CONENGINEERS BUILDERS LLC

General Contractor

SUBMITTAL #31 - WINDOWS

Gary Matzner Park - Restroom Building
6610 N. Kendall Drive, Pinecrest, FL 33156

Submitted By	Conengineers Builders LLC
Supplier / Distributor	ESP Windows Inc.
Manufacturer	ES Windows, LLC
Product System	ES9500 Aluminum Window Wall / Storefront System
NOA	Miami-Dade NOA No. 24-0513.04
Submitted For	Architect / Owner Review and Approval

Submittal Status: Revised window submittal using the specified ES Windows ES9500 system.

2026.05.21 WJA: GC TO PROVIDE SHOP DRAWINGS SPECIFIC TO THIS PROJECT.

☑ NO EXCEPTION TAKEN
☐ APPROVED AS NOTED
☐ REJECTED
☐ SUBMIT SPECIFIED ITEM
☐ REVISE AND RESUBMIT

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for: Dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of the work, coordination of the work of other trades and satisfactory performance of the work.

Wannemacher Jensen Architects, Inc.

Date: 2026.05.21

By: David Pinto

1. Submittal Purpose

Conengineers Builders LLC respectfully submits the revised window system for the Gary Matzner Park restroom building for review and approval. This submittal is for the specified ES Windows ES9500 Aluminum Window Wall / Storefront System, including the selected frame finish, muntin/division finish, glazing, product approval, and supplier confirmation.

2. Contract Document Reference

Sheet A-001 identifies the exterior window/storefront product under the Florida Approved Exterior Components & Cladding Products listing as follows:

Category / Subcategory	Approval Number	Applicant	Description
Storefront	NOA-24-0513.04	ES Windows	ES9500

The submitted product follows the basis-of-design product identified in the contract documents.

3. Proposed Product Configuration

Item	Submitted Selection
Product System	ES Windows ES9500
Product Type	Aluminum Window Wall / Storefront System
Operation	Fixed / non-operable storefront system
Quantity	3 units
Unit Size	32 in. x 47 in. each
Frame Material	Aluminum
Frame Color / Finish	WHITE
Muntins / Window Divisions	WHITE finish to match frame
Glazing	Clear impact glass
Impact Rating	Large Missile Impact - Miami-Dade approved system
NOA	Miami-Dade NOA No. 24-0513.04
Estimated Fabrication Lead Time	Approximately 60 days from approval / release

Commercial pricing and internal procurement information have been intentionally omitted from this technical submittal package.

4. Color and Finish Selection

The window system shall be furnished with a **white aluminum frame**. All visible muntins, grids, divisions, and divider members shall also be furnished in **white finish to match the frame**. The glazing shall be **clear impact glass**.

5. Fixed Storefront Clarification

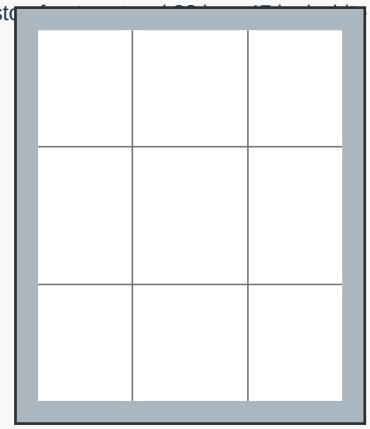
ESP Windows confirmed that the ES9500 is a fixed storefront system and does not open. Therefore, this submittal is for a fixed / non-operable storefront configuration consistent with the ES9500 product line and the window sizes requested for this project.

6. Product Schematic / Configuration

The schematic below summarizes the submitted configuration for clarity. The supplier confirmation and NOA are included in the appendices, and manufacturer documents govern final fabrication and installation.

ES9500 Window Unit - Visual Configuration

Fixed st frame and white divisions



Submitted selections

System:	ES Windows ES9500
Operation:	Fixed / non-operable
Frame finish:	White aluminum
Muntins / divisions:	White, both sides
Glazing:	Clear impact glass
Pattern:	3 across / 3 down

Schematic for submittal clarity; manufacturer shop drawings/NOA govern installation.

7. Compliance Summary

Requirement / Review Item	Submitted Response
Basis-of-design product	ES Windows ES9500 as identified on Sheet A-001.
NOA / product approval	Miami-Dade NOA No. 24-0513.04 included in this package.
Operation	Fixed / non-operable storefront system.
Frame finish	White aluminum frame.
Muntins / divisions finish	White finish to match frame.
Glass	Clear impact glass.
Quantity and size	3 units at 32 in. x 47 in. each.
Impact compliance	ES9500 NOA identifies the system as Large and Small Missile Impact Resistant.
Lead time	Supplier indicated approximately 60 days from approval / release.

8. Review Request

Conengineers respectfully requests review and approval of the submitted ES Windows ES9500 window system so the windows may be released for fabrication. The estimated fabrication lead time is approximately 60 days from approval / release.

9. Attachments Included

Attachment	Description
Appendix A	ESP Windows email confirmation dated May 20, 2026.
Appendix B	Miami-Dade NOA No. 24-0513.04 - ES Windows Series 9500 Aluminum Window Wall System - L.M.I.

APPENDIX A

ESP Windows Email Confirmation

Outlook

Re: Gary Matzner Park

From Estimating ESpWindows <quotes@espwindowsinc.com>
Date Wed 5/20/2026 3:41 PM
To Conengineers Builders LLC. <info@conengineers.com>

1 attachment (3 MB)
ES9500 NOA.pdf;

Hola Jamie

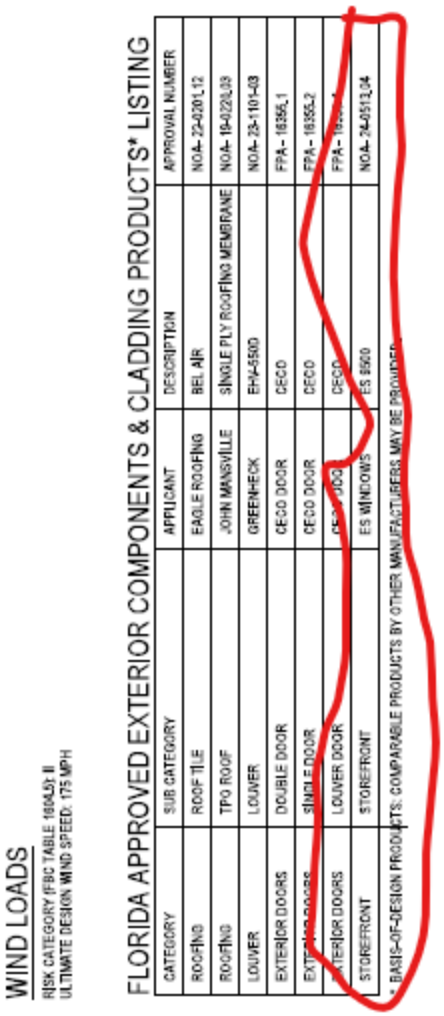
Aqui te adjunto el NOA de la ES9500 para que se lo mandes al arquitecto,
la ES9500 es un sistema fijo de storefront, no abre.
te la cotizamos en frame color blanco y con vidrio clear de impacto,
nuestro lead time ahora mismo son 60 dias,

quedo atento por si cualquier duda,

gracias

On Wed, May 20, 2026 at 3:31 PM Estimating ESpWindows <quotes@espwindowsinc.com> wrote:

> Buenas tardes
>
> Aqui le adjuntamos la cotizacion para los 3 sistemas ES9500, cada uno de 32" x 47" en frame color blanco con vidrio clear de impacto,
>
> por favor revisar la orden y nos avisan por si cualquier pregunta o comentario,
>
> thank you
>
> On Wed, May 20, 2026 at 1:59 PM Conengineers Builders LLC. <info@conengineers.com> wrote:
>
> > Hola Ivan –en el plano A-001 esta el NOA # - aquí le mando un snip:



WIND LOADS

RISK CATEGORY (FBC TABLE 1604.5): II
ULTIMATE DESIGN WIND SPEED: 175 MPH

FLORIDA APPROVED EXTERIOR COMPONENTS & CLADDING PRODUCTS* LISTING

CATEGORY	SUB CATEGORY	APPLICANT	DESCRIPTION	APPROVAL NUMBER
ROOFING	ROOF TILE	EAGLE ROOFING	BEL AIR	NOA- 22-0201.12
ROOFING	TPO ROOF	JOHN MANSVILLE	SINGLE PLY ROOFING MEMBRANE	NOA- 19-0220.03
LOUVER	LOUVER	GREENHECK	EHP-5500	NOA- 23-1107-03
EXTERIOR DOORS	DOUBLE DOOR	CECO DOOR	CECO	FPA- 16356.1
EXTERIOR DOORS	SINGLE DOOR	CECO DOOR	CECO	FPA- 16355.2
EXTERIOR DOORS	LOUVER DOOR	CECO DOOR	CECO	FPA- 16
STOREFRONT	STOREFRONT	ES WINDOWS	ES 8920	NOA- 24-0513.04

* BASIS-OF-DESIGN PRODUCTS. COMPARABLE PRODUCTS BY OTHER MANUFACTURERS MAY BE PROVIDED

Gracias,

Jaime Ocampo
CEO | General Contractor
Florida License: CGC1509840
Mobile: (954) 849-7322
Office: (754) 216-4163
Website: www.conengineers.com
South Carolina License: G123602
Email: jaime.ocampo@conengineers.com
Email: info@conengineers.com
CONENGINEERS Builders LLC
ENGINEERING - GENERAL CONTRACTING - CONSTRUCTION
1930 North Commerce Parkway, Suite 1 Weston, Florida 33326

From: Estimating ESpWindows <quotes@espwindowsinc.com>
Sent: Monday, May 18, 2026 11:00 AM
To: Conengineers Builders LLC. <info@conengineers.com>
Subject: Re: Gary Matzner Park

Buenos dias Jaime,

no encontramos en los planos el NOA # de las ventanas, que tipo de ventana estan buscando? que color de frame y vidrio necesitas?

quedo atento

gracias

On Fri, May 15, 2026 at 7:07 PM Conengineers Builders LLC. <info@conengineers.com> wrote:

> Buenas tardes Ivan
>
> Deseo saber el status del estimado de las ventanas.
>
> gracias,

Jaime Ocampo
CEO | General Contractor
Florida License: CGC1509840
Mobile: (954) 849-7322
Office: (754) 216-4163
Website: www.conengineers.com
South Carolina License: G123602
Email: jaime.ocampo@conengineers.com
Email: info@conengineers.com
CONENGINEERS Builders LLC
ENGINEERING - GENERAL CONTRACTING - CONSTRUCTION
1930 North Commerce Parkway, Suite 1 | Weston, Florida 33326

From: Conengineers Builders LLC. <info@conengineers.com>
Sent: Thursday, May 14, 2026 5:05 PM
To: quotes@espwindowsinc.com <quotes@espwindowsinc.com>
Subject: Re: Gary Matzner Park

Verificar el plano A-001 esta la tabla con las ventanas, puertas y louvers. Ahi encontrara el modelo de ventana y el NOA.

gracias

From: Conengineers Builders LLC. <info@conengineers.com>
Sent: Thursday, May 14, 2026 4:33 PM
To: quotes@espwindowsinc.com <quotes@espwindowsinc.com>
Subject: Gary Matzner Park

Hola Ivan

Por favor enviar el estimado de las ventanas y su instalacion por separado para Gary Matzner Park ubicado en el 6610 N. Kendall Dr., Pincrest FL 33156.

Gracias,

Jaime Ocampo
CEO | General Contractor
Florida License: CGC1509840
Mobile: (954) 849-7322
Office: (754) 216-4163
Website: www.conengineers.com
South Carolina License: G123602
Email: jaime.ocampo@conengineers.com
Email: info@conengineers.com
CONENGINEERS Builders LLC
ENGINEERING - GENERAL CONTRACTING - CONSTRUCTION
1930 North Commerce Parkway, Suite 1 Weston, Florida 33326

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ESP Windows Inc.

ES Windows Distributor

Tel: 786-452-0130

Fax: 786-313-3324

8430 NW 66 ST

Miami, FL 33166

--

ESP Windows Inc.
ES Windows Distributor
Tel: 786-452-0130
Fax: 786-313-3324
8430 NW 66 ST

> Miami, FL 33166

--

ESP Windows Inc.
ES Windows Distributor
Tel: 786-452-0130
Fax: 786-313-3324
8430 NW 66 ST
Miami, FL 33166

APPENDIX B

Miami-Dade NOA No. 24-0513.04 - ES Windows ES9500

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/building

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 "9500" Aluminum Window Wall System - L.M.I.

APPROVAL DOCUMENT: Drawing No. **W09-25**, titled "Series 9500 Alum Window Wall System (L.M.I.)", sheets 1, 2, 2.1 and 3 through 17 of 17, dated 04/16/09, with revision **H** dated 09/12/23, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E., bearing the Miami-Dade County Product Control Renewal 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 **renews NOA No. 23-0928.18** and consists of this page 1 and evidence pages E-1, E-2, E-3 and E-4, as well as approval document mentioned above.

