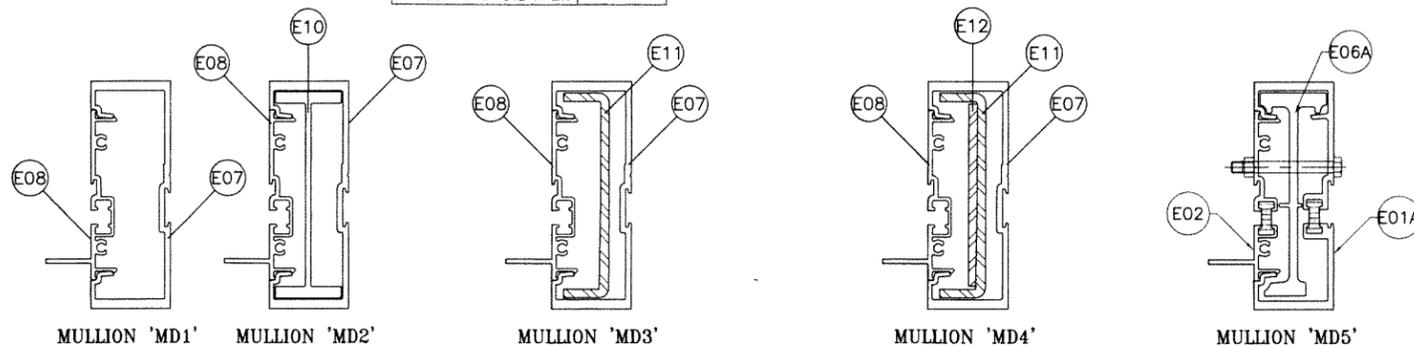
revisions:
 date: 10-01-14
 scale: -
 dr. by: TARIQ
 chk. by:

drawing no.
W14-38
 sheet 10 of 21

DOOR MULLION LOAD CAPACITY-PSF											
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1'		JAMB 'JD1' MULL 'MD2'		JAMB 'JD2' JAMB 'JD3' MULL 'MD3'		JAMB 'JD3' MULL 'MD4'		JAMB 'JD4' MULL 'MD5'	
		EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
32	98-1/2	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
48		90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
54		87.7	87.7	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
32	110-1/2	79.8	79.8	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		75.8	75.8	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		70.6	70.6	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
48		66.1	66.1	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
32	114	72.6	72.6	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		69.1	69.1	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		64.3	64.3	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
48		60.2	60.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
32	120	62.3	62.3	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36		59.2	59.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
42		55.2	55.2	88.7	88.7	89.1	89.1	90.0	90.0	80.0	88.7
48		51.6	51.6	83.0	83.0	83.4	83.4	90.0	90.0	80.0	82.9



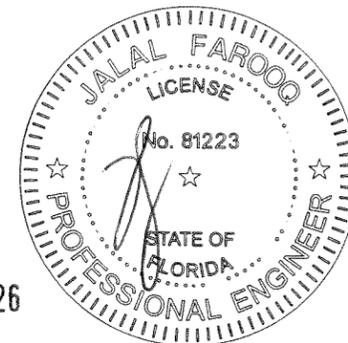
Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³			Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³
6.570	2.7226	10.6577	3.8057	ALUMINUM		6.570	2.7226	6.5995	2.5891
				STEEL		2.7506	1.2224		
				TOTAL		14.5467			
				Ix ALUM + Ix STL X 2.9					



Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³			Ix IN ⁴	Sx IN ³	Ix IN ⁴	Sx IN ³
6.7195	2.6757	10.8072	4.4788	ALUMINUM		6.7195	2.6757	10.5913	4.2065
				STEEL		2.7506	1.224		
				TOTAL		14.6962			
				Ix ALUM + Ix STL X 2.9					

DOOR-WINDOW WALL
TRANSITION MULLION

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Ferrer*
Miami-Dade Product Control



JAN 28 2026

af c
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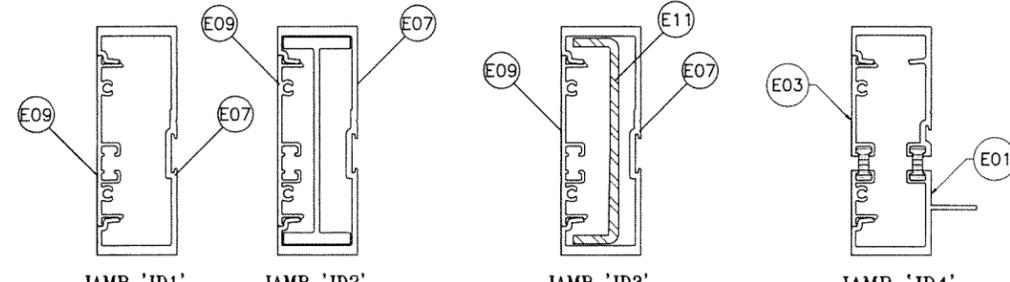
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H	02.06.24		NO CHANGE THIS SHEET
I	05.07.24		REV. PER RER COMMENTS

date:	10-01-14
scale:	-
dr. by:	TARIQ
chk. by:	

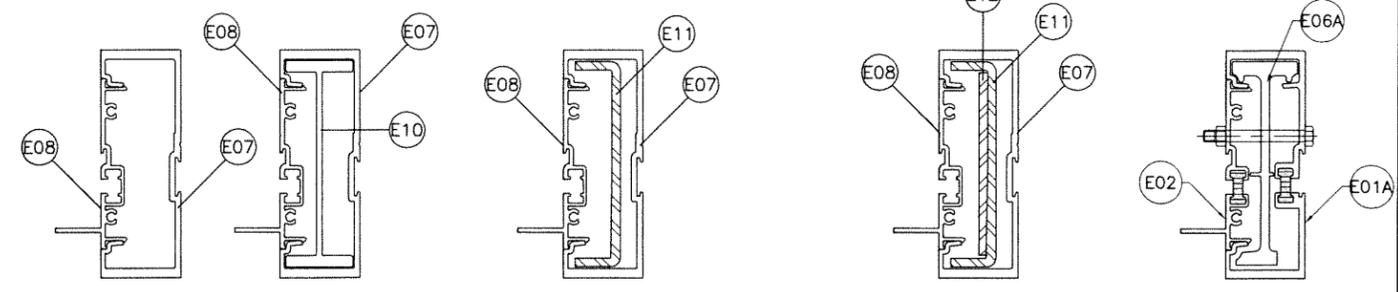
drawing no.
W14-38
sheet 11 of 21

DOOR MULLION LOAD CAPACITY - PSF															
NOMINAL DIMS.				JAMB 'JD1'		JAMB 'JD1'		JAMB 'JD2'		JAMB 'JD3'		JAMB 'JD4'			
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(-)										
85-3/4	30	96	84	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0		
	36			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
	42			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	48			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	54			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	60			85.7	85.7	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0
	30	102	84	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
	36			86.9	86.9	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	42			81.5	81.5	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	48			76.7	76.7	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
	54			72.5	72.5	90.0	90.0	89.0	89.0	90.0	90.0	90.0	90.0	80.0	90.0
	60			74.2	74.2	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
30	108	84	69.5	69.5	90.0	90.0	89.1	89.1	90.0	90.0	90.0	80.0	90.0		
36			65.4	65.4	90.0	90.0	84.4	84.4	90.0	90.0	90.0	80.0	88.9		
42			61.7	61.7	90.0	90.0	80.2	80.2	90.0	90.0	90.0	80.0	84.5		
48			60.2	60.2	90.0	90.0	81.7	81.7	90.0	90.0	90.0	80.0	86.1		
30			114	84	56.6	56.6	90.0	90.0	77.4	77.4	90.0	90.0	80.0	81.5	
36					53.3	53.3	85.8	85.8	73.4	73.4	87.8	87.8	77.4	77.4	
42	50.5	50.5			81.2	81.2	69.9	69.9	83.5	83.5	73.6	73.6			
48	49.7	49.7			80.0	80.0	71.9	71.9	85.9	85.9	75.8	75.8			
30	120	84			46.8	46.8	75.3	75.3	68.1	68.1	81.5	81.5	71.8	71.8	
36					44.2	44.2	71.2	71.2	64.8	64.8	77.4	77.4	68.2	68.2	
42			41.9	41.9	67.5	67.5	61.7	61.7	73.8	73.8	65.0	65.0			
48			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
30			102	90	86.6	86.6	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36					81.2	81.2	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0
42	79.3	79.3			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
48	74.0	74.0			90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
30	108	90			69.3	69.3	90.0	90.0	88.9	88.9	90.0	90.0	90.0	80.0	90.0
36					65.2	65.2	90.0	90.0	84.3	84.3	90.0	90.0	90.0	80.0	88.0
42			63.9	63.9	90.0	90.0	85.6	85.6	90.0	90.0	90.0	80.0	89.4		
48			59.9	59.9	90.0	90.0	80.8	80.8	90.0	90.0	90.0	80.0	84.4		
30			114	90	56.3	56.3	90.0	90.0	76.5	76.5	90.0	90.0	79.9	79.9	
36					53.1	53.1	85.4	85.4	72.7	72.7	86.9	86.9	75.9	75.9	
42	52.4	52.4			84.2	84.2	74.5	74.5	89.1	89.1	77.9	77.9			
48	49.2	49.2			79.1	79.1	70.5	70.5	84.3	84.3	73.7	73.7			
30	120	90			46.3	46.3	74.5	74.5	66.9	66.9	80.0	80.0	69.9	69.9	
36					43.8	43.8	70.5	70.5	63.6	63.6	76.1	76.1	66.5	66.5	
42			84.6	84.6	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
48			78.6	78.6	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
30			108	96	73.4	73.4	90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0
36					68.8	68.8	90.0	90.0	89.7	89.7	90.0	90.0	90.0	80.0	90.0
42	68.2	68.2			90.0	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0		
48	63.5	63.5			90.0	90.0	85.3	85.3	90.0	90.0	90.0	80.0	88.4		
30	114	96			59.5	59.5	90.0	90.0	80.6	80.6	90.0	90.0	80.0	83.5	
36					56.0	56.0	90.0	90.0	76.3	76.3	90.0	90.0	79.1	79.1	
42			55.5	55.5	89.3	89.3	78.0	78.0	90.0	90.0	80.0	80.9			
48			51.9	51.9	83.5	83.5	73.6	73.6	88.0	88.0	76.3	76.3			
30			120	96	48.8	48.8	78.5	78.5	69.7	69.7	83.3	83.3	72.2	72.2	
36					46.0	46.0	74.0	74.0	66.2	66.2	79.1	79.1	68.6	68.6	