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

MIAMI-DADE COUNTY APPROVED

7/18/24

NOA No. 24-0513.04
Expiration Date: October 28, 2029
Approval Date: July 25, 2024

E.S. Windows, LLC

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. 03-0314.07)

2. Drawing No. **W09-25**, titled "Series 9500 Alum Window Wall System (L.M.I.)", sheets 1, 2, 2.1 and 3 through 17 of 17, dated 04/16/09, with revision **H** dated 09/12/23, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 23-0928.18)

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 FBC 2411 3.2.1, TAS 202-94
along with marked-up drawings and installation diagram of series 9000 aluminum outswing entry door w/sidelites, prepared by Blackwater Testing Inc., Test Report No. **BT-ESW-18-004**, dated 05/17/18, signed and sealed by Constantin Bortes, P.E.
(Submitted under NOA No. 19-0708.05)

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
along with marked-up drawings and installation diagram of series 9500 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Reports No. **FTL-5991**, dated 10/02/09, both signed and sealed by Jorge A. Causo, P.E.
(Submitted under NOA No. 10-0504.01)

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 series 9500 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-6129**, dated 03/10/10, signed and sealed by Jorge A. Causo, P.E.
(Submitted under NOA No. 10-0504.01)

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0513.04
Expiration Date: October 28, 2029
Approval Date: July 25, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

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

B. TESTS (CONTINUED)

4. 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, TAS 202-94
along with marked-up drawings and installation diagram of series 9500 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-5546**, dated 01/09/09, signed and sealed by Michael R. Wenzel, P.E.
(Submitted under NOA No. 09-0623.01)

5. 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, TAS 202-94
along with marked-up drawings and installation diagram of an aluminum outswing entrance door, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-5554**, dated 05/10/08, signed and sealed by Carlos S. Rionda, P.E.
(Submitted under NOA No. 09-0623.01)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 6th Edition (2017),** dated 01/19/18 and 09/12/18, then updated on 11/16/20 to comply with **FBC 7th Edition (2020)**, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 20-1208.10)

2. Glazing complies with **ASTM E1300-09**

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0513.04
Expiration Date: October 28, 2029
Approval Date: July 25, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

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

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **22-1116.01** issued to **Kuraray America, Inc.** for their **"SentryGlas® (Clear and White) Glass Interlayers**" dated 12/15/22, expiring on 07/04/28.

2. Notice of Acceptance No. **20-0915.22** issued to **Kuraray America, Inc.** for their "**Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers**" dated 11/19/20, expiring on 07/08/24.

F. STATEMENTS

1. Statement letter of conformance, complying with **FBC 7th Edition (2020),** with **FBC 8th Edition (2023),** and of no financial interest, dated September 26, 2023, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 23-0928.18)

G. OTHERS

1. Notice of Acceptance No. **20-1208.10**, issued to E.S. Windows, LLC for their Series "9500" Aluminum Window Wall System - L.M.I., approved on 02/18/21 and expiring on 10/28/24.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0513.04
Expiration Date: October 28, 2029
Approval Date: July 25, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. None.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

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. **24-0205.28** issued to **Kuraray America, Inc.** for their "**Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers**" dated 03/21/24, expiring on 07/08/29**.**

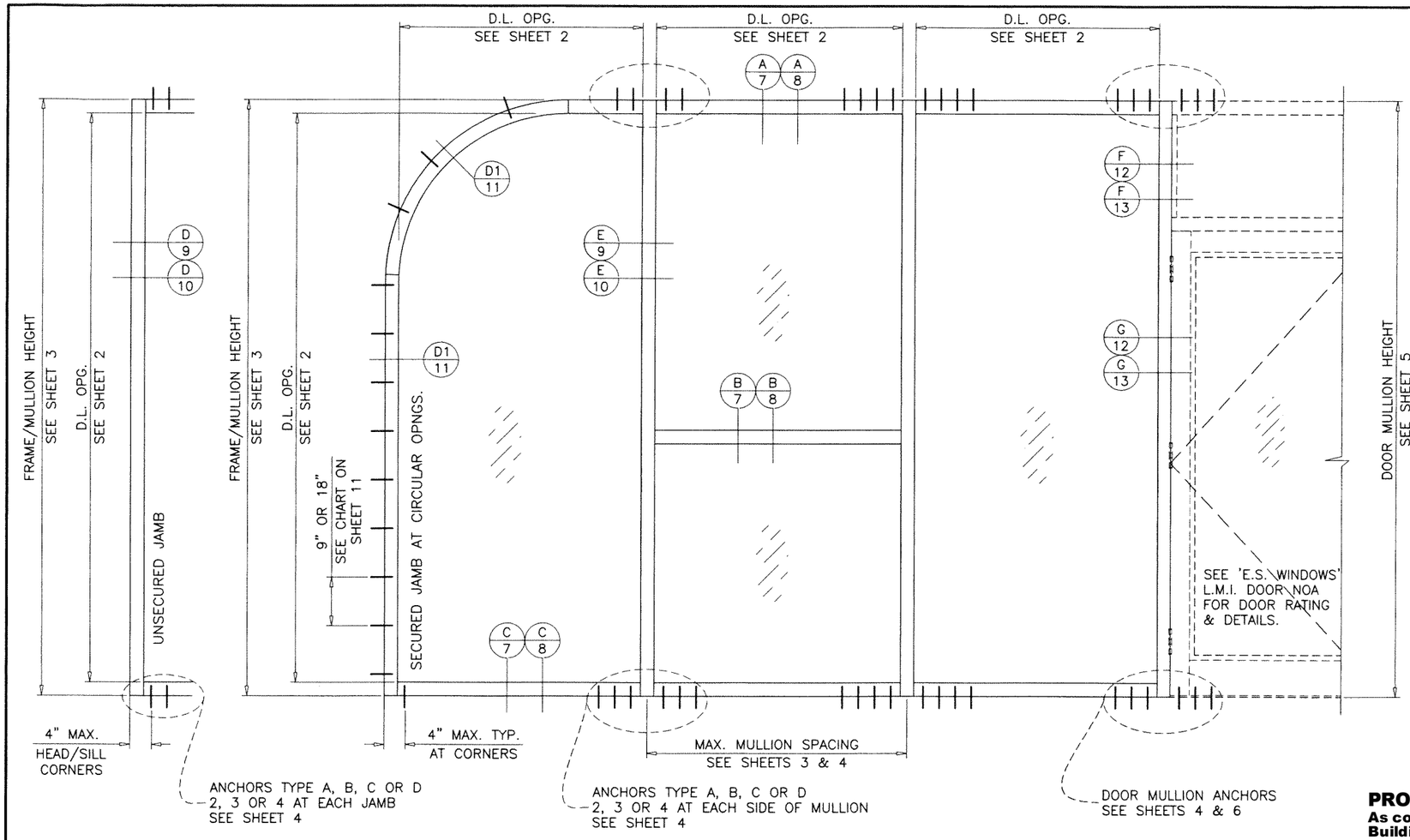
F. STATEMENTS

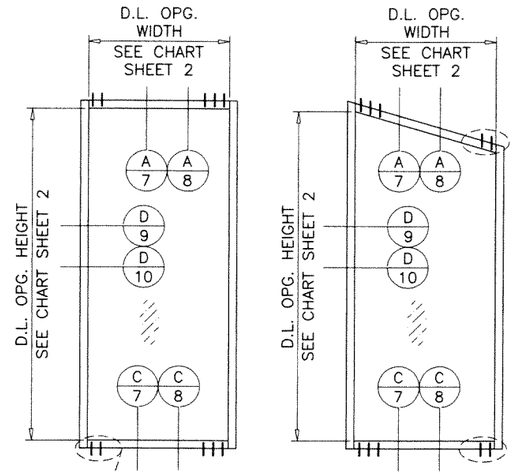
1. Statement letter of conformance, complying with **FBC 8th Edition (2023),** and of no financial interest, dated May 9, 2024, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.

G. OTHERS

1. Notice of Acceptance No. **23-0928.18**, issued to E.S. Windows, LLC for their Series "9500" Aluminum Window Wall System - L.M.I., approved on 11/09/23 and expiring on 10/28/24.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0513.04
Expiration Date: October 28, 2029
Approval Date: July 25, 2024





TYPICAL ELEVATIONS SINGLE LITE

SERIES 9500 ALUMINUM WINDOW WALL SYSTEM

TYPICAL ELEVATION

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

CODE REQUIREMENTS FOR SAFEGUARDS MUST BE OBSERVED.

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

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

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

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

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

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

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

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

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

STEP 1 DETERMINE DESIGN WIND PRESSURE REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.

STEP 2 SEE CHARTS ON SHEET 2 FOR GLASS DESIGN LOAD CAPACITY.

STEP 3 CHECK MULLION DESIGN LOAD CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEET 3 FOR STOREFRONT MULLION AND SHEET 5 FOR DOOR MULLION. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 4 USING CHARTS ON SHEET 4 SELECT ANCHOR OPTION WITH DESIGN LOAD CAPACITY MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.

STEP 5 THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.

STEP 6 FOR SYSTEMS WITH UNANCHORED JAMBS, USING SHEETS 9 & 10, DETERMINE THE MIN. & MAX. GAP DIMENSIONS.

STEP 7 WHEN USING THIS SYSTEM WITH DOORS, THE LOWER VALUE OF THE DESIGN PRESSURE RATING FOR THE SYSTEM AND THE DOOR SHALL APPLY.

PRODUCT RENEWED
As complying with the Florida Building Code
NOA-No. 24-0513.04
Expiration Date: 10/28/2029
By: Manuel Perez
Miami-Dade Product Control

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami-Dade Product Control

WINDOW WALL SYSTEM WITH GLASS TYPES 'A' & 'B' COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

LAMINATED GLASS
INSUL. LAM. GLASS
LARGE MISSILE IMPACT

SEP 27 2023

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

STORE\W09-25ES

SERIES 9500 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
E	01.26.18		UPDATED TO 2017 FBC
F	09.28.18		NO CHANGE THIS SHEET
G	11.18.20		UPDATED TO 2020 FBC
H	09.12.23		UPDATED TO 2023 FBC

date: 04-16-09
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

drawing no.
W09-25

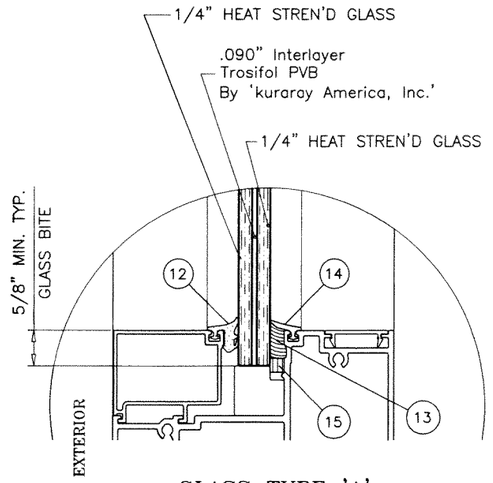
sheet 1 of 17

CHART #1

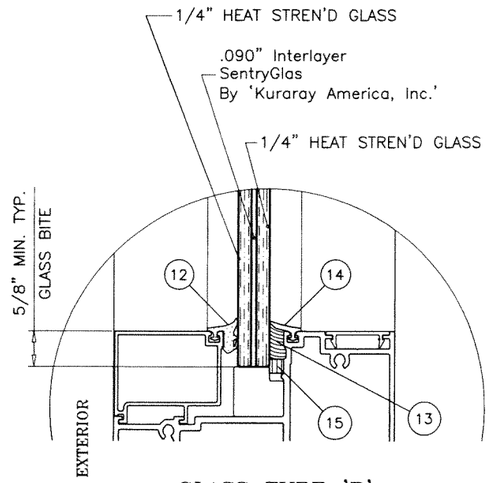
GLASS LOAD CAPACITY – PSF				
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'	GLASS TYPES 'A1' & 'B1'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(–)	EXT.(+)/INT.(–)	EXT.(+)/INT.(–)
28"	91"	65.0	120.0	90.0
32"		65.0	120.0	90.0
36"		65.0	120.0	90.0
40"		65.0	120.0	90.0
45–1/2"		65.0	120.0	90.0
48"		65.0	120.0	90.0
52"		65.0	120.0	90.0
57–1/4"		65.0	120.0	90.0
28"	93–1/2"	65.0	120.0	90.0
32"		65.0	120.0	90.0
36"		65.0	120.0	90.0
40"		65.0	120.0	90.0
45–1/2"		65.0	120.0	90.0
48"		65.0	120.0	90.0
52"		65.0	120.0	90.0
28"	97–1/2"	65.0	120.0	90.0
32"		65.0	120.0	90.0
36"		65.0	120.0	90.0
40"		65.0	120.0	90.0
45–1/2"		65.0	120.0	90.0
48"		65.0	120.0	90.0
52"		65.0	120.0	90.0
28"	105"	65.0	120.0	90.0
32"		65.0	120.0	90.0
36"		65.0	120.0	90.0
40"		65.0	120.0	90.0
45–1/2"		65.0	120.0	90.0
48"		65.0	120.0	90.0
28"	109"	65.0	120.0	90.0
32"		65.0	120.0	90.0
36"		65.0	120.0	90.0
40"		65.0	120.0	90.0
45–1/2"		65.0	120.0	90.0
48"		65.0	120.0	90.0
28"	115"	65.0	120.0	90.0
32"		65.0	120.0	90.0
36"		65.0	120.0	90.0
40"		65.0	120.0	90.0
45–1/2"		65.0	120.0	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

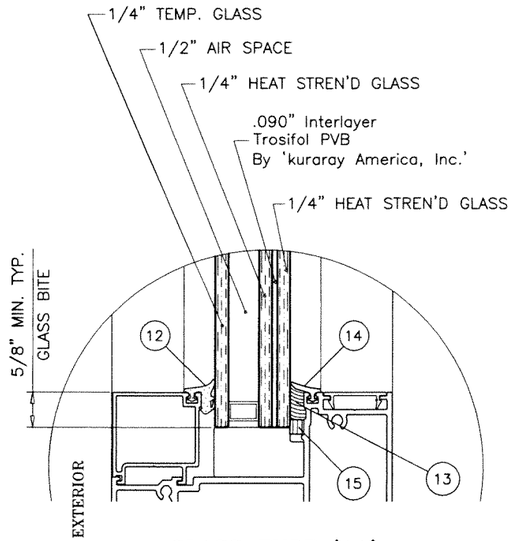
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE BASED ON ASTM E1300–09 (3 SEC. GUSTS).



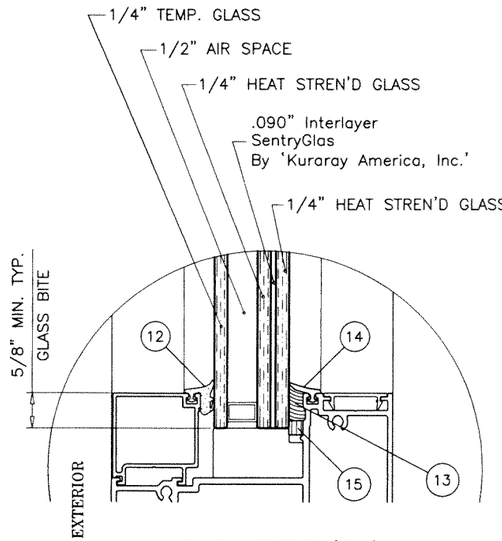
GLASS TYPE 'A'
9/16" OVERALL LAMINATED GLASS



GLASS TYPE 'B'
9/16" OVERALL LAMINATED GLASS

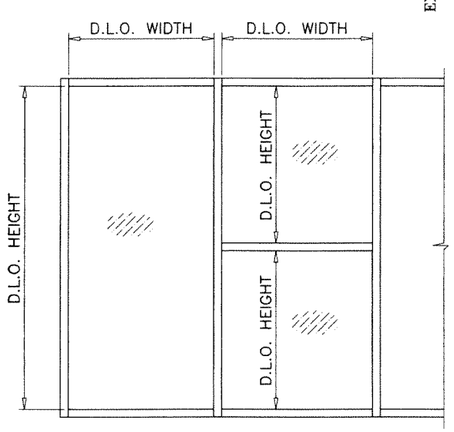


GLASS TYPE 'A1'
1–5/16" OVERALL INSUL. LAM. GLASS



GLASS TYPE 'B1'
1–5/16" OVERALL INSUL. LAM. GLASS

PRODUCT RENEWED
As complying with the Florida Building Code
NOA–No. 24-0513.04
Expiration Date: 10/28/2029
By: Manuel Perez
Miami–Dade Product Control



GLAZING OPTIONS

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

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami–Dade Product Control

SEP 27 2023

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

GLASS

afc
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

STORE\W09–25ES

SERIES 9500 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
E	01.26.18		UPDATED TO 2017 FBC
F	09.28.18		NO CHANGE THIS SHEET
G	11.18.20		UPDATED TO 2020 FBC
H	09.12.23		NO CHANGE THIS SHEET

date: 04–16–09
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no.
W09–25

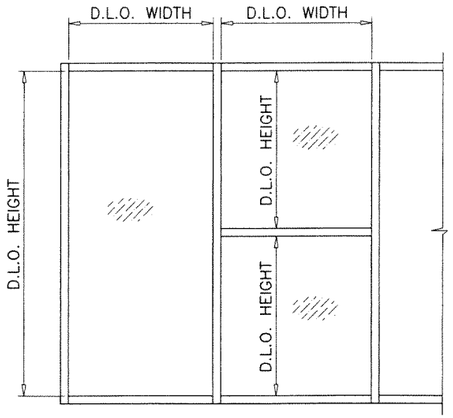
sheet 2 of 17

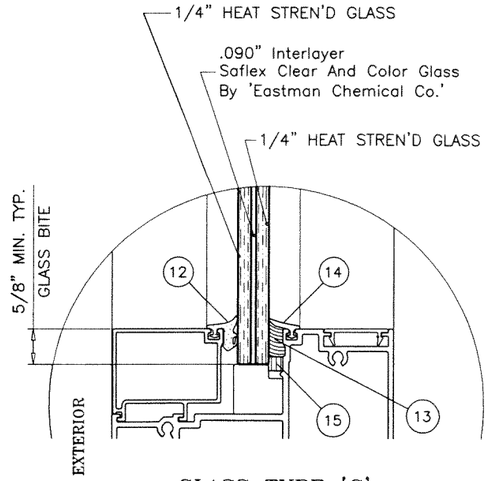
CHART #1.1

GLASS LOAD CAPACITY - PSF		
NOMINAL DIMS.		GLASS TYPES 'C' & 'C1'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(−)
28"	91"	90.0
32"		90.0
36"		90.0
40"		90.0
45−1/2"		90.0
48"		90.0
52"		90.0
28"	93−1/2"	90.0
32"		90.0
36"		90.0
40"		90.0
45−1/2"		90.0
48"		90.0
52"		90.0
28"	97−1/2"	90.0
32"		90.0
36"		90.0
40"		90.0
45−1/2"		90.0
48"		90.0
28"	105"	90.0
32"		90.0
36"		90.0
40"		90.0
45−1/2"		90.0
28"	109"	90.0
32"		90.0
36"		90.0
40"		90.0
28"	115"	90.0
32"		90.0
36"		90.0
40"		90.0

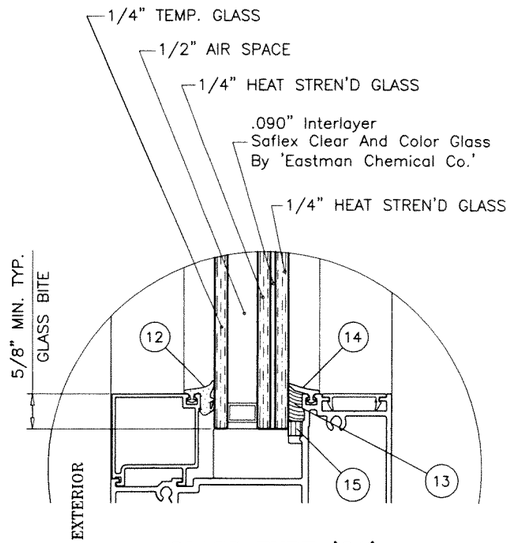
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

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





GLASS TYPE 'C'
9/16" OVERALL LAMINATED GLASS



GLASS TYPE 'C1'
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

GLAZING OPTIONS

PRODUCT RENEWED
As complying with the Florida Building Code
NOA-No. 24-0513.04
Expiration Date: 10/28/2029
By: Manuel Perez
Miami-Dade Product Control

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami-Dade Product Control

SEP 27 2023

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

GLASS

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

STORE\W09−25ES

SERIES 9500 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
F	09.28.18		CLASS OPTION ADDED
G	11.18.20		UPDATED TO 2020 FBC
H	09.12.23		NO CHANGE THIS SHEET

date: 04−16−09
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no. W09−25

sheet 2.1 of 17

CHART #2

MULLION LOAD CAPACITY – PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS		
NOMINAL DIMS.		JAMB 'J1' MULL 'M1'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)
30"	72"	100.0
36"		100.0
42"		100.0
48"		100.0
54"		100.0
60"		100.0
30"	78"	100.0
36"		100.0
42"		100.0
48"		100.0
54"		100.0
59"		100.0
60"		65.0
30"	86–1/2"	100.0
36"		100.0
42"		100.0
48"		100.0
53"		100.0
54"		65.0
60"		65.0
30"	90"	100.0
36"		100.0
42"		100.0
48"		100.0
51"		100.0
54"		65.0
60"		65.0
30"	96"	100.0
36"		100.0
42"		100.0
48"		100.0
54"		65.0
60"		65.0
30"	98–1/2"	65.0
36"		65.0
42"		65.0
48"		65.0
54"		65.0
58"		65.0
30"	102"	65.0
36"		65.0
42"		65.0
48"		65.0
54"		65.0
56"		65.0

MULLION LOAD CAPACITY – PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS		
NOMINAL DIMS.		JAMB 'J1' MULL 'M1'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)
30"	108"	65.0
36"		65.0
42"		65.0
48"		65.0
53"		65.0
30"	110–1/2"	65.0
36"		65.0
42"		65.0
48"		65.0
52"		65.0
30"	114"	65.0
36"		65.0
42"		65.0
48"		65.0
50"		65.0
30"	120"	65.0
36"		65.0
42"		65.0
48"		64.5

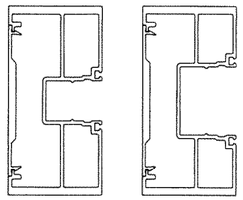
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

CHART #3

MULLION LOAD CAPACITY – PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS			
NOMINAL DIMS.		JAMB 'J1' MULL 'M2'	JAMB 'J1' MULL 'M3'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)
30"	72"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	120.0
54"		90.0	120.0
60"		90.0	120.0
30"	78"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	120.0
54"		90.0	120.0
60"		90.0	120.0
30"	86–1/2"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	120.0
53"		90.0	120.0
60"		90.0	120.0
30"	90"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	120.0
51"		90.0	120.0
60"		90.0	120.0
30"	96"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	120.0
54"		90.0	120.0
60"		90.0	116.4
30"	98–1/2"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	120.0
54"		90.0	120.0
58"		90.0	114.4
30"	102"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	120.0
54"		90.0	114.6
56"		90.0	110.5
30"	108"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	115.0
53"		90.0	104.1

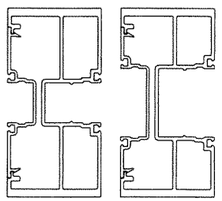
MULLION LOAD CAPACITY – PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS			
NOMINAL DIMS.		JAMB 'J1' MULL 'M2'	JAMB 'J1' MULL 'M3'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)
30"	110–1/2"	90.0	120.0
36"		90.0	120.0
42"		90.0	120.0
48"		90.0	109.8
52"		90.0	101.4
30"	114"	90.0	120.0
36"		90.0	120.0
42"		90.0	117.9
48"		90.0	103.2
50"		90.0	99.1
30"	120"	90.0	120.0
36"		90.0	120.0
42"		90.0	106.4
48"		90.0	93.1

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



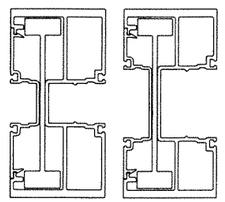
JAMB 'J1'
NO REINF.

J1	ALUM
Ix IN^4	8.7605
Sx IN^3	3.5042



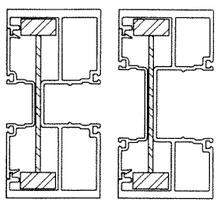
MULLION 'M1'
NO REINF.

M1	ALUM
Ix IN^4	8.7132
Sx IN^3	3.4853



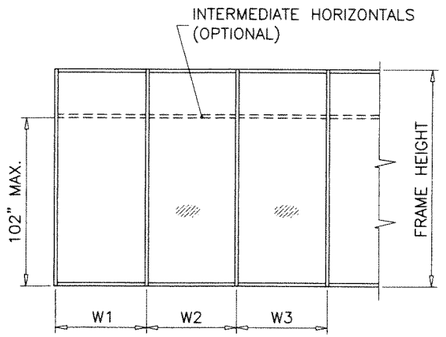
MULLION 'M2'
ALUM REINF.

M2	ALUM
Ix IN^4	12.6724
Sx IN^3	5.069



MULLION 'M3'
STEEL REINF.

M3	ALUM	STEEL
Ix IN^4	8.7132	2.7858
Sx IN^3	3.4853	1.2381



WIDTH (W) = W1
AT FRAME JAMB

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

PRODUCT RENEWED
As complying with the Florida Building Code
NOA–No. 24-0513.04
Expiration Date: 10/28/2029
By: Manuel Perez
Miami–Dade Product Control

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami–Dade Product Control

SEP 27 2023

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

MULLIONS

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
STORE\W09-25ES

SERIES 9500 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
E	01.26.18		UPDATED TO 2017 FBC
F	09.28.18		NO CHANGE THIS SHEET
G	11.18.20		UPDATED TO 2020 FBC
H	09.12.23		NO CHANGE THIS SHEET

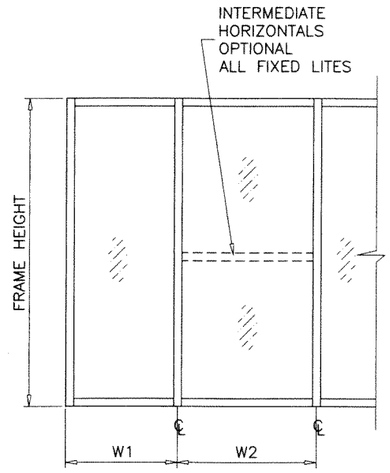
date: 04-16-09
scale: –
dr. by: TARIQ
chk. by:

drawing no. W09–25

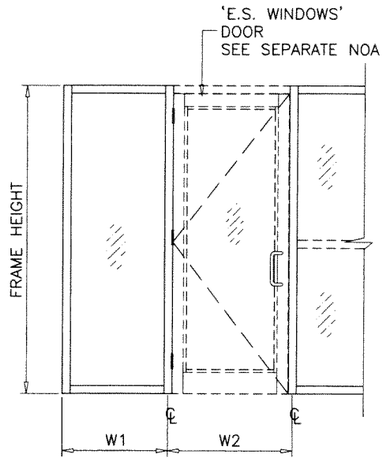
sheet 3 of 17

CHART #4	ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)										
NOMINAL DIMS.		ANCHORS TYPE 'A' 1/4" MAX. SHIM			ANCHORS TYPE 'B' 3/8" MAX. SHIM			ANCHORS TYPE 'C' 3/8" MAX. SHIM			ANCHORS 'D' 1/4" MAX. SHIM	
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	B2	B3	B4	C2	C3	C4	D2	D3
30"	72"	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36"		120.0	120.0	120.0	112.4	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42"		105.9	120.0	120.0	96.4	120.0	120.0	106.3	120.0	120.0	120.0	120.0
48"		92.7	120.0	120.0	84.3	120.0	120.0	93.0	120.0	120.0	120.0	120.0
54"		82.4	120.0	120.0	75.0	112.4	120.0	82.7	120.0	120.0	120.0	120.0
60"		74.1	111.2	120.0	67.5	101.2	120.0	74.4	111.6	120.0	119.5	120.0
30"	78"	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36"		114.1	120.0	120.0	103.8	120.0	120.0	114.5	120.0	120.0	120.0	120.0
42"		97.8	120.0	120.0	89.0	120.0	120.0	98.1	120.0	120.0	120.0	120.0
48"		85.5	120.0	120.0	77.8	116.8	120.0	85.8	120.0	120.0	120.0	120.0
54"		76.0	114.1	120.0	69.2	103.8	120.0	76.3	114.5	120.0	120.0	120.0
60"		68.4	102.6	120.0	62.3	93.4	120.0	68.7	103.0	120.0	110.3	120.0
30"	86–1/2"	120.0	120.0	120.0	112.3	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36"		102.8	120.0	120.0	93.6	120.0	120.0	103.2	120.0	120.0	120.0	120.0
42"		88.2	120.0	120.0	80.2	120.0	120.0	88.5	120.0	120.0	120.0	120.0
48"		77.1	115.7	120.0	70.2	105.3	120.0	77.4	116.1	120.0	120.0	120.0
54"		68.6	102.8	120.0	62.4	93.6	120.0	68.8	103.2	120.0	110.5	120.0
60"		61.7	92.6	120.0	56.2	84.2	112.3	61.9	92.9	120.0	99.4	120.0
30"	90"	118.6	120.0	120.0	107.9	120.0	120.0	119.0	120.0	120.0	120.0	120.0
36"		98.8	120.0	120.0	90.0	120.0	120.0	99.2	120.0	120.0	120.0	120.0
42"		84.7	120.0	120.0	77.1	115.7	120.0	85.0	120.0	120.0	120.0	120.0
48"		74.1	111.2	120.0	67.5	101.2	120.0	74.4	111.6	120.0	119.5	120.0
54"		65.9	98.8	120.0	60.0	90.0	119.9	66.1	99.2	120.0	106.2	120.0
60"		59.3	89.0	118.6	54.0	81.0	107.9	59.5	89.3	119.0	95.6	120.0
30"	96"	111.2	120.0	120.0	101.2	120.0	120.0	111.6	120.0	120.0	120.0	120.0
36"		92.7	120.0	120.0	84.3	120.0	120.0	93.0	120.0	120.0	120.0	120.0
42"		79.4	119.1	120.0	72.3	108.4	120.0	79.7	119.6	120.0	120.0	120.0
48"		69.5	104.3	120.0	63.3	94.9	120.0	69.8	104.6	120.0	112.0	120.0
54"		61.8	92.7	120.0	56.2	84.3	112.4	62.0	93.0	120.0	99.6	120.0
60"		55.6	83.4	111.2	50.6	75.9	101.2	55.8	83.7	111.6	89.6	120.0
30"	98–1/2"	108.4	120.0	120.0	98.6	120.0	120.0	108.8	120.0	120.0	120.0	120.0
36"		90.3	120.0	120.0	82.2	120.0	120.0	90.6	120.0	120.0	120.0	120.0
42"		77.4	116.1	120.0	70.5	105.7	120.0	77.7	116.5	120.0	120.0	120.0
48"		67.7	101.6	120.0	61.6	92.5	120.0	68.0	102.0	120.0	109.2	120.0
54"		60.2	90.3	120.0	54.8	82.2	109.6	60.4	90.6	120.0	97.0	120.0
30"	102"	104.7	120.0	120.0	95.2	120.0	120.0	105.0	120.0	120.0	120.0	120.0
36"		87.2	120.0	120.0	79.4	119.1	120.0	87.5	120.0	120.0	120.0	120.0
42"		74.8	112.1	120.0	68.0	102.1	120.0	75.0	112.5	120.0	120.0	120.0
48"		65.4	98.1	120.0	59.5	89.3	119.1	65.6	98.5	120.0	105.4	120.0
54"		58.1	87.2	116.3	52.9	79.4	105.8	58.4	87.5	116.7	93.7	120.0
30"	108"	98.8	120.0	120.0	90.0	120.0	120.0	99.2	120.0	120.0	120.0	120.0
36"		82.4	120.0	120.0	75.0	112.4	120.0	82.7	120.0	120.0	120.0	120.0
42"		70.6	105.9	120.0	64.3	96.4	120.0	70.9	106.3	120.0	113.8	120.0
48"		61.8	92.7	120.0	56.2	84.3	112.4	62.0	93.0	120.0	99.6	120.0
30"	110–1/2"	96.6	120.0	120.0	87.9	120.0	120.0	97.0	120.0	120.0	120.0	120.0
36"		80.5	120.0	120.0	73.3	109.9	120.0	80.8	120.0	120.0	120.0	120.0
42"		69.0	103.5	120.0	62.8	94.2	120.0	69.3	103.9	120.0	111.2	120.0
48"		60.4	90.6	120.0	55.0	82.4	109.9	60.6	90.9	120.0	97.3	120.0
30"	114"	93.6	120.0	120.0	85.2	120.0	120.0	94.0	120.0	120.0	120.0	120.0
36"		78.0	117.1	120.0	71.0	106.5	120.0	78.3	117.5	120.0	120.0	120.0
42"		66.9	100.3	120.0	60.9	91.3	120.0	67.1	100.7	120.0	107.8	120.0
48"		58.5	87.8	117.1	53.3	79.9	106.5	58.7	88.1	117.5	94.3	120.0
30"	120"	89.0	120.0	120.0	81.0	120.0	120.0	89.3	120.0	120.0	120.0	120.0
36"		74.1	111.2	120.0	67.5	101.2	120.0	74.4	111.6	120.0	119.5	120.0
42"		63.5	95.3	120.0	57.8	86.7	115.7	63.8	95.7	120.0	102.4	120.0
48"		55.6	83.4	111.2	50.6	75.9	101.2	55.8	83.7	111.6	89.6	120.0

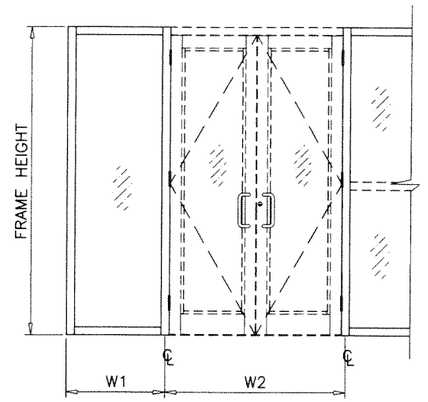
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



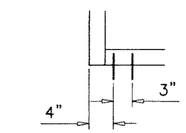
WIDTH (W) = $\frac{W1 + W2}{2}$

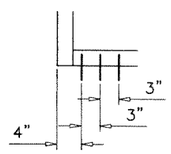


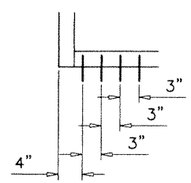
WIDTH (W) = $\frac{W1 + W2}{2}$



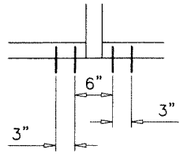
WIDTH (W) = $\frac{W1}{2} + \frac{W2}{4}$



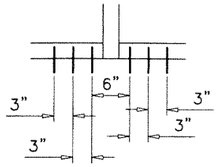




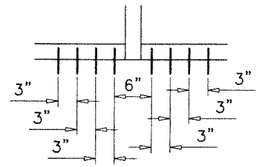
A2, B2, C2

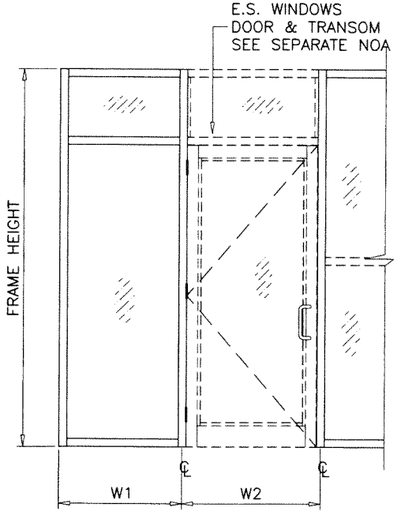


A3, B3, C3



A4, B4, C4





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

ANCHORS TYPES: SEE SHEET 7 FOR DESCRIPTION

A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
D2 = (2) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

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

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

PRODUCT RENEWED
As complying with the Florida Building Code
NOA–No. 24-0513.04
Expiration Date: 10/28/2029
By: Manuel Perez
Miami–Dade Product Control

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami–Dade Product Control

SEP 27 2023

JALAL FAROOQ LICENSE No. 61223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

STORE W09–25ES

SERIES 9500 ALUM WINDOW WALL SYSTEM (L.M.I.)

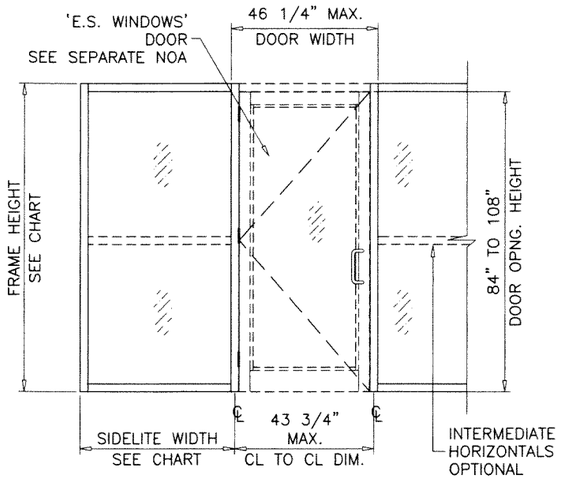
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638–5151 FAX. (305) 638–5158

revisions:			
no	date	by	description
E	01.26.18		UPDATED TO 2017 FBC
F	09.28.18		NO CHANGE THIS SHEET
G	11.18.20		UPDATED TO 2020 FBC
H	09.12.23		NO CHANGE THIS SHEET

date: 04–16–09
scale: –
dr. by: TARIQ
chk. by:

drawing no. W09–25

sheet 4 of 17



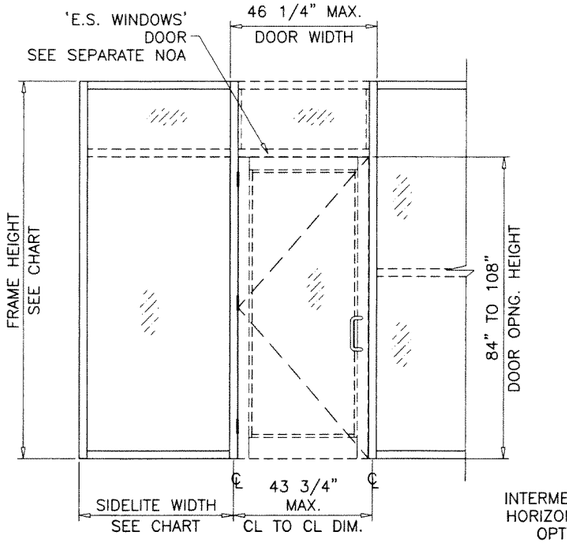
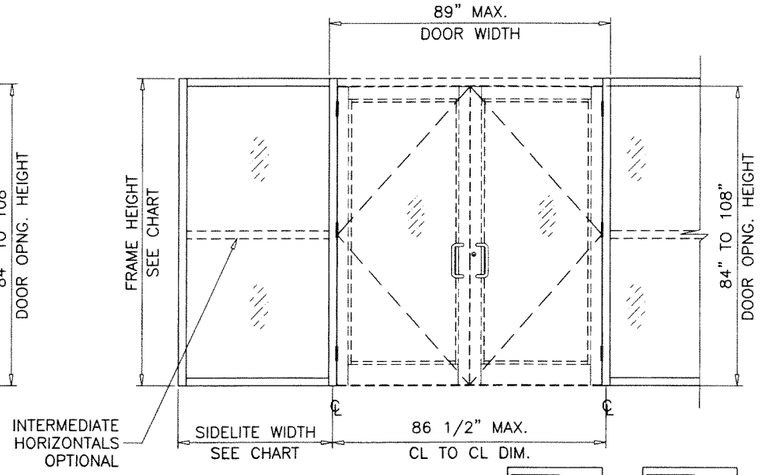


CHART #5

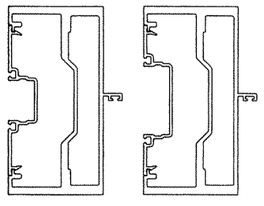
DOOR MULLION LOAD CAPACITY-PSF			
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	MULL 'MD1' EXT. (+) INT. (−)	MULL 'MD2' EXT. (+) INT. (−)
32	86-1/2"	120.0	120.0
36		120.0	120.0
42		120.0	120.0
48		120.0	120.0
54		120.0	120.0
60		120.0	120.0
32	98-1/2"	120.0	120.0
36		120.0	120.0
42		120.0	120.0
48		120.0	120.0
54		115.7	120.0
58		111.3	120.0
32	110-1/2"	116.2	120.0
36		110.5	120.0
42		103.0	120.0
48		96.5	120.0
52		92.5	120.0
32	114"	106.1	120.0
36		101.0	120.0
42		94.1	120.0
48		88.1	120.0
50		86.3	120.0
32	120"	91.0	120.0
36		86.6	120.0
42		80.7	120.0
48		75.5	118.9

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



PRODUCT RENEWED
As complying with the Florida Building Code
NOA-No. 24-0513.04
Expiration Date: 10/28/2029
By: Manuel Perez
Miami-Dade Product Control

DOOR-WINDOW WALL TRANSITION MULLION



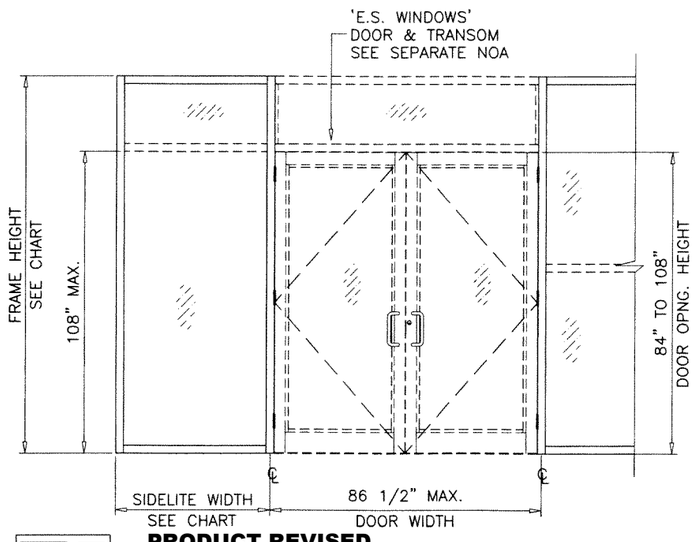
MULLION 'MD1'
NO REINF.