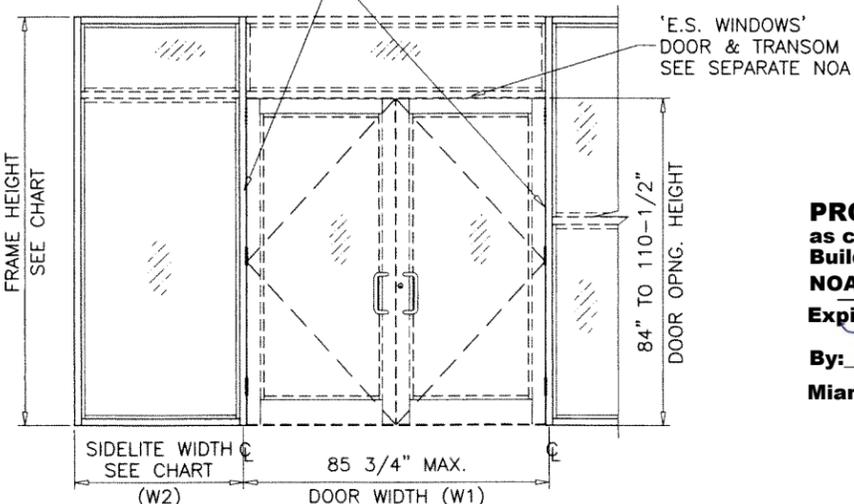
DOOR MULLION LOAD CAPACITY - PSF															
NOMINAL DIMS.				JAMB 'JD1'		JAMB 'JD1'		JAMB 'JD2'		JAMB 'JD3'		JAMB 'JD4'			
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+)	INT.(-)										
85-3/4	30	114	102	72.4	72.4	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0		
	36			67.2	67.2	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0		
	42			62.7	62.7	90.0	90.0	85.9	85.9	90.0	90.0	80.0	88.2		
	48			58.8	58.8	90.0	90.0	81.1	81.1	90.0	90.0	80.0	83.3		
	30			120	110-1/2	59.0	59.0	90.0	90.0	82.6	82.6	90.0	90.0	80.0	84.9
	36					55.0	55.0	88.4	88.4	77.7	77.7	90.0	90.0	79.9	79.9
42	51.5	51.5	82.8			82.8	73.3	73.3	87.7	87.7	75.4	75.4			
48	48.4	48.4	77.8			77.8	69.4	69.4	83.0	83.0	71.4	71.4			
30	120	110-1/2	63.7			63.7	90.0	90.0	90.0	90.0	90.0	90.0	80.0	90.0	
36			59.0			59.0	90.0	90.0	85.7	85.7	90.0	90.0	80.0	87.1	
42			55.0	55.0	88.4	88.4	80.4	80.4	90.0	90.0	80.0	81.7			
48			51.5	51.5	82.8	82.8	75.7	75.7	90.0	90.0	77.0	77.0			



JAMB 'JD1'	JAMB 'JD2'	JAMB 'JD3'	JAMB 'JD4'
Ix IN^4 Sx IN^3 6.570 2.7226	Ix IN^4 Sx IN^3 10.6577 3.8057	Ix IN^4 Sx IN^3 6.570 2.7226	Ix IN^4 Sx IN^3 6.5995 2.5891
ALUMINUM		6.570	2.7226
STEEL		2.7506	1.2224
TOTAL Ix ALUM + Ix STL X 2.9		14.5467	



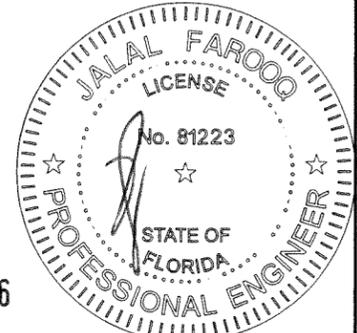
MULLION 'MD1'	MULLION 'MD2'	MULLION 'MD3'	MULLION 'MD4'	MULLION 'MD5'
Ix IN^4 Sx IN^3 6.7195 2.6757	Ix IN^4 Sx IN^3 10.8072 4.4788	Ix IN^4 Sx IN^3 6.7195 2.6757	Ix IN^4 Sx IN^3 6.7195 2.6757	Ix IN^4 Sx IN^3 10.5913 4.2065
ALUMINUM		6.7195	2.6757	6.7195
STEEL		2.7506	1.224	3.7533
TOTAL Ix ALUM + Ix STL X 2.9		14.6962		17.6041



INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

**DOOR-WINDOW WALL
TRANSITION MULLION**

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **21-0914.03**
Expiration Date: **08/25/2031**
By: *Manuel Perez*
Miami-Dade Product Control



JAN 28 2026

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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 \ W14 - 38ES

ES-8000T 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

no	date	by	description
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G	07.07.21		GENERAL REVISION
H	02.06.24		NO CHANGE THIS SHEET
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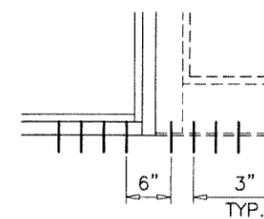
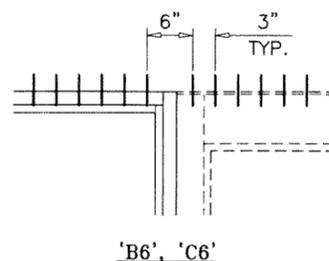
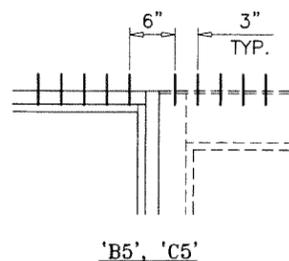
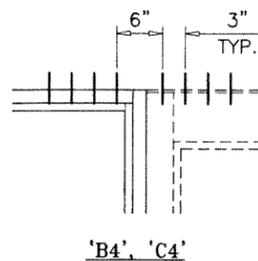
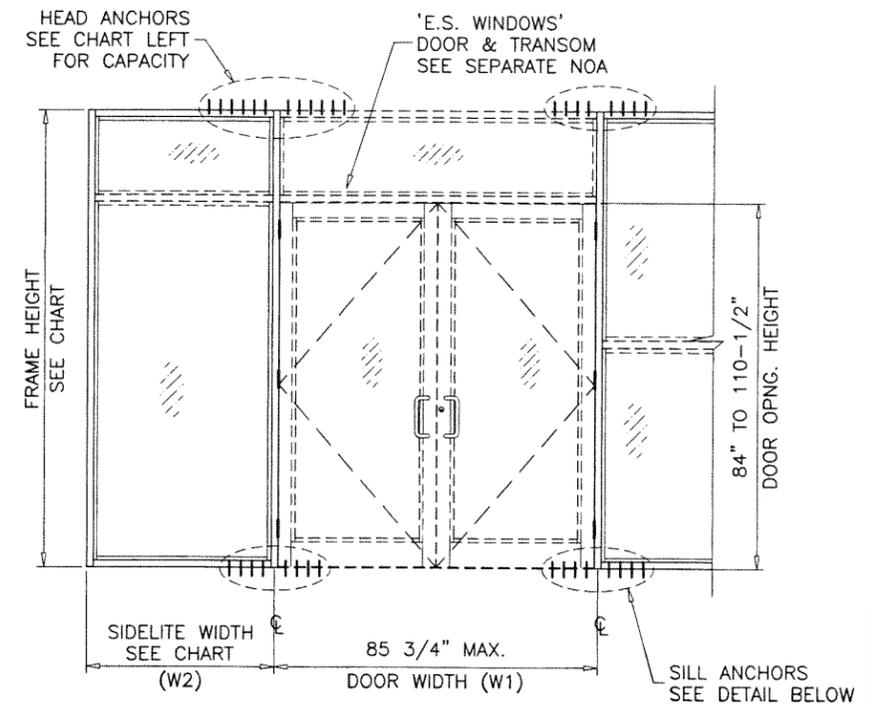
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dr. by:	TARIQ
chk. by:	

DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF						
NOMINAL DIMS.				'B4'/'C4'	'B5'/'C5'	'B6'/'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
85-3/4	30	96	84	89.6	90.0	90.0
	36			85.0	90.0	90.0
	42			80.8	90.0	90.0
	48			77.0	90.0	90.0
	54			73.6	90.0	90.0
	60			70.4	88.0	90.0
	30	102		86.0	90.0	90.0
	36			81.5	90.0	90.0
	42			77.4	90.0	90.0
	48			73.8	90.0	90.0
	54			70.4	88.0	90.0
	60			67.0	86.0	90.0
	30	108		82.7	90.0	90.0
	36			78.3	90.0	90.0
	42			74.3	90.0	90.0
	48			70.8	88.4	90.0
	54			67.4	86.4	90.0
	60			64.0	84.4	90.0
	30	114		79.7	90.0	90.0
	36			75.4	90.0	90.0
	42			71.5	89.4	90.0
	48			68.0	85.0	90.0
	54			64.6	83.0	90.0
	60			61.2	81.0	90.0
30	120	76.9	90.0	90.0		
36		72.6	90.0	90.0		
42		68.9	86.1	90.0		
48		65.4	81.8	90.0		
54		62.0	79.8	90.0		
60		58.6	77.8	90.0		
85-3/4	30	102	90	84.1	90.0	90.0
	36			79.7	90.0	90.0
	42			75.8	90.0	90.0
	48			72.3	90.0	90.0
	54			69.1	86.4	90.0
	60			65.9	82.4	90.0
	30	108		80.9	90.0	90.0
	36			76.7	90.0	90.0
	42			72.9	90.0	90.0
	48			69.4	86.8	90.0
	54			66.0	82.8	90.0
	60			62.6	78.8	90.0
	30	114		78.0	90.0	90.0
	36			73.9	90.0	90.0
	42			70.1	87.7	90.0
	48			66.8	83.5	90.0
	54			63.4	79.3	90.0
	60			60.0	75.1	90.0
	30	120		75.3	90.0	90.0
	36			71.2	89.1	90.0
	42			67.6	84.5	90.0
	48			64.3	80.4	90.0
	54			61.0	76.2	90.0
	60			57.7	72.0	90.0

DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF								
NOMINAL DIMS.				'B4'/'C4'	'B5'/'C5'	'B6'/'C6'		
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)		
85-3/4	30	108	96	79.2	90.0	90.0		
	36			75.1	90.0	90.0		
	42			71.5	89.3	90.0		
	48	68.1		85.2	90.0			
	30	114		76.4	90.0	90.0		
	36			72.4	90.0	90.0		
	42			68.8	86.0	90.0		
	48	65.6		82.0	90.0			
	30	120		73.8	90.0	90.0		
	36			69.9	87.4	90.0		
	42			66.4	83.0	90.0		
	48	63.2		79.0	90.0			
85-3/4	30	114	102	74.9	90.0	90.0		
	36			71.0	88.8	90.0		
	42			67.6	84.5	90.0		
	48	64.4		80.5	90.0			
	30	120		72.4	90.0	90.0		
	36			68.6	85.7	90.0		
	42			65.2	81.5	90.0		
	48	62.1		77.7	90.0			
	85-3/4	30		120	110-1/2	70.4	88.0	90.0
		36				66.8	83.5	90.0
		42				63.6	79.5	90.0
		48		60.7		75.9	90.0	

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

NOTE:
FOR DOOR MULLION ANCHOR LOAD CAPACITY SEE CHART ABOVE
FOR DOOR MULLION CAPACITY SEE CHART ON SHEET 12
LOWER VALUES FROM THESE CHARTS SHALL CONTROL.