MD1	ALUM
Ix IN^4	9.9140
Sx IN^3	3.9615

CHART #6

DOOR MULLION LOAD CAPACITY-PSF			
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	MULL 'MD1' EXT. (+) INT. (−)	MULL 'MD2' EXT. (+) INT. (−)
30	96	90.0	90.0
36		90.0	90.0
42		90.0	90.0
48		90.0	90.0
54		90.0	90.0
60		90.0	90.0
30	102	90.0	90.0
36		90.0	90.0
42		90.0	90.0
48		90.0	90.0
54		90.0	90.0
30	108	90.0	90.0
36		90.0	90.0
42		90.0	90.0
48		89.3	90.0
30	114	90.0	90.0
36		90.0	90.0
42		84.9	90.0
48		80.2	90.0
30	120	81.7	90.0
36		76.8	90.0
42		72.5	90.0
48		68.7	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



PRODUCT REVISED
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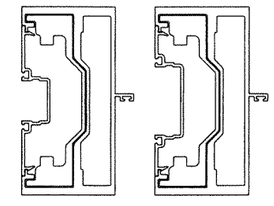
NOA-No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami-Dade Product Control

SEP 27 2023



MULLION 'MD2'
ALUM REINF.

MD2	ALUM
Ix IN^4	15.5994
Sx IN^3	6.2333

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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STORE\W09-25ES

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3550 N.W. 49 STREET
MIAMI, FL. 33142
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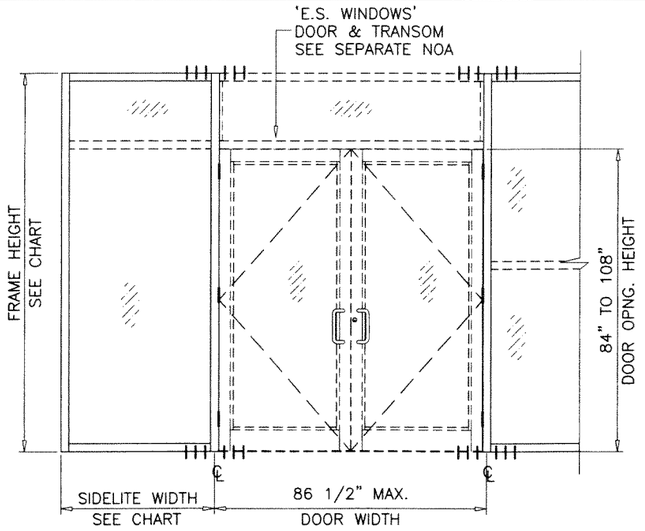
revisions:

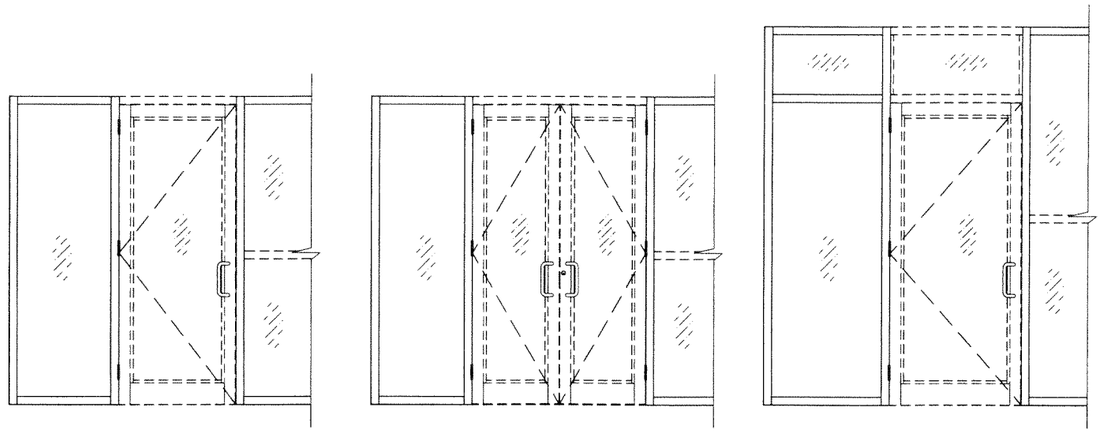
no	date	by	description
E	01.26.18		UPDATED TO 2017 FBC
F	09.28.18		DOOR HT. REV.
G	11.18.20		UPDATED TO 2020 FBC
H	09.12.23		NO CHANGE THIS SHEET

date: 04-16-09
scale: -
dr. by: TARIQ
chk. by:

drawing no. W09-25

sheet 5 of 17





FOR ANCHOR CAPACITIES FOR THE ABOVE CASES
SEE SHEET 4.

CHART #7

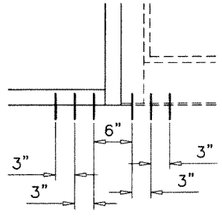
ANCHOR LOAD CAPACITY - PSF
EXT.(+) & INT.(-)

NOMINAL DIMS. WIDTH (W)	NOMINAL DIMS. FRAME HEIGHT	ANCHORS TYPE 'A3'	ANCHORS TYPE 'B3'	ANCHORS TYPE 'C3'	ANCHORS TYPE 'D3'
30	96	99.5	108.5	99.9	120.0
36		88.9	96.9	89.2	120.0
42		80.4	87.6	80.6	120.0
48		73.3	79.9	73.6	118.1
54		67.4	73.4	67.6	108.6
60		62.3	67.9	62.6	100.5
30	102	93.5	101.9	93.9	120.0
36		83.6	91.1	83.9	120.0
42		75.5	82.3	75.8	120.0
48		68.9	75.1	69.1	111.0
54		63.3	69.0	63.6	102.1
30	108	88.2	96.1	88.5	120.0
36		78.8	85.9	79.1	120.0
42		71.3	77.7	71.5	114.8
48		65.0	70.9	65.2	104.8
30	114	83.5	91.0	83.8	120.0
36		74.6	81.3	74.9	120.0
42		67.4	73.5	67.7	108.7
48		61.5	67.1	61.7	99.2
30	120	80.9	88.2	81.2	120.0
36		72.2	78.7	72.4	116.3
42		65.1	71.0	65.4	105.0
48		59.3	64.7	59.6	95.6

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

ANCHORS TYPES: SEE SHEET 7 FOR DESCRIPTION

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



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Miami-Dade Product Control

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Expiration Date: 10/28/2024
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Miami-Dade Product Control

TRANSITION MULLION ANCHORS
DOUBLE DOOR WITH TRANSOM

SEP 27 2023

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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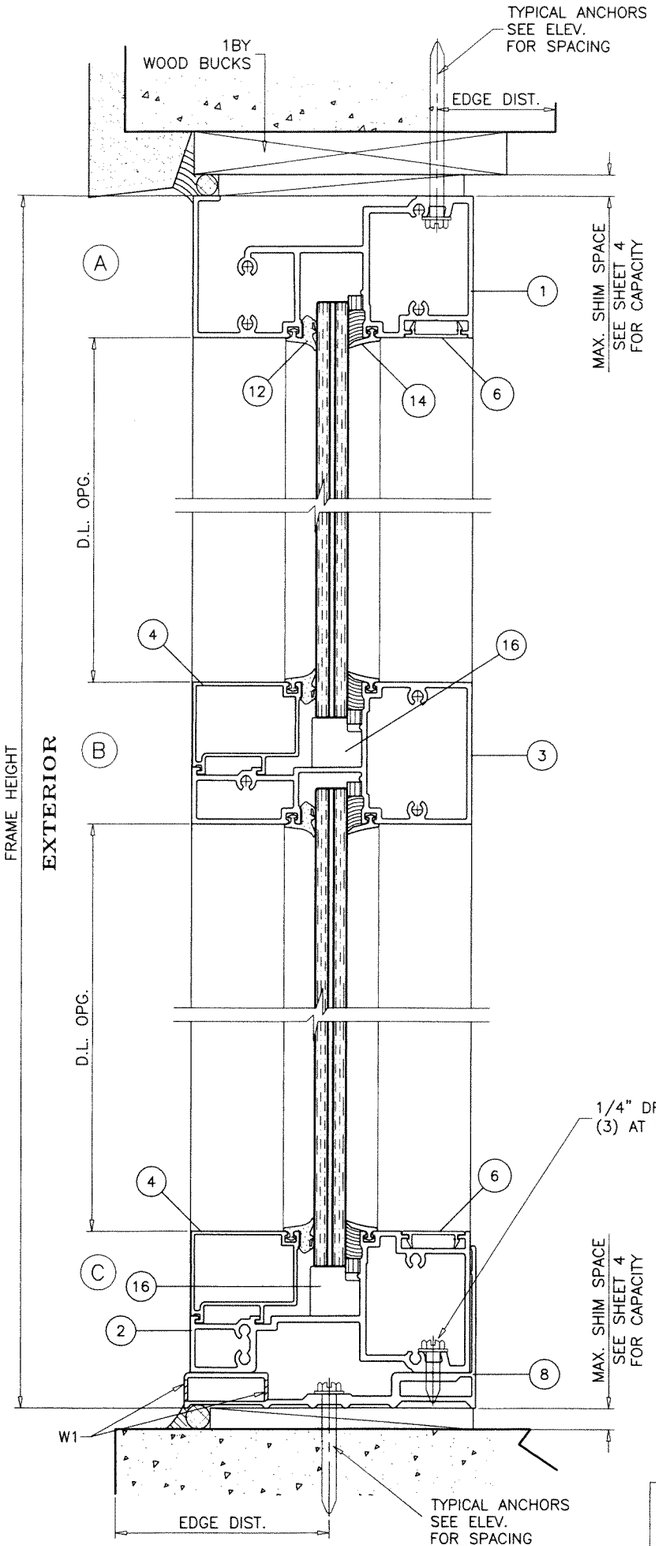
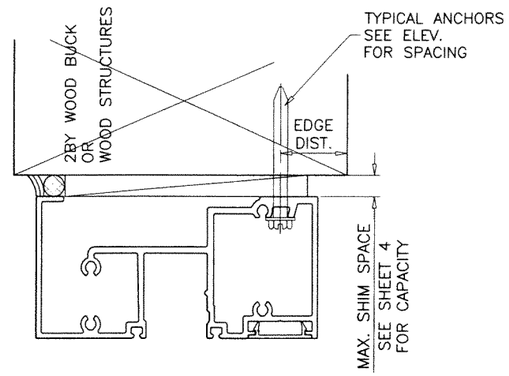
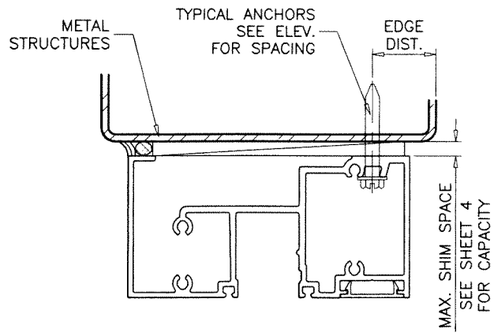
revisions: no	date	by	description
E	01.26.18		UPDATED TO 2017 FBC
F	09.28.18		CHART REV.
G	11.18.20		UPDATED TO 2020 FBC
H	09.12.23		NO CHANGE THIS SHEET

date: 04-16-09
scale: -
dr. by: TARIQ
chk. by:

drawing no. W09-25







TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A'– 1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1–1/2" MIN. PENETRATION INTO WOOD

THRU 1BY WOOD BUCKS INTO CONCRETE
1–1/4" MIN. EMBED INTO CONCRETE

DIRECTLY INTO CONCRETE
1–1/4" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES
INTO CONCRETE AND BLOCKS = 2–1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN. (1/4" ANCHORS)
INTO WOOD STRUCTURE = 1–1/4" MIN. (5/16" ANCHORS)

TYPE 'B'– 1/4" DIA. KWIK–CON II BY 'HILTI' (Fu=138 KSI, Fy=137 KSI)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1–1/2" MIN. PENETRATION INTO WOOD

THRU 1BY WOOD BUCKS INTO CONCRETE
1–1/4" MIN. EMBED INTO CONCRETE

DIRECTLY INTO CONCRETE
1–1/4" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES
INTO CONCRETE AND BLOCKS = 2–1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.

TYPE 'C'– 5/16" DIA. ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1–1/2" MIN. PENETRATION INTO WOOD

THRU 1BY WOOD BUCKS INTO CONCRETE
1–1/4" MIN. EMBED INTO CONCRETE

DIRECTLY INTO CONCRETE
1–1/2" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES
INTO CONCRETE AND BLOCKS = 2–1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN. (1/4" ANCHORS)
INTO WOOD STRUCTURE = 1–1/4" MIN. (5/16" ANCHORS)

TYPE 'D'– 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST (GRADE 5 CRS)
INTO METAL STRUCTURES
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 1/8" THK. MIN. (6063–T5 MIN.)
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

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

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
C–90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

PRODUCT RENEWED
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By: Manuel Perez
Miami–Dade Product Control

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As complying with the Florida Building Code
NOA–No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami–Dade Product Control
SEP 27 2023

WEEP HOLES:

W1 = 3/8" WEEP HOLES
(1) AT 3" FROM EACH END
(2) AT EACH MULLION AT 3" FROM MULLION CENTERLINE.