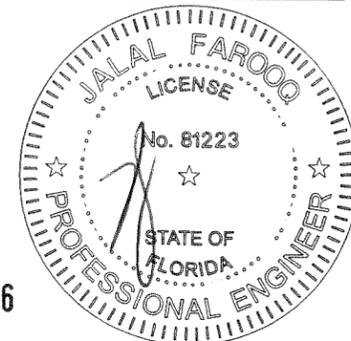
'B4' AT SILL ALL CASES

- ANCHORS TYPES:** SEE SHEET 14 FOR DESCRIPTION
- B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION
 - B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF DOOR MULLION
 - B6 = (6) 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
 - C6 = (6) 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.

TRANSITION MULLION ANCHORS

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NOA-No. 21-0914.03
Expiration Date: 08/25/2031
By: *Manuel Perez*
Miami-Dade Product Control



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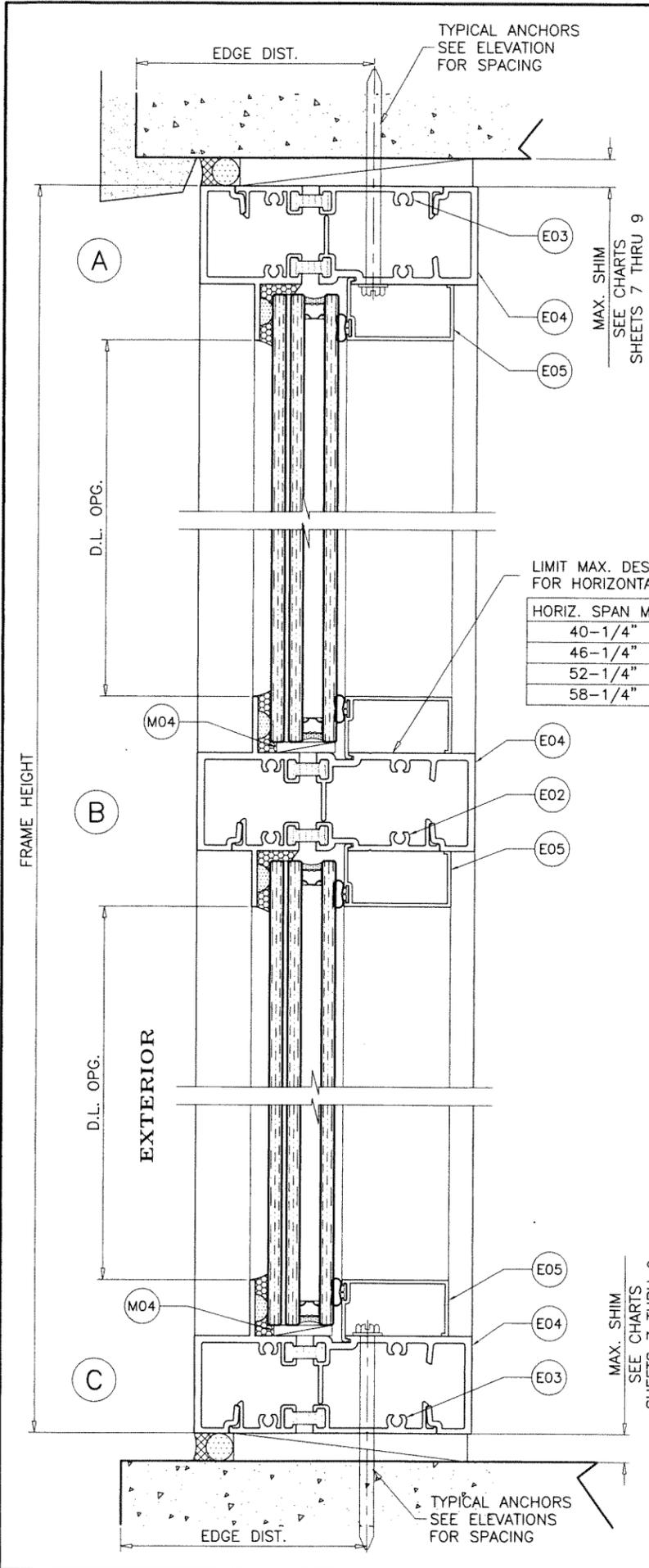
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AL-FAROOQ CORPORATION
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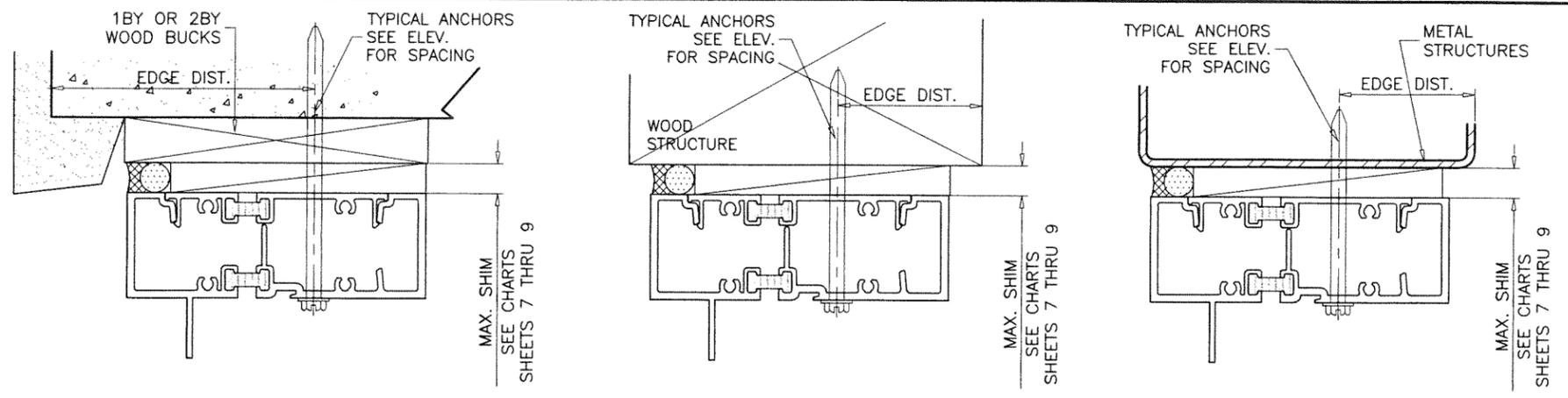
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dr. by:	TARIQ
chk. by:	-

drawing no.
W14-38
sheet 13 of 21



LIMIT MAX. DESIGN LOADS FOR HORIZONTAL AS FOLLOWS

HORIZ. SPAN MAX.	LOAD CAPACITY-PSF
40-1/4"	120.0
46-1/4"	90.0
52-1/4"	70.0
58-1/4"	60.0



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A' - 1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=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' (Fu=177 KSI, Fy=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.

TYPE 'C' - 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST (GRADE 5 CRS)
 INTO MIAMI-DADE COUNTY 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. (Fy = 36 KSI MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1/2" MIN.

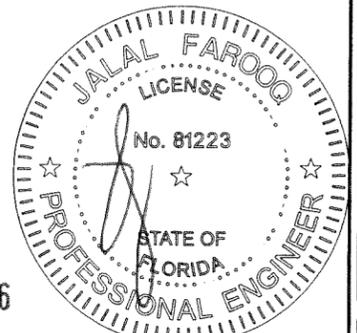
WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
 CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
 C-90 GROUT FILLED NORMAL WEIGHT BLOCK AT JAMBS f'm = 2000 PSI MIN.

SEALANTS:

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

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.

PRODUCT REVISED
 as complying with the Florida Building Code
NOA-No. 21-0914.03
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 By: *Manuel Ferrer*
 Miami-Dade Product Control



JAN 28 2026

af c
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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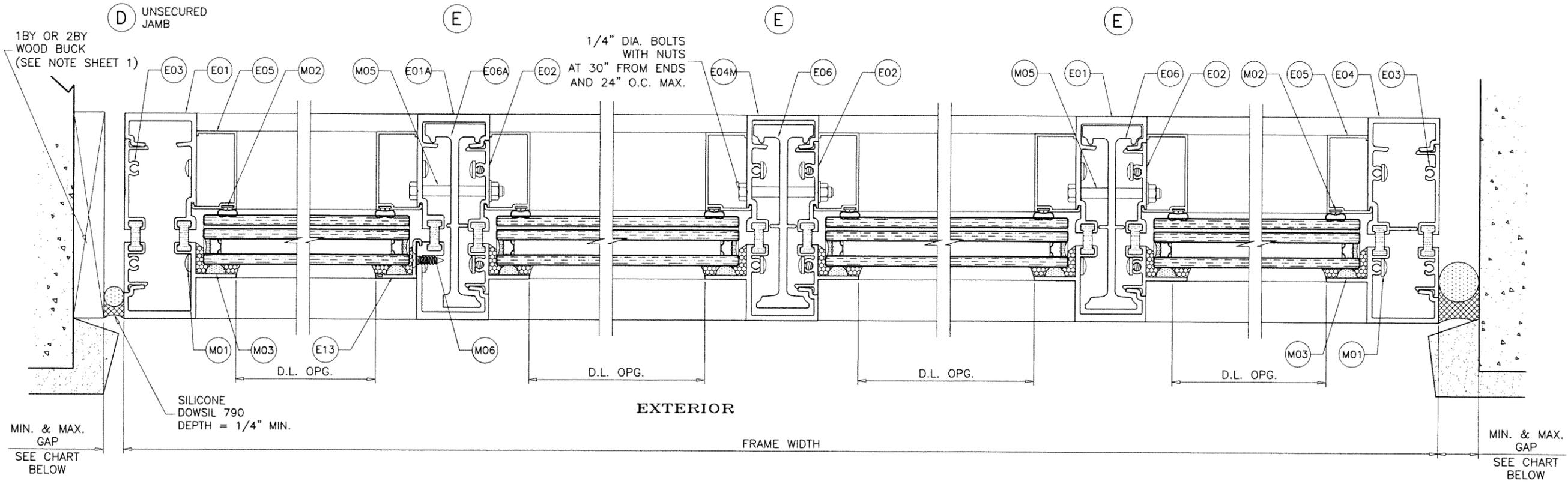
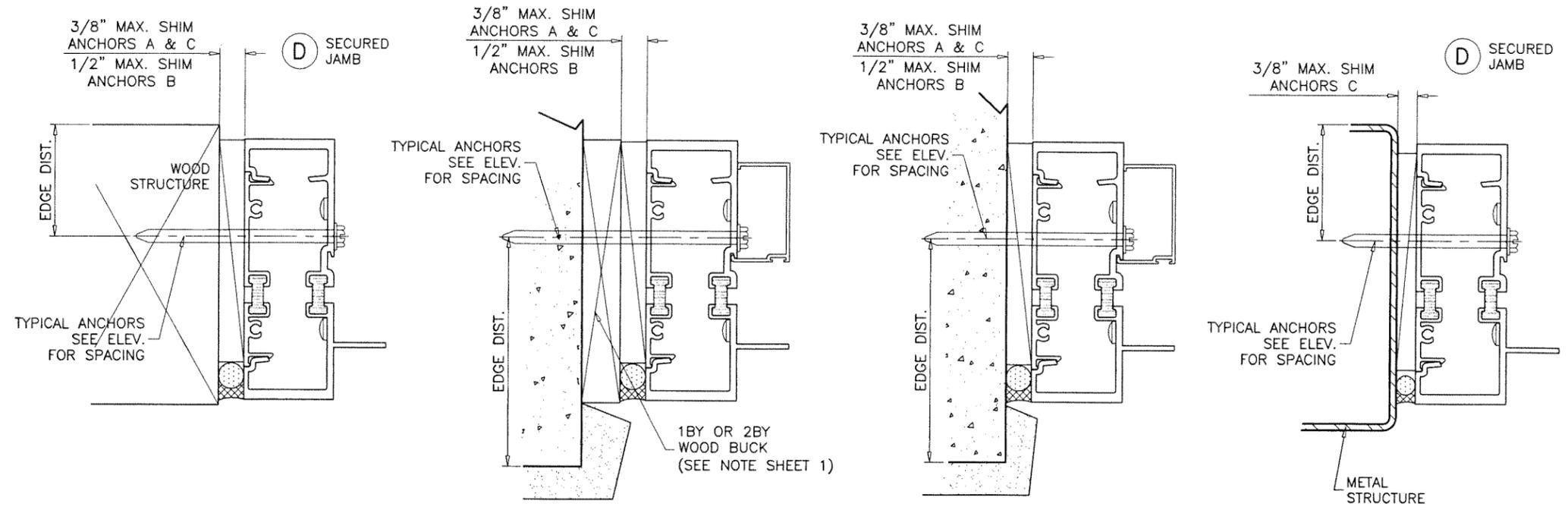
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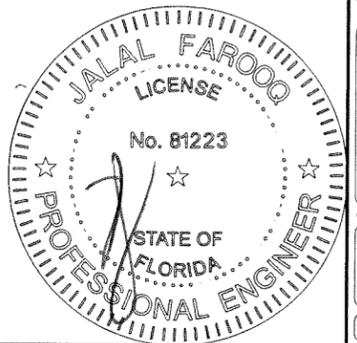
drawing no.
W14-38
 sheet 14 of 21