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

LAMINATED GLASS

JALAL FAROOQ LICENSE NO. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

STORE\W09-25ES

SERIES 9500 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

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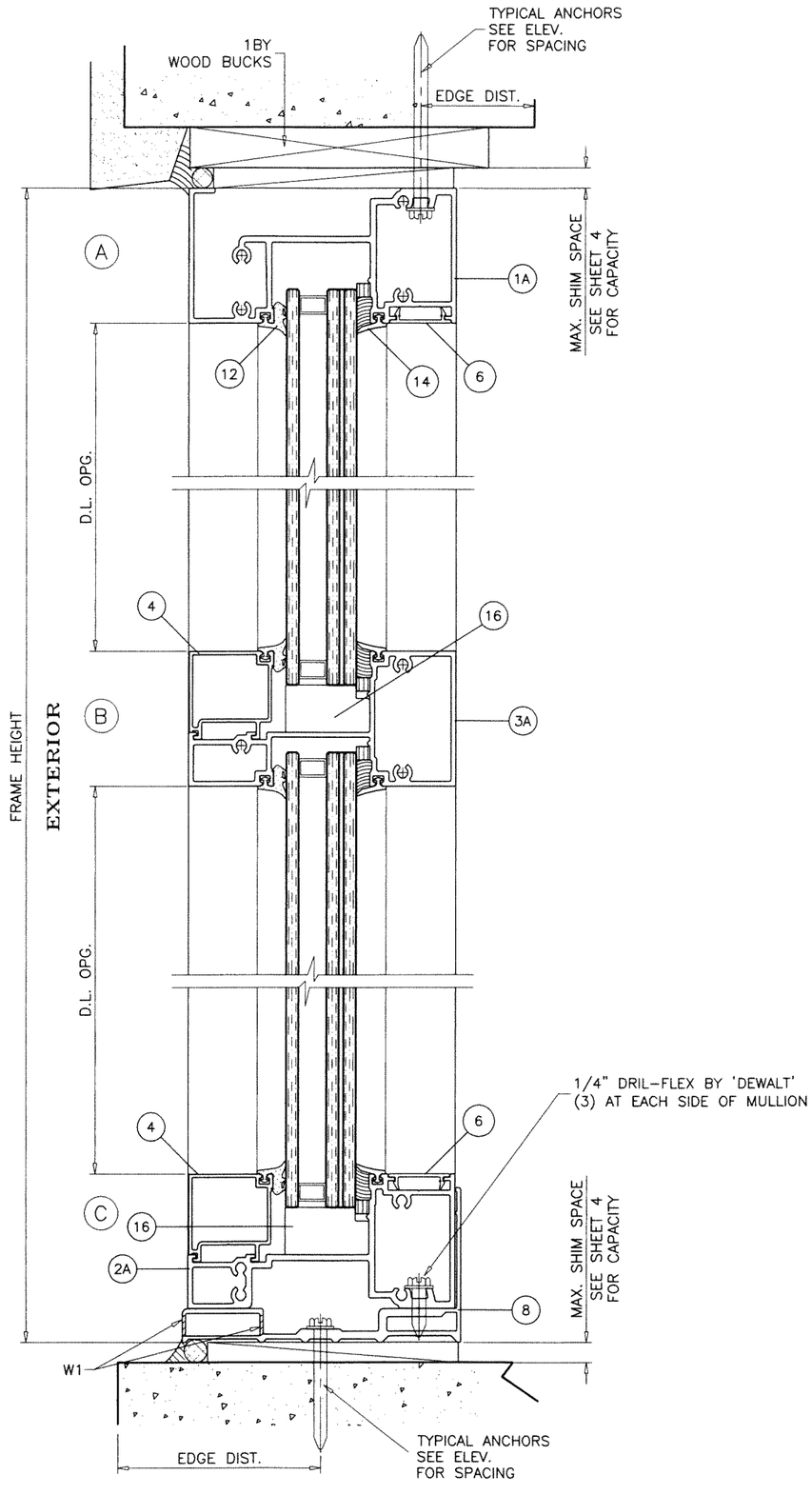
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no. W09–25

sheet 7 of 17



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INSUL. LAM. GLASS

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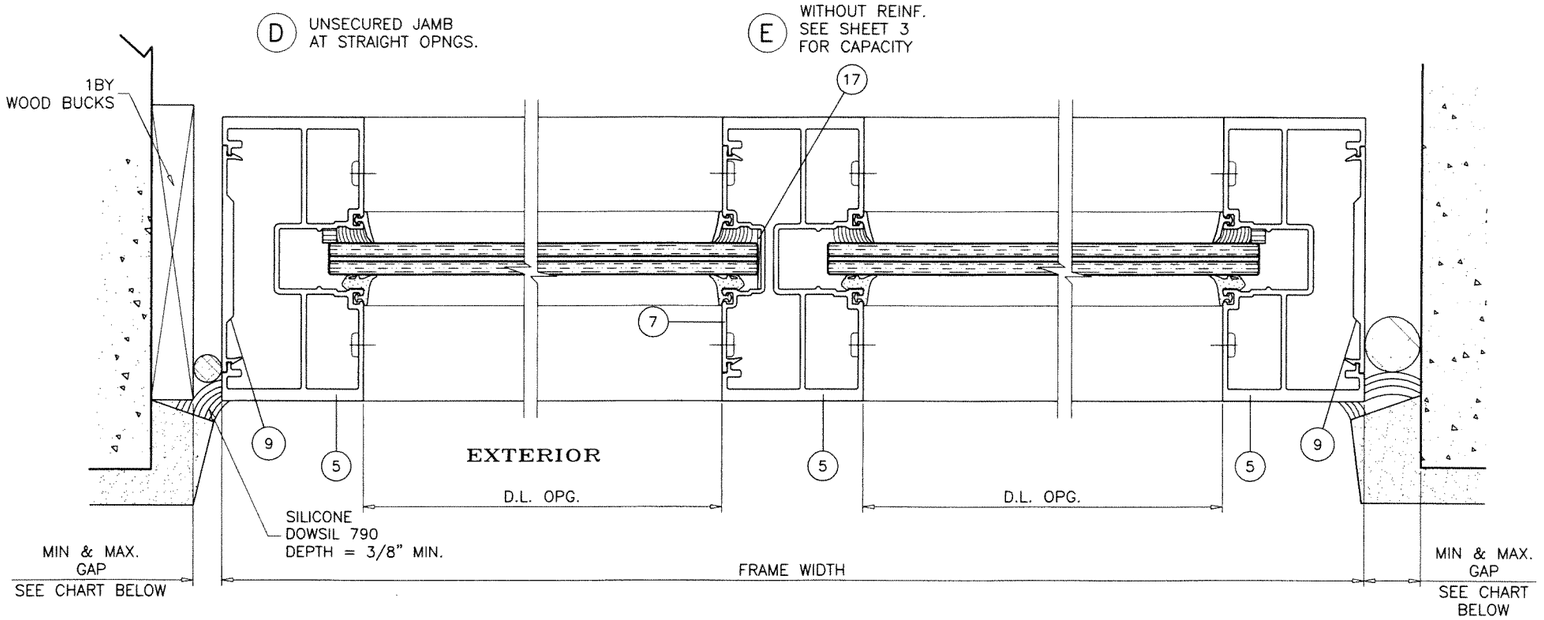
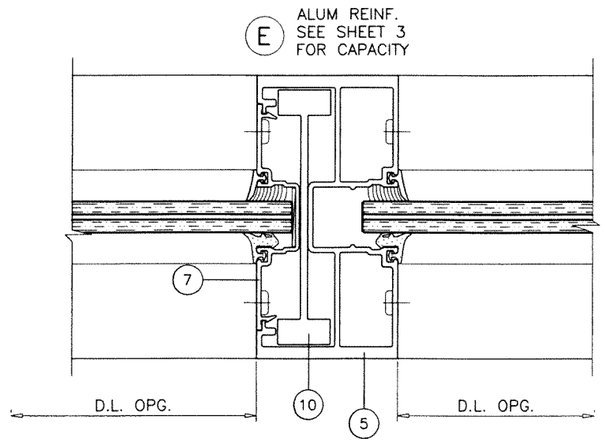
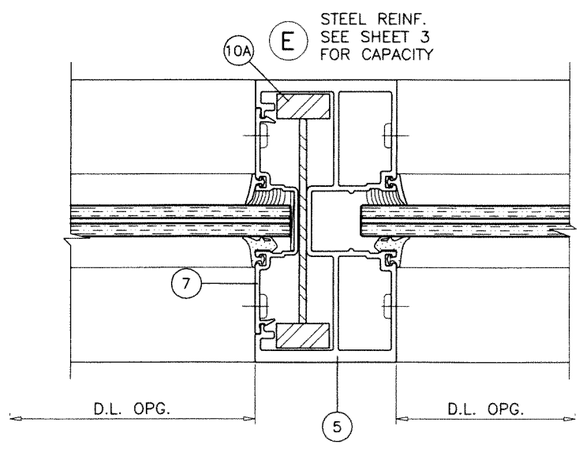
sheet 8 of 17







FRAME HEIGHTS UPTO	GAP	
	MIN.	MAX.
96"	3/16"	3/4"
108"	5/16"	3/4"
120"	3/8"	3/4"

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

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Miami-Dade Product Control

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Miami-Dade Product Control

LAMINATED GLASS

SEP 27 2023

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AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978
STORE\W09-25ES

SERIES 9500 ALUM WINDOW WALL SYSTEM (L.M.I.)

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3550 N.W. 49 STREET
MIAMI, FL. 33142
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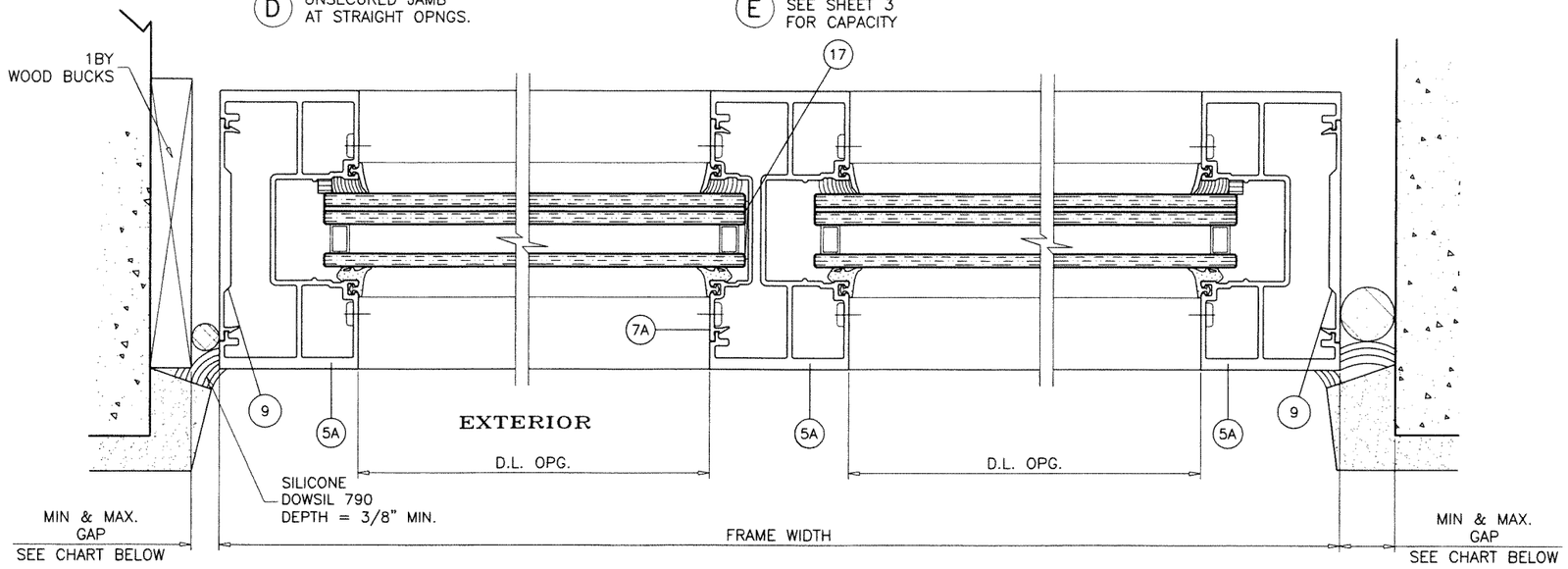
chk. by:

drawing no.
W09-25

sheet 9 of 17

(D) UNSECURED JAMB AT STRAIGHT OPNGS.

(E) WITHOUT REINF. SEE SHEET 3 FOR CAPACITY



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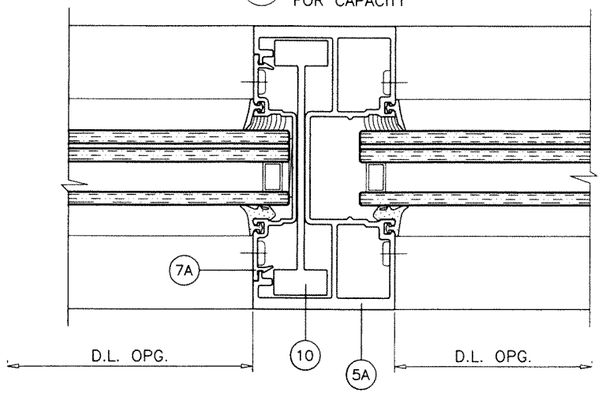
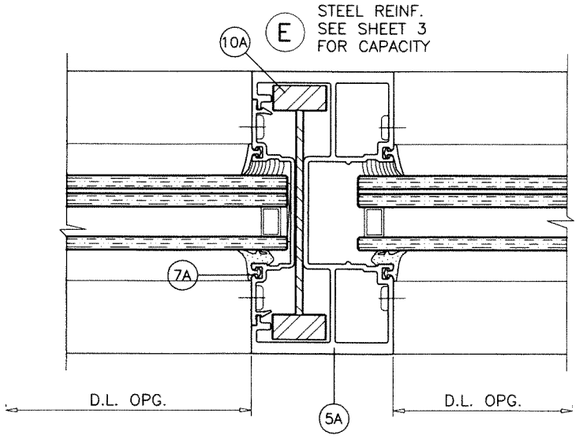


(E) STEEL REINF. SEE SHEET 3 FOR CAPACITY



FRAME HEIGHTS UPTO	GAP	
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108"	5/16"	3/4"
120"	3/8"	3/4"

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Miami-Dade Product Control

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By: Manuel Perez
Miami-Dade Product Control

INSUL. LAM. GLASS

SEP 27 2023

JALAL FAROOQ LICENSE No. 61223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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

STORE\W09-25ES

SERIES 9500 ALUM WINDOW WALL SYSTEM (I.M.I.)