MAX. GAPS FOR UNANCHORED JAMBS		
MAX. FRAME HEIGHT	JAMBS J1, J2 & J3	
	MIN.	MAX.
102"	1/4"	1"
144"	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 & WINDOWALL 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.

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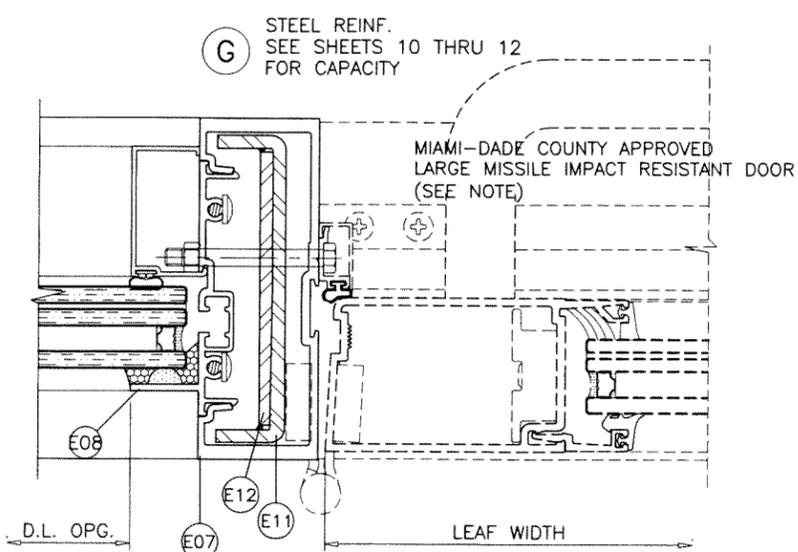
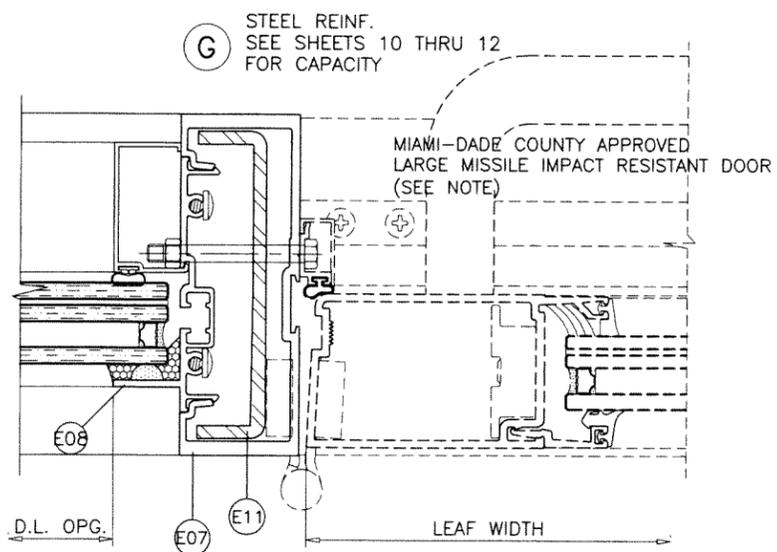
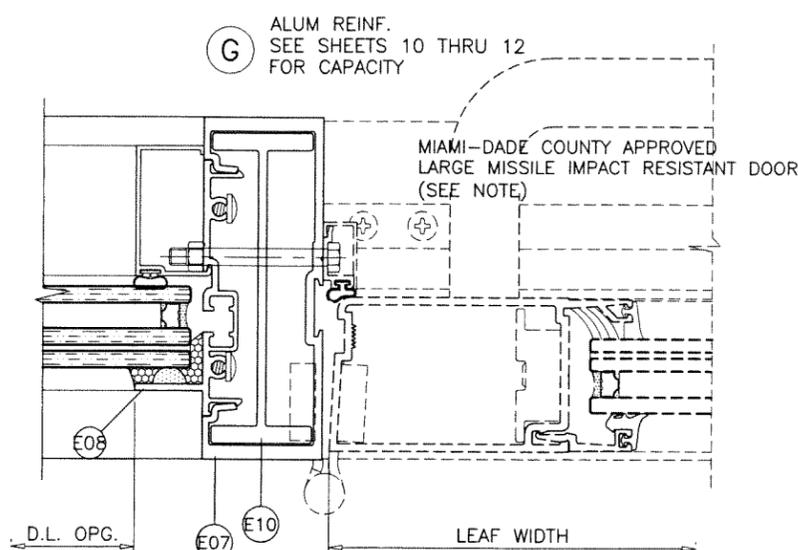
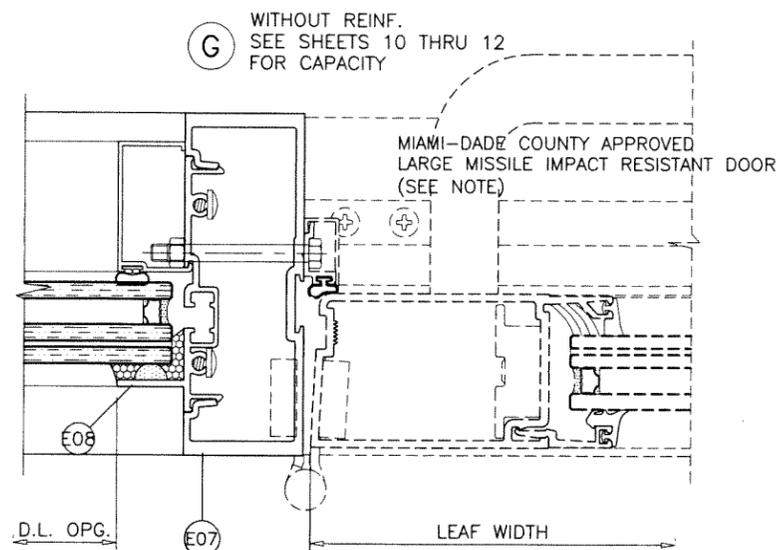
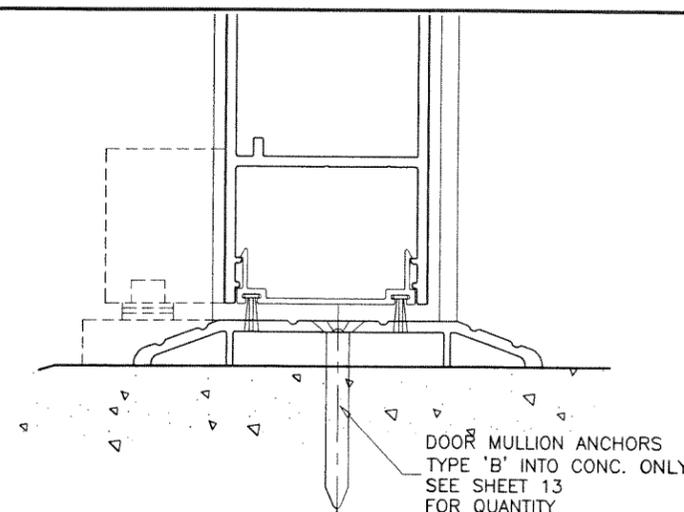
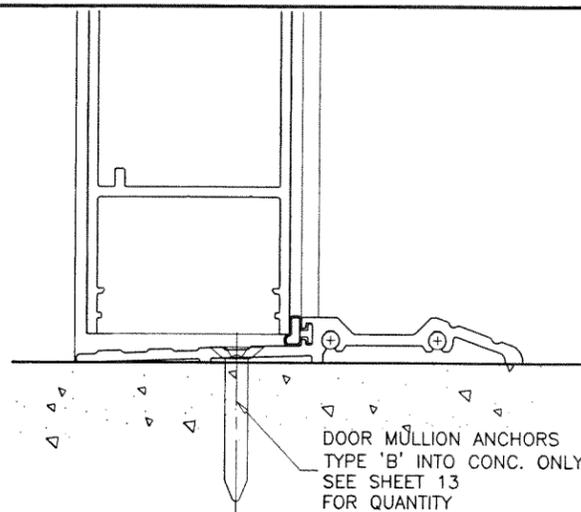
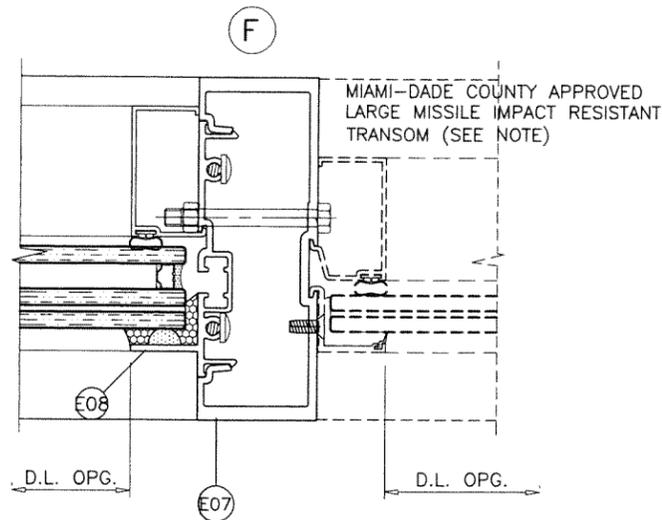
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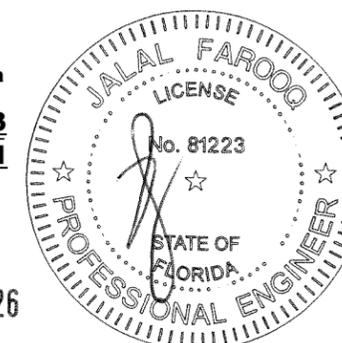
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 chk. by:

drawing no. **W14-38**
 sheet 15 of 21



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

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Miami-Dade Product Control



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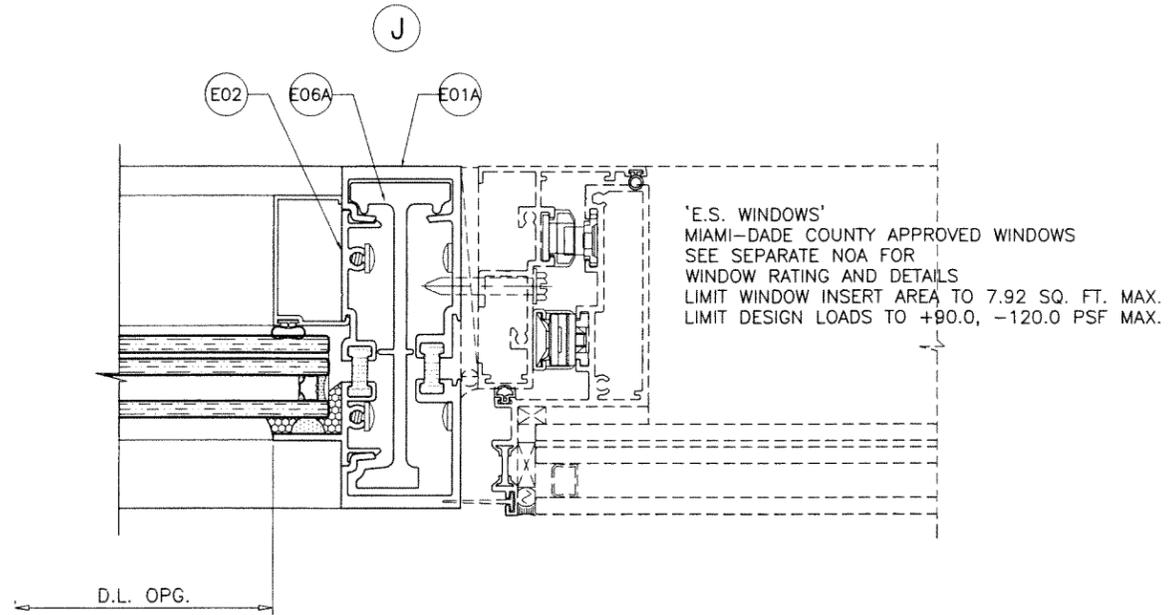
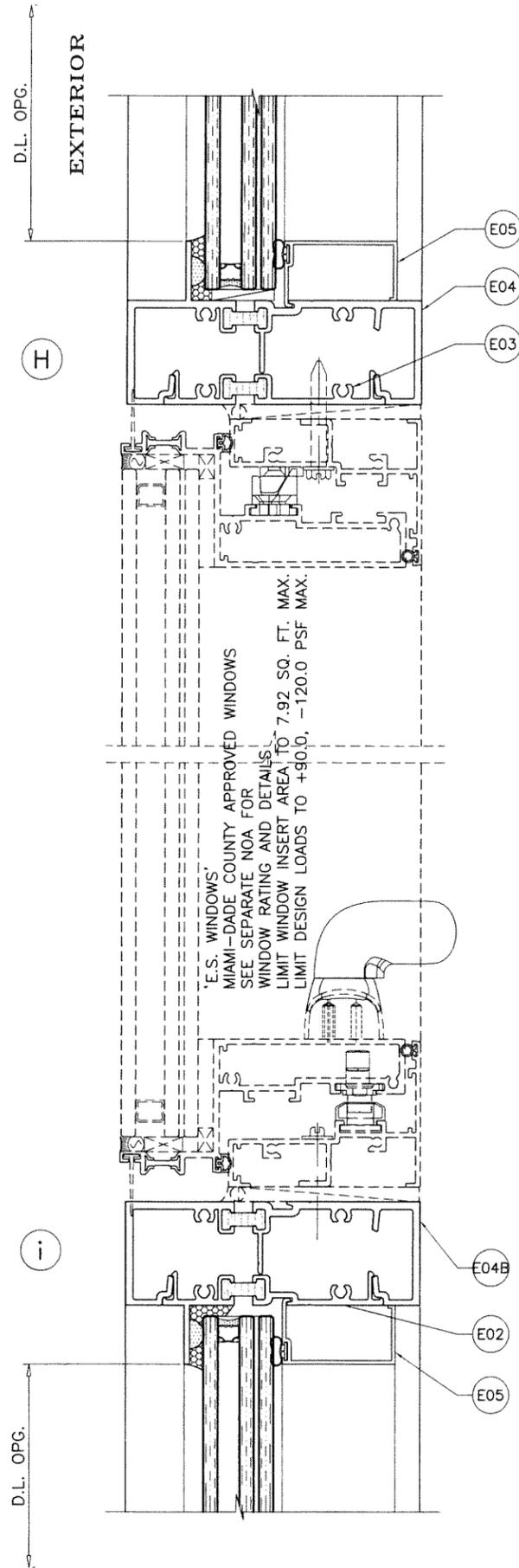
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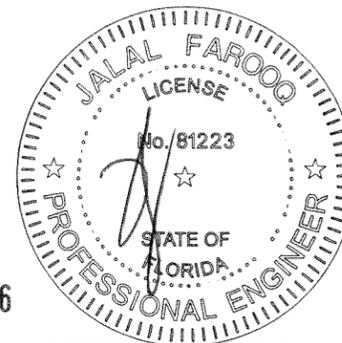
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chk. by:	

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COMP-ANL\W14-38ES

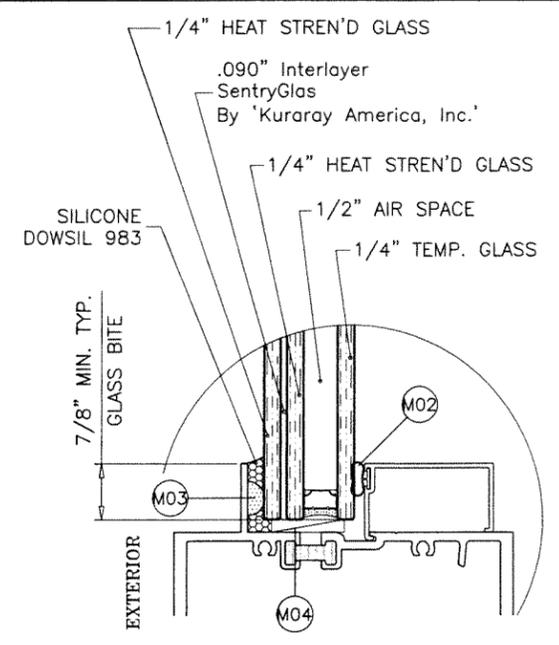
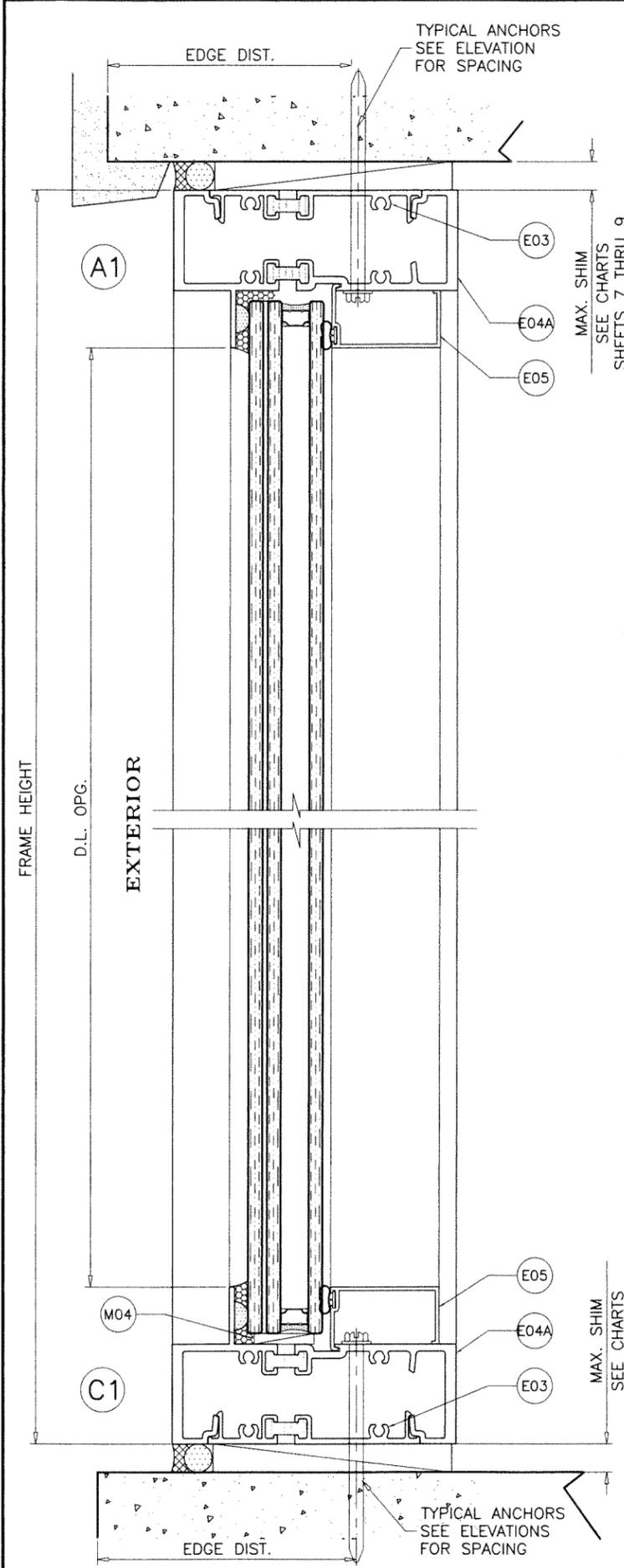
ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:			
no	date	by	description
G	07.07.21		GENERAL REVISION
H	02.06.24		NO CHANGE THIS SHEET
I	05.07.24		REV. PER RER COMMENTS