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3550 N.W. 49 STREET
MIAMI, FL. 33142
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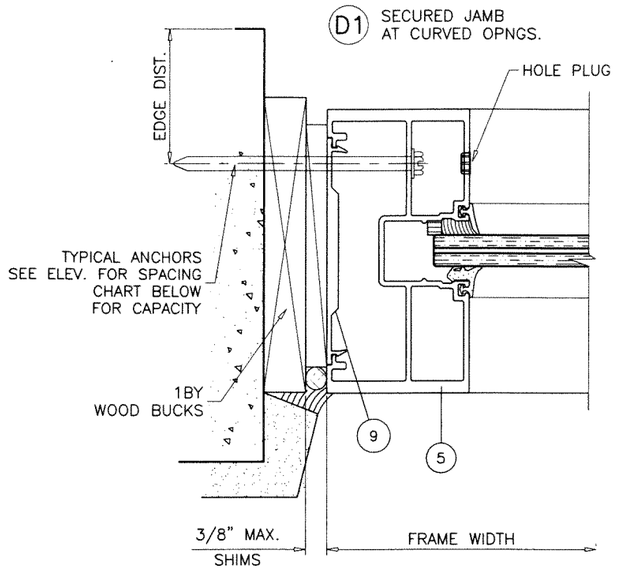
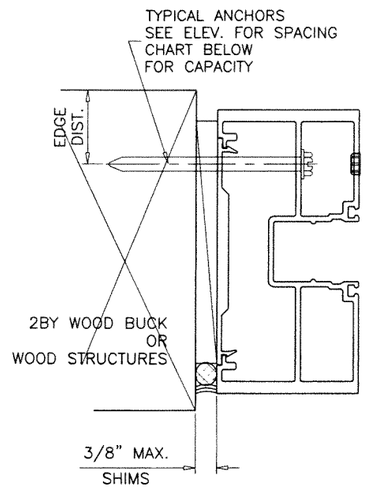
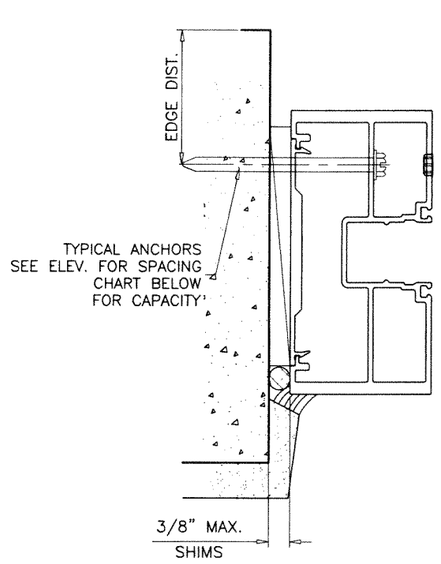
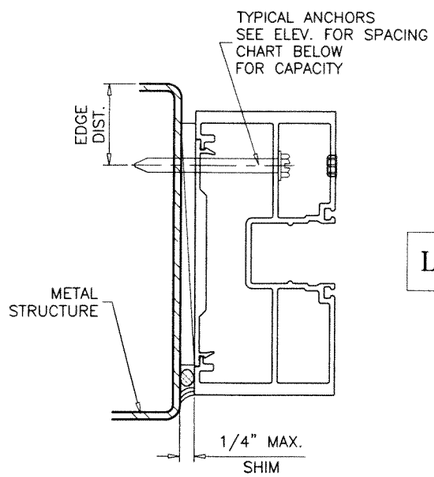
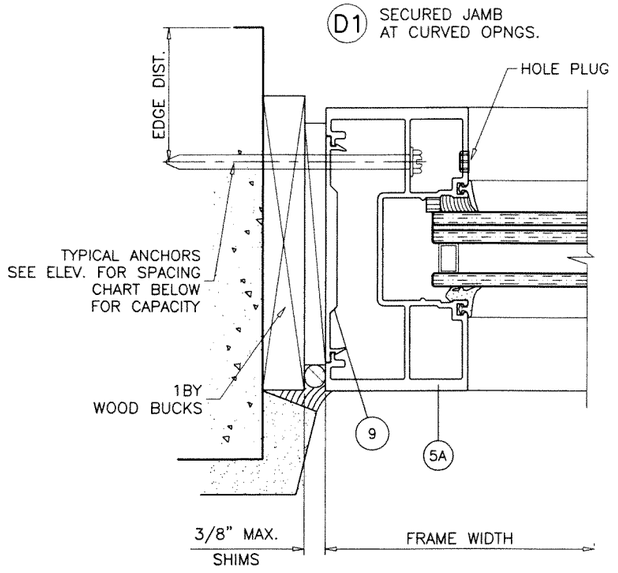


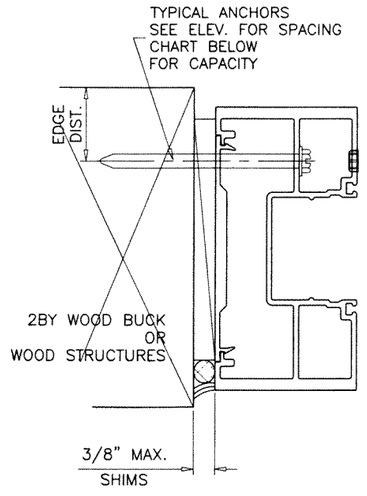


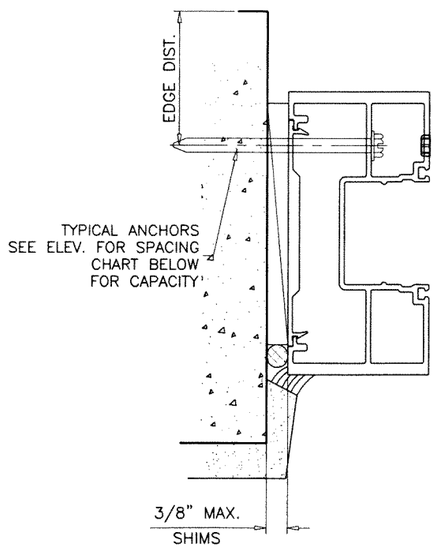


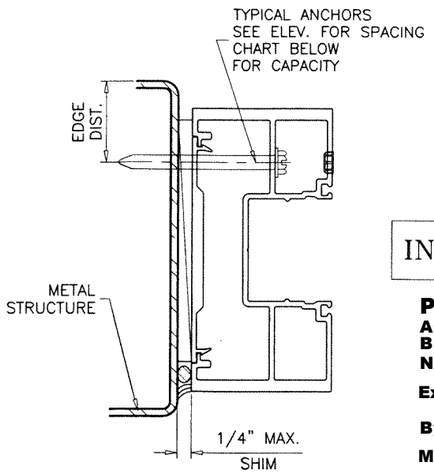


LAMINATED GLASS

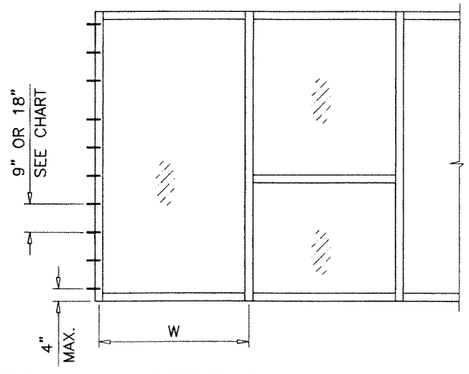








INSUL. LAM. GLASS



JAMB ANCHORS DESIGN LOAD CAPACITY - PSF

WIDTH (W)	ANCHORS TYPE 'B' AT 9" O.C.		ANCHORS TYPE 'C' AT 18" O.C.		ANCHORS TYPE 'D'	
	1/4" SHIMS	3/8" SHIMS	1/4" SHIMS	3/8" SHIMS	1/4" SHIMS	1/4" SHIMS
	EXT.(+)/INT.(-)	EXT.(+)/INT.(-)	EXT.(+)/INT.(-)	EXT.(+)/INT.(-)	EXT.(+)/INT.(-)	EXT.(+)/INT.(-)
30"	120.0	120.0	120.0	120.0	120.0	120.0
36"	120.0	120.0	120.0	120.0	120.0	120.0
42"	120.0	120.0	120.0	120.0	120.0	120.0
48"	120.0	120.0	120.0	120.0	120.0	113.7
54"	120.0	120.0	112.0	112.0	120.0	101.0
60"	120.0	120.0	100.8	100.8	120.0	90.9

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STORE\W09-25ES

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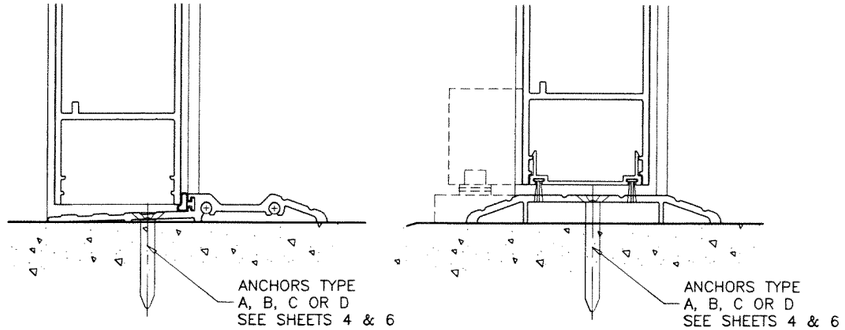

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SEE SHEET 5
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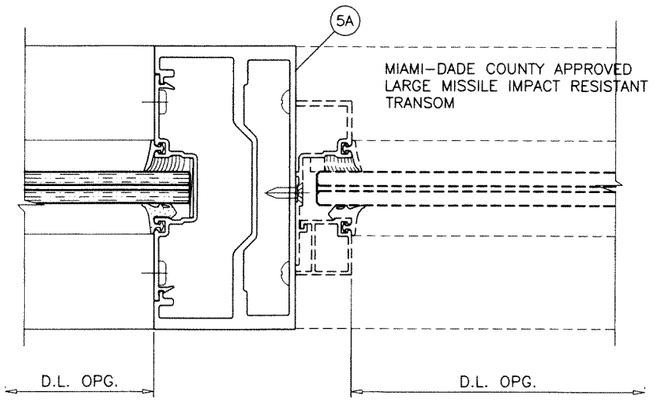

EXTERIOR

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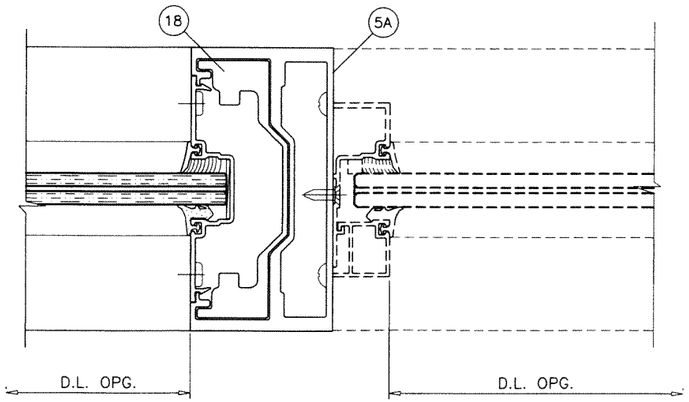

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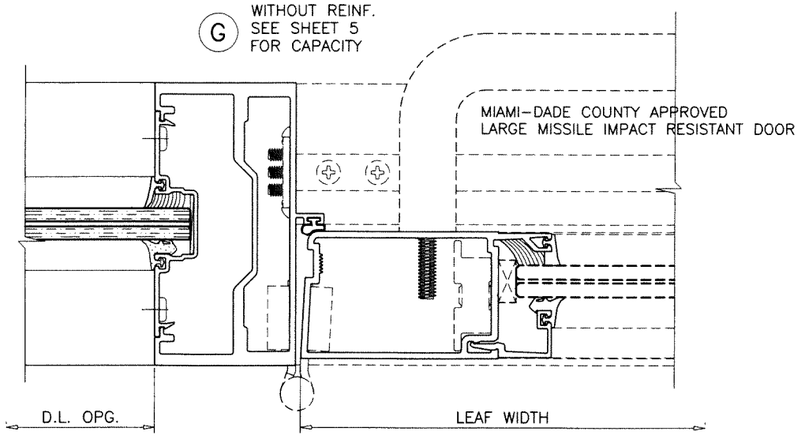

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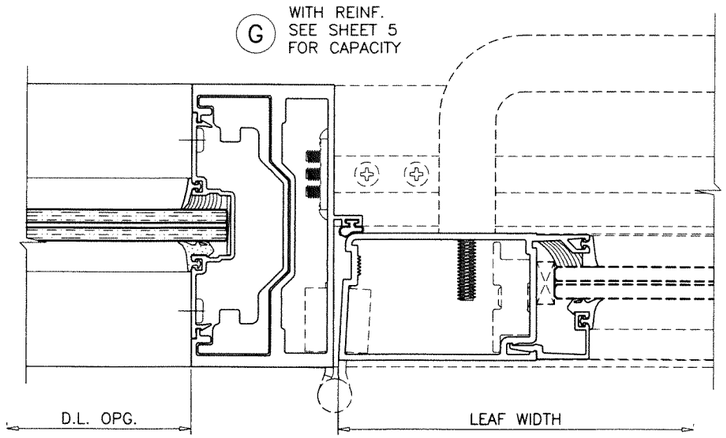

EXTERIOR

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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LAMINATED GLASS

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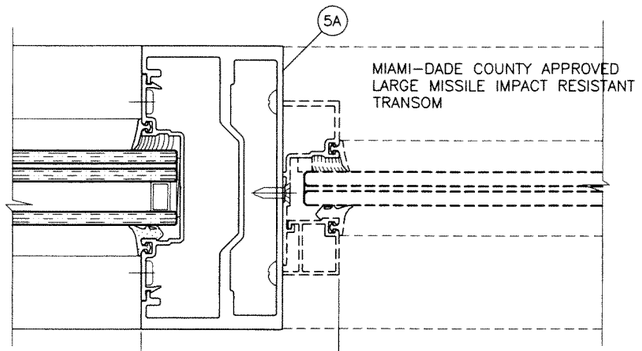