date: 10-01-14
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no.
W14-38

sheet 17 of 21

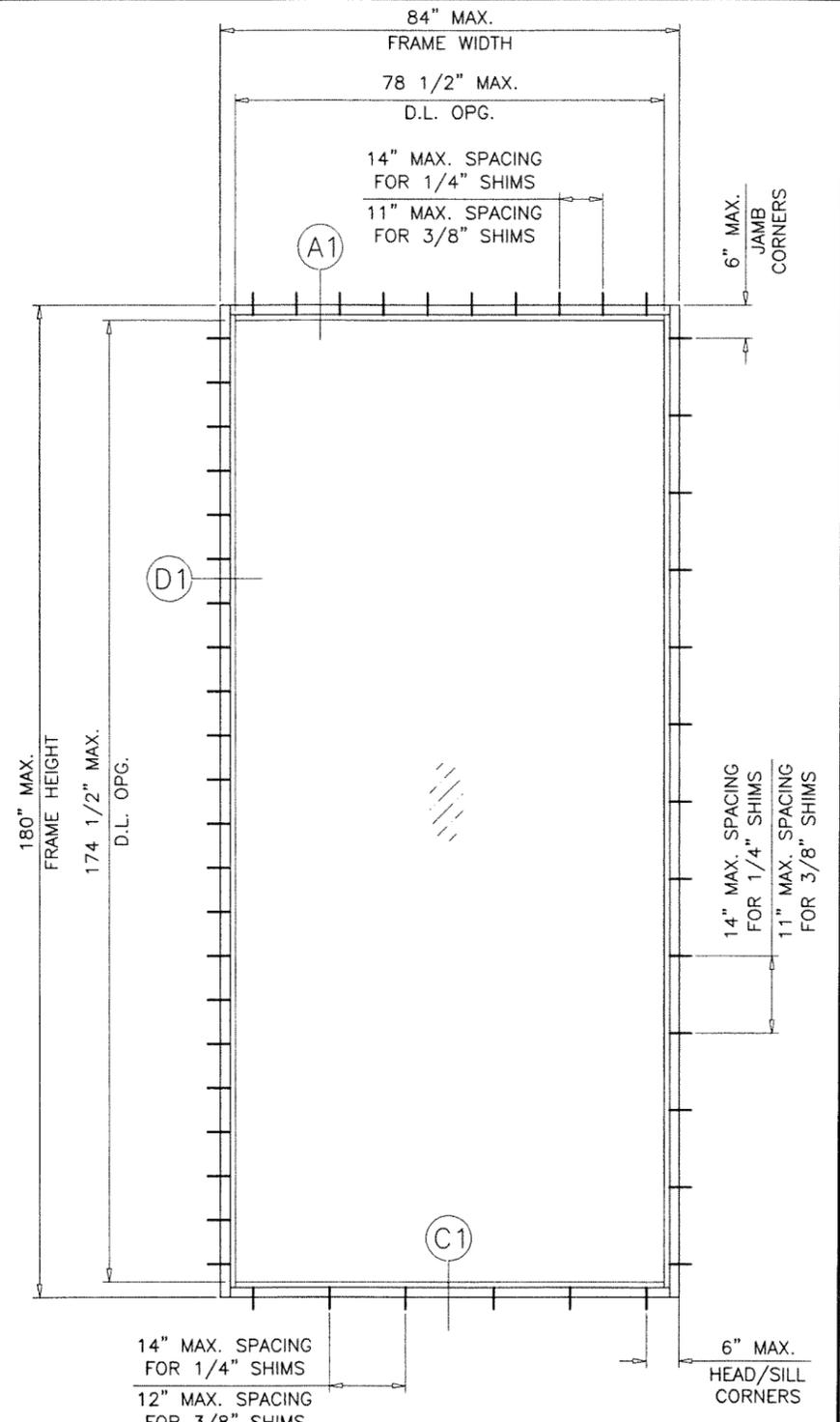
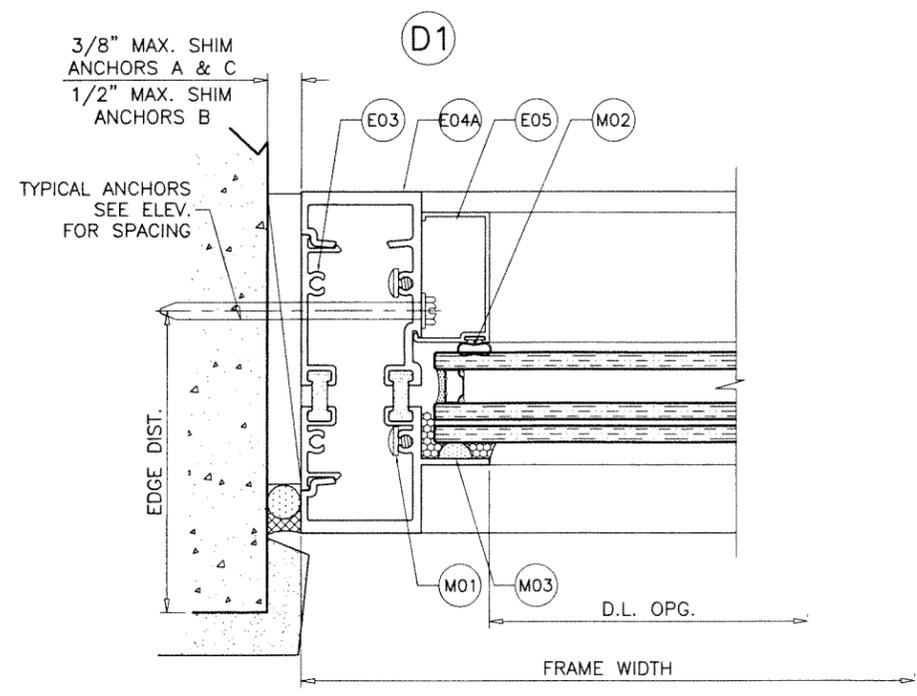


GLASS TYPE 'GL3'
1-5/16" OVERALL INSUL. LAM. GLASS

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

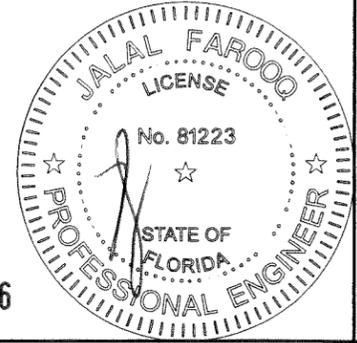
GLASS TYPE 'GL3'
MAXIMUM DESIGN LOAD RATING = + 70.0 PSF
- 70.0 PSF
 (FOR SINGLE UNITS SHOWN IN THIS SHEET OR SMALLER)

THESE FRAMES CAN BE USED AT ALL SUBSTRATES SHOWN ON SHEETS 14 AND 15.



TYPICAL ELEVATION
SINGLE (0) PANEL (STAND ALONE)
 Scale: 3/8"=1'-0"

PRODUCT REVISED
 as complying with the Florida Building Code
NOA-No. 21-0914.03
Expiration Date: 08/25/2031
 By: *Manuel Ferrer*
 Miami-Dade Product Control



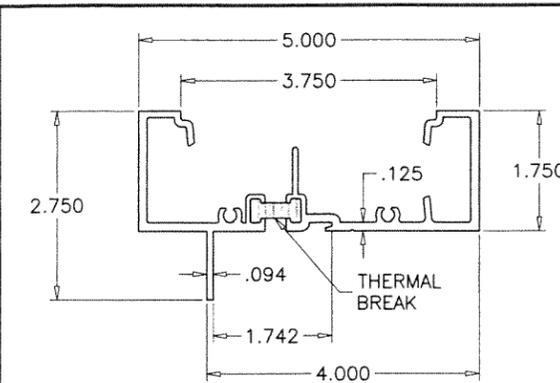
JAN 28 2026

af c
AL-FAROOQ CORPORATION
 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220
 MIAMI, FLORIDA 33173
 TEL. (305) 264-8100 FAX. (305) 262-6978
 COMP-ANL\W14-38ES

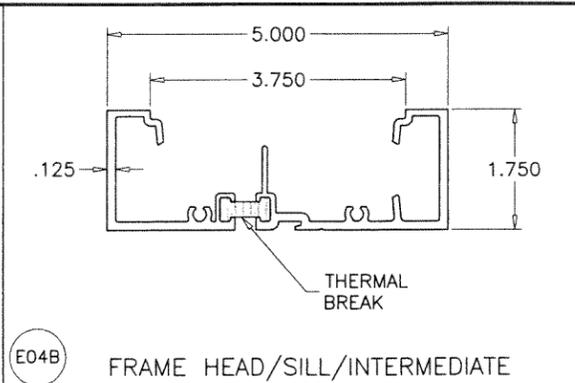
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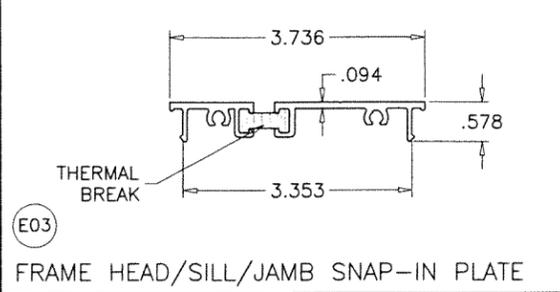
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 chk. by:
 drawing no.
W14-38
 sheet 18 of 21



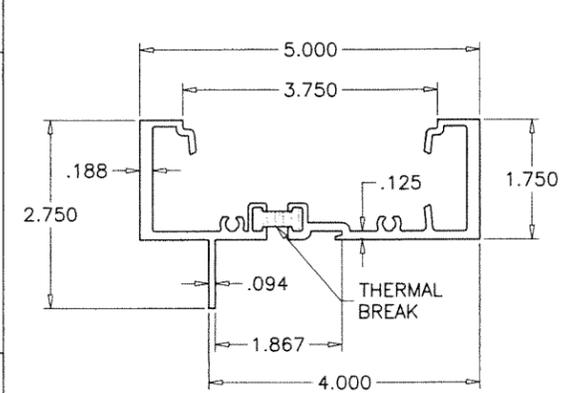
E04 FRAME HEAD/SILL/INTERMEDIATE



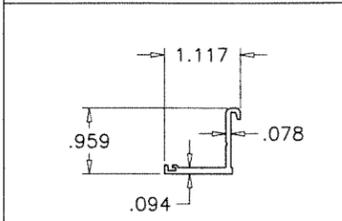
E04B FRAME HEAD/SILL/INTERMEDIATE



E03 FRAME HEAD/SILL/JAMB SNAP-IN PLATE

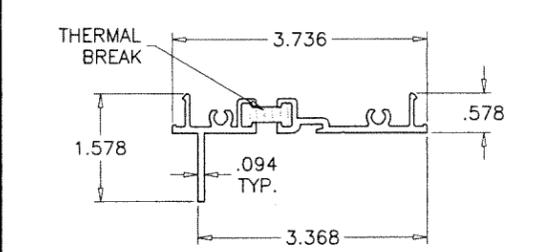


E04A FRAME HEAD/SILL/JAMB

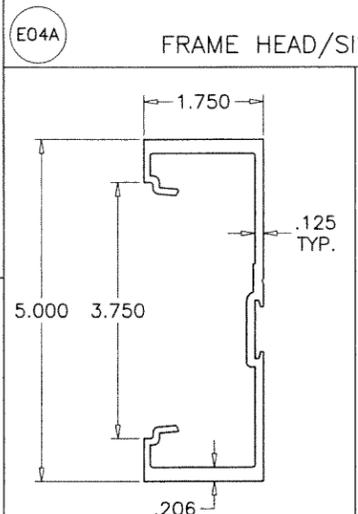


E13 EXT. GLAZING ADAPTER

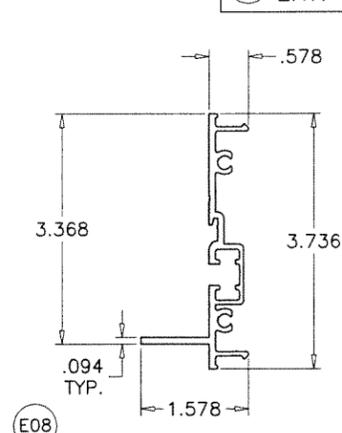
THERMAL BREAK:
FRAME MEMBERS FILLED AND DEBRIDGED USING
'BAYDUR TB 100-30' MANUFACTURED BY
'BAYER MATERIALSCIENCE, LLC.



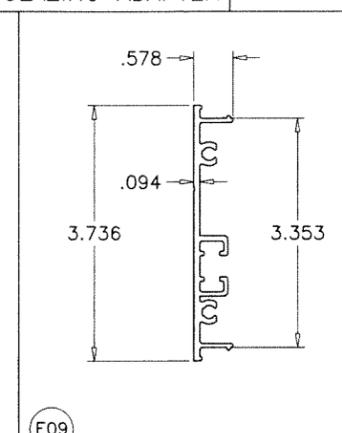
E02 SNAP-IN MATE



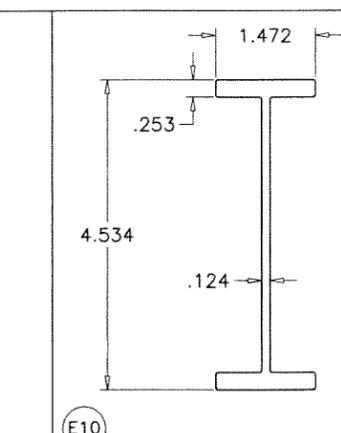
E07 DOOR MULLION



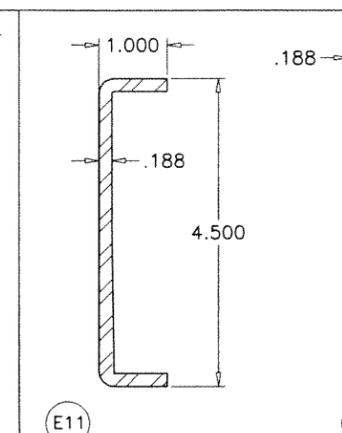
E08 DOOR MULL SNAP-IN MATE



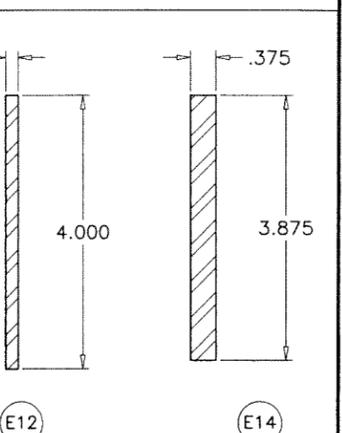
E09 DOOR MULL SNAP-IN PLATE



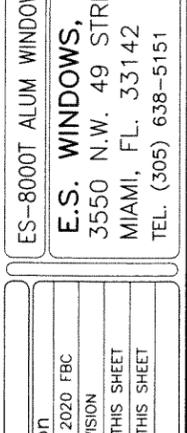
E10 DOOR MULL STIFFENER



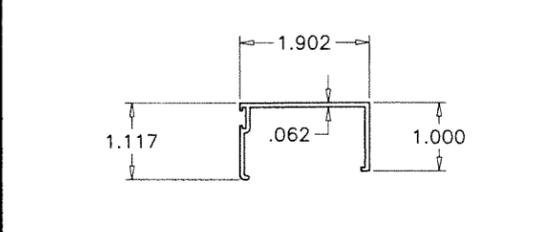
E11 MULL STEEL REINF.



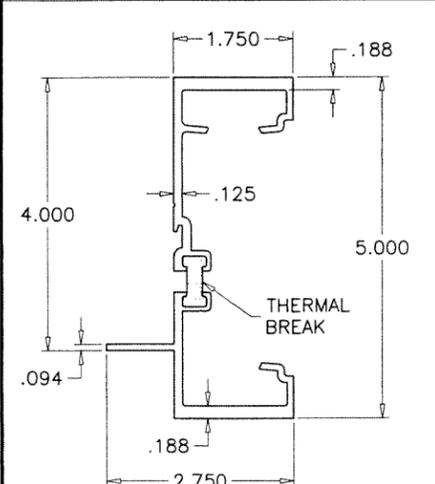
E12 MULL STEEL REINF.



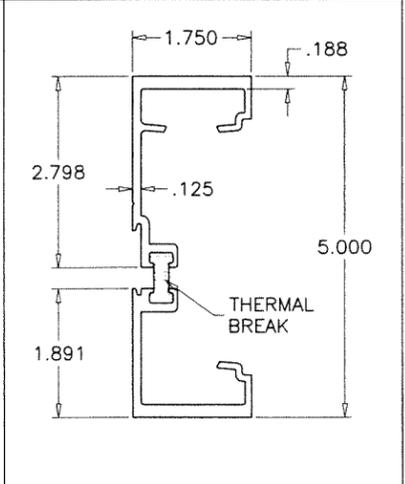
E14 MULL STEEL REINF.



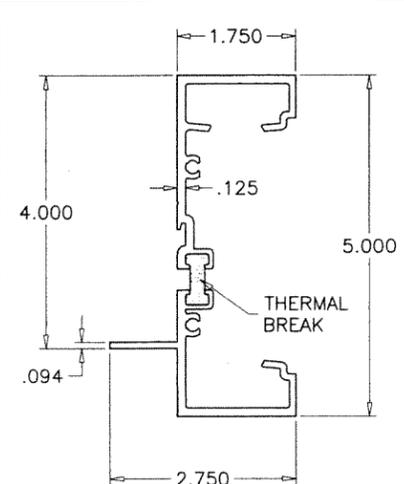
E05 GLAZING BEAD



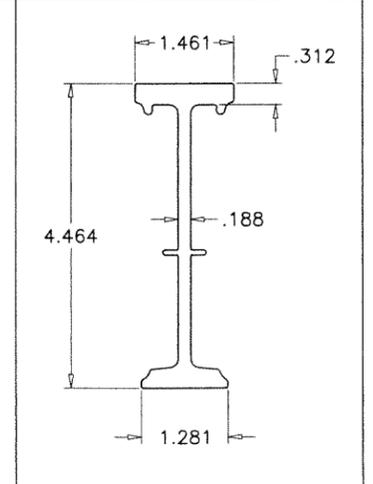
E01 JAMB/VERTICAL MULLION



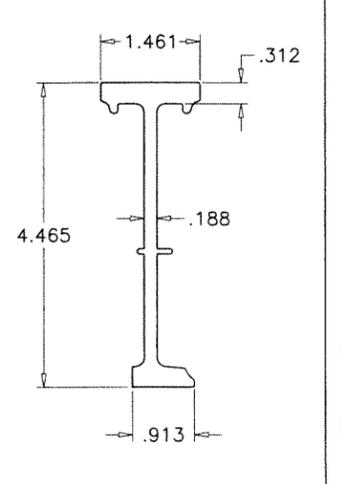
E01A VERTICAL MULLION



E04M VERTICAL MULLION

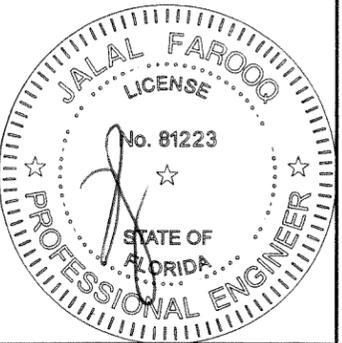


E06 STIFFENER



E06A STIFFENER

PRODUCT REVISED
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Building Code
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Expiration Date: **08/25/2031**
By: *Manuel Torres*
Miami-Dade Product Control



JAN 28 2026

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 W14-38ES

ES-8000T ALUM WINDOW WALL SYSTEM (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
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scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no.
W14-38
sheet 19 of 21

ITEM #	PART #	REQ'D	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E01	ES-8000T-001	AS REQD.	JAMB AND VERTICAL MULLION	6005-T5	-
E01A	ES-8000T-009T	AS REQD.	VERTICAL MULLION	6063-T6	-
E02	ES-8000T-002	AS REQD.	SNAP-IN MATE	6005-T5	-
E03	ES-8000T-003	AS REQD.	HEAD/SILL/JAMB SNAP-IN PLATE	6005-T5	-
E04	ES-8000T-004	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E04M	ES-8000T-004	AS REQD.	VERTICAL MULLION	6005-T5	-
E04A	ES-8000T-007	AS REQD.	FRAME HEAD/SILL/JAMB (GLASS TYPE GL3)	6005-T5	-
E04B	ES-8000T-012T	AS REQD.	FRAME HEAD/SILL/INTERMEDIATE	6005-T5	-
E05	ES-8000T-005	AS REQD.	GLAZING BEAD	6063-T5	-
E06	ES-8000T-006	AS REQD.	STIFFENER	6005-T5	-
E06A	ES-8000T-011	AS REQD.	STIFFENER	6005-T5	-
E07	-	AS REQD.	DOOR MULLION	6005-T5	-
E08	ES-8000T-002	AS REQD.	DOOR MULLION SNAP-IN MATE	6005-T5	-
E09	ES-8000T-003	AS REQD.	DOOR MULL SNAP-IN PLATE	6005-T5	-
E10	-	AS REQD.	DOOR MULLION STIFFENER	6005-T5	-
E11	-	AS REQD.	MULLION REINFORCING CHANNEL	STEEL	A36, Fu MIN. = 58 KSI
E12	-	AS REQD.	MULLION REINFORCING BAR	STEEL	A36, Fu MIN. = 58 KSI
E13	ES8014	AS REQD.	EXTERIOR GLAZING ADAPTER	6063-T6	-
E14	-	AS REQD.	MULLION REINFORCING BAR	STEEL	A36, Fu MIN. = 58 KSI
M01	#12 X 1-1/2"	AS REQD.	ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M02	ES-8010	AS REQD.	INTERIOR GLAZING GASKET	EPDM	DUROMETER 60±5 SHORE A
M03	ES-8011A	AS REQD.	1/4" GLASS SPACER	SILICONE	DUROMETER 85±5 SHORE A
M04	ES-7530-B01A	2/ LITE	SETTING BLOCKS AT 1/4 POINTS	EPDM	DUROMETER 80±5 SHORE A
M05	1/4" X 2-1/8"	AS REQD.	MULLION FASTENERS	ST. STEEL	BOLT WITH NUT
M06	#12 X 3/4"	AS REQD.	ADAPTER FASTENERS, AT 3" FROM ENDS & 12" O.C.	ST. STEEL	FH SMS

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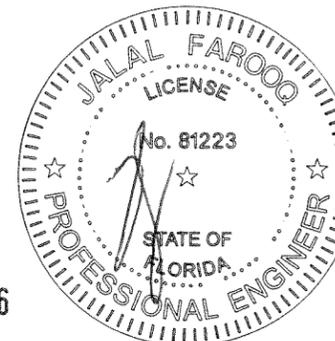
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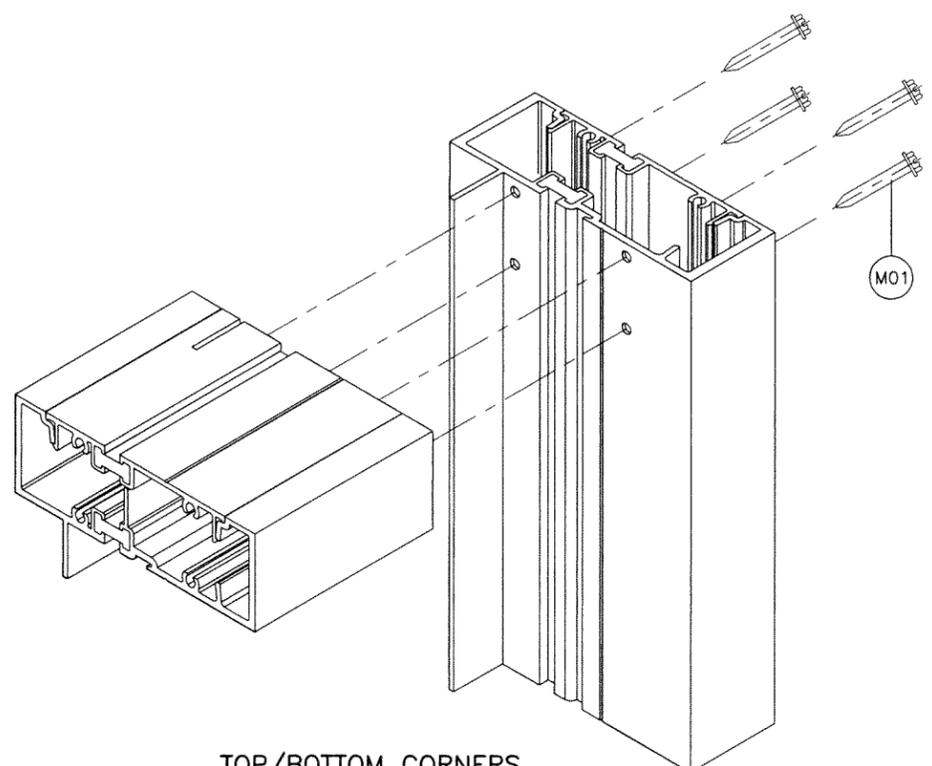
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 Miami-Dade Product Control

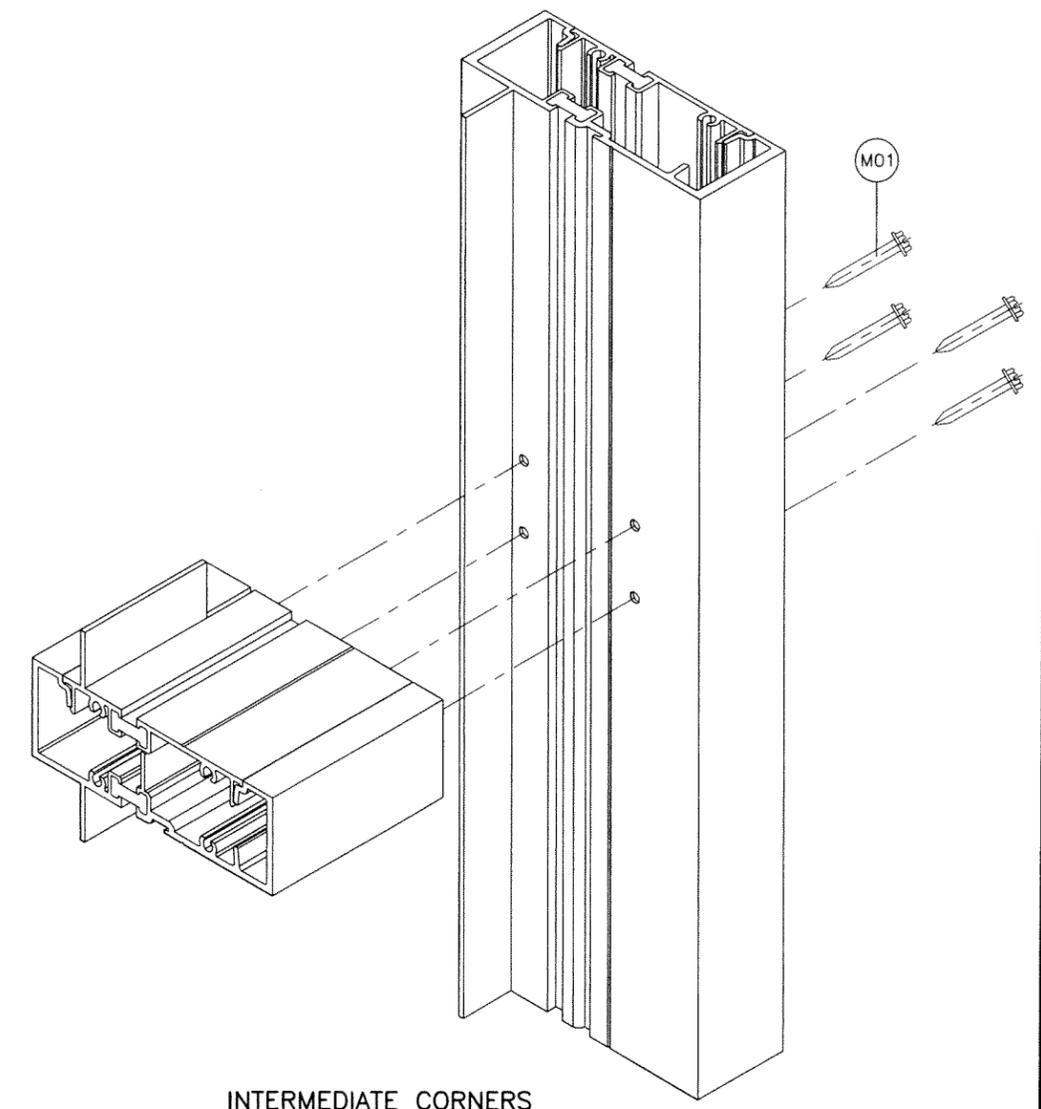


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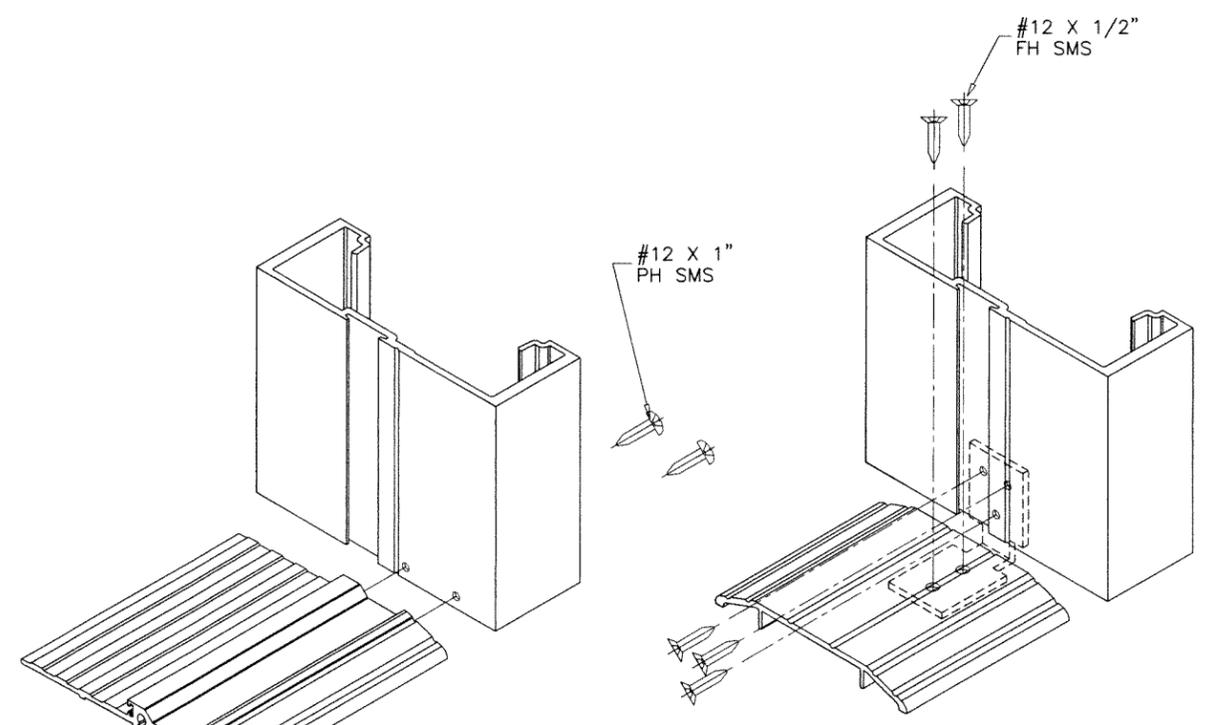
drawing no.
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 sheet 20 of 21



TOP/BOTTOM CORNERS

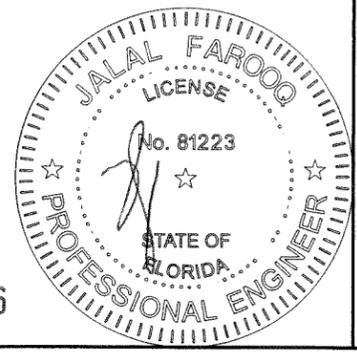


INTERMEDIATE CORNERS



DOOR MULLION CORNER

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