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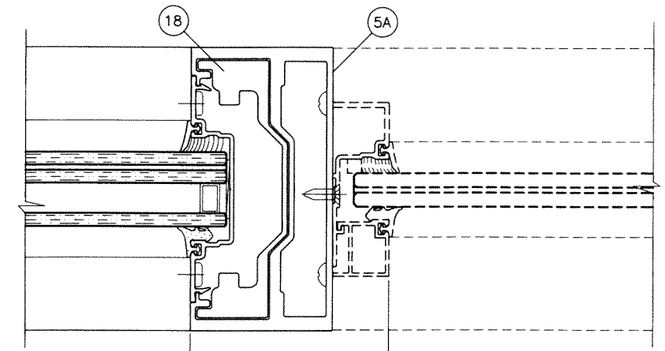
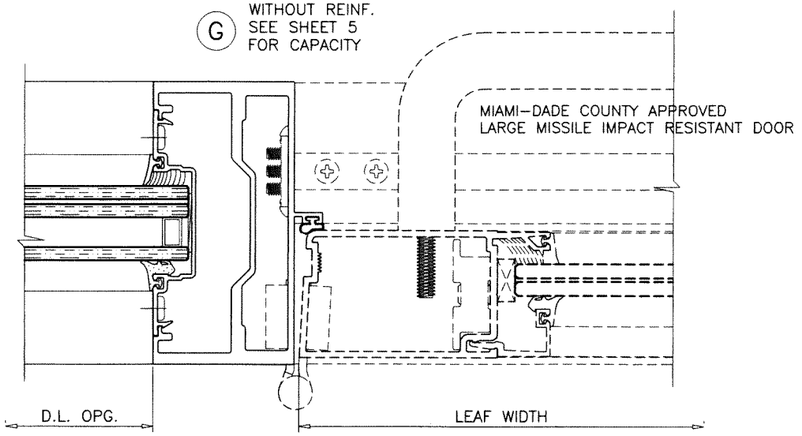
SEE SHEET 5
FOR CAPACITY



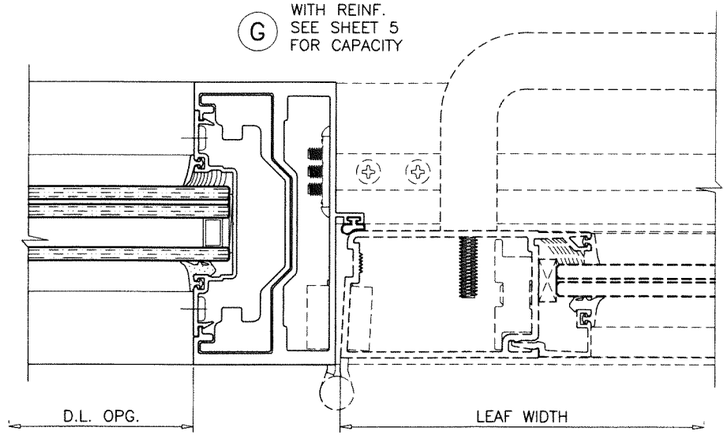
EXTERIOR

(G) WITHOUT REINF.
SEE SHEET 5
FOR CAPACITY



EXTERIOR

(G) WITH REINF.
SEE SHEET 5
FOR CAPACITY



EXTERIOR

PRODUCT RENEWED
As complying with the Florida Building Code
NOA–No. 24-0513.04
Expiration Date: 10/28/2029
By: Manuel Perez
Miami–Dade Product Control

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 23-0928.18
Expiration Date: 10/28/2024
By: Manuel Perez
Miami–Dade Product Control

INSUL. LAM. GLASS

SEP 27 2023

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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
STORE\W09–25ES

SERIES 9500 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

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dr. by: TARIQ
chk. by:

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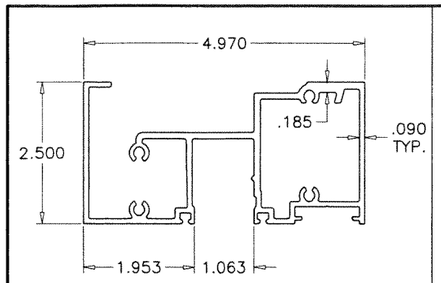
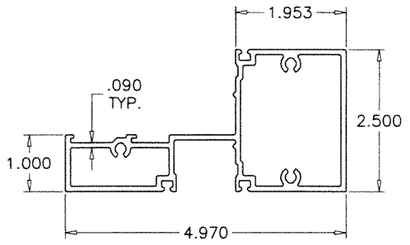
W09–25

sheet 13 of 17



1 FRAME HEAD



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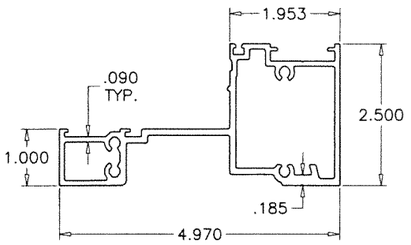
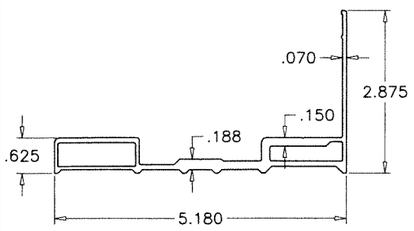
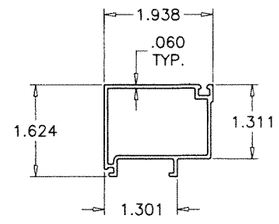


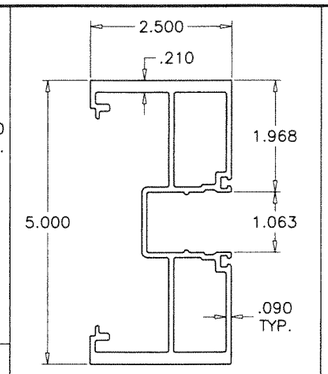
2 FRAME SILL



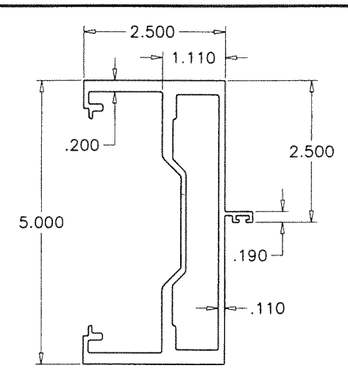
8 SILL FLASHING



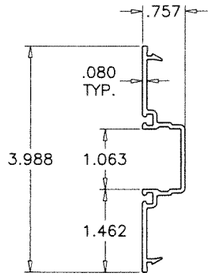
4 GLAZING STOP



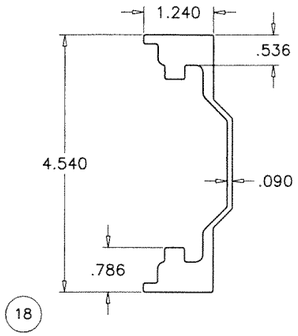
5 FRAME JAMB/MULLION



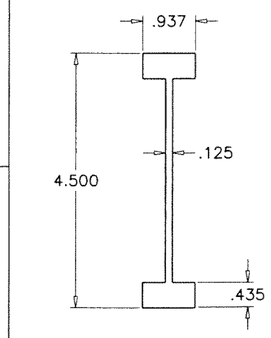
5A DOOR MULLION



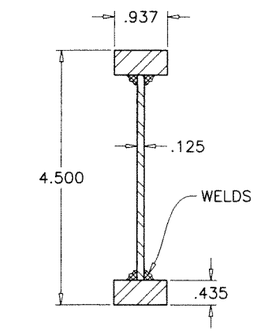
7 POCKET FILLER



18 DOOR MULLION REINFORCING



10 MULLION REINFORCING



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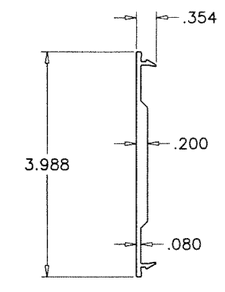
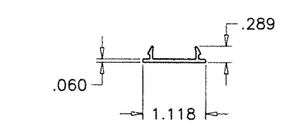


9 JAMB FILLER



6 FRAME COVER

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	ES9506	AS REQD.	FRAME HEAD (LAM. GLASS)	6063-T6	-
2	ES9503	AS REQD.	FRAME SILL (LAM. GLASS)	6063-T6	-
3	ES9505	AS REQD.	FRAME HORIZONTAL (LAM. GLASS)	6063-T5	-
4	ES9504	AS REQD.	GLAZING STOP (LAM. GLASS)	6063-T5	-
5	ES9507	AS REQD.	FRAME JAMB/MULLION (LAM. GLASS)	6063-T6	-
5A	ES9013	AS REQD.	DOOR MULLION	6063-T6	-
6	ES9502	AS REQD.	FRAME COVER	6063-T5	-
7	ES9508	AS REQD.	POCKET FILLER (LAM. GLASS)	6063-T6	-
8	ES9501	AS REQD.	SILL FLASHING	6063-T6	-
9	ES9016	AS REQD.	JAMB FILLER	6063-T6	-
10	ES9510	AS REQD.	MULLION REINFORCING	6063-T6	-
10A	-	AS REQD.	MULLION REINFORCING	STEEL	-
11	#12 X 1"	AS REQD.	FRAME ASSEMBLY SCREWS	ST/ST	P.H. SMS
12	-	AS REQD.	WEDGE GASKET	EPDM	-
13	-	AS REQD.	GLAZING COMPOUND	SILICONE	DOWSIL 795/983
14	-	AS REQD.	TRIM GASKET	EPDM	-
15	-	AS REQD.	INTERIOR SPACER 1/4" X 1/4"	EPDM	-
16	-	AS REQD.	SETTING BLOCK (LAM. GLASS)	EPDM	DUROMETER 75±5 SHORE A
17	-	AS REQD.	SIDE BLOCK	EPDM	DUROMETER 75±5 SHORE A
18	ES9017	AS REQD.	DOOR MULLION REINFORCING	6063-T6	-

SEALANTS:

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

PRODUCT RENEWED
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STORE\W09-25ES

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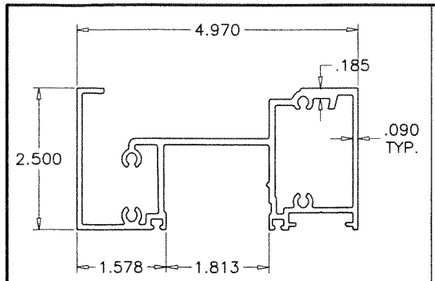
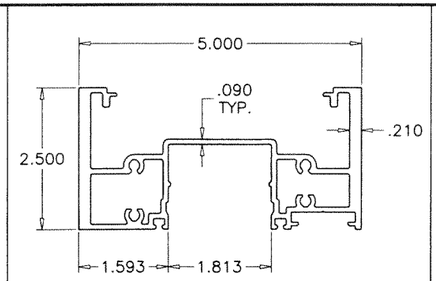
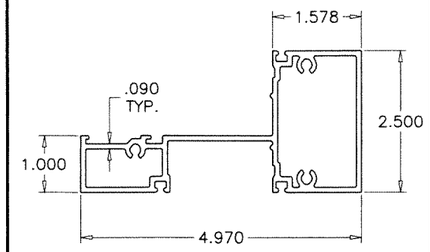


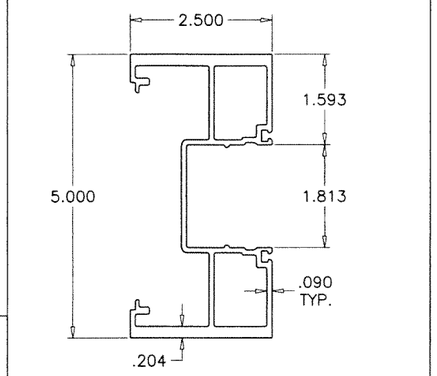
1A FRAME HEAD



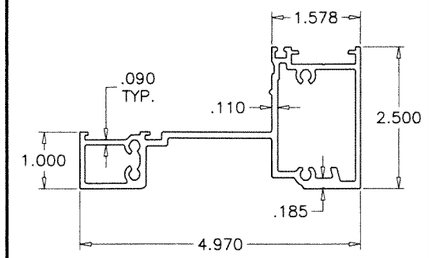
1.1 ALT. FRAME HEAD



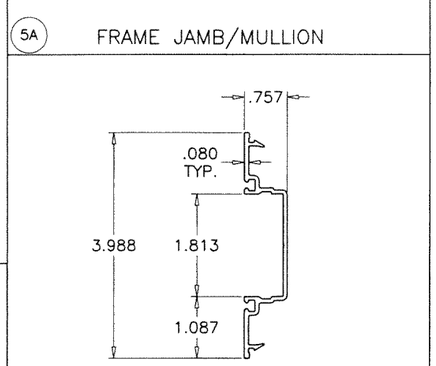
3A FRAME HORIZONTAL



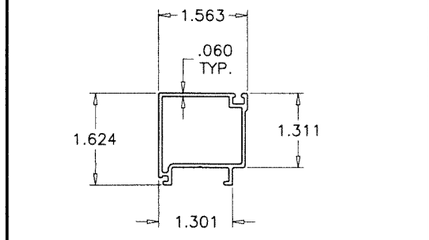
5A FRAME JAMB/MULLION



2A FRAME SILL



7A POCKET FILLER



4A GLAZING STOP

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1A	ES-9554	AS REQD.	FRAME HEAD (INSUL. LAM. GLASS)	6063-T6	-
1.1	ES-9558	AS REQD.	ALT. FRAME HEAD (INSUL. LAM. GLASS)	6063-T6	-
2A	ES-9551	AS REQD.	FRAME SILL (INSUL. LAM. GLASS)	6063-T6	-
3A	ES-9553	AS REQD.	FRAME HORIZONTAL (INSUL. LAM. GLASS)	6063-T5	-
4A	ES-9552	AS REQD.	GLAZING STOP (INSUL. LAM. GLASS)	6063-T5	-
5A	ES-9555	AS REQD.	FRAME JAMB/MULLION (INSUL. LAM. GLASS)	6063-T6	-
7A	ES-9556	AS REQD.	POCKET FILLER (INSUL. LAM. GLASS)	6063-T6	-
16A	-	AS REQD.	SETTING BLOCK (INSUL. LAM. GLASS)	EPDM	DUROMETER 75±5 SHORE A

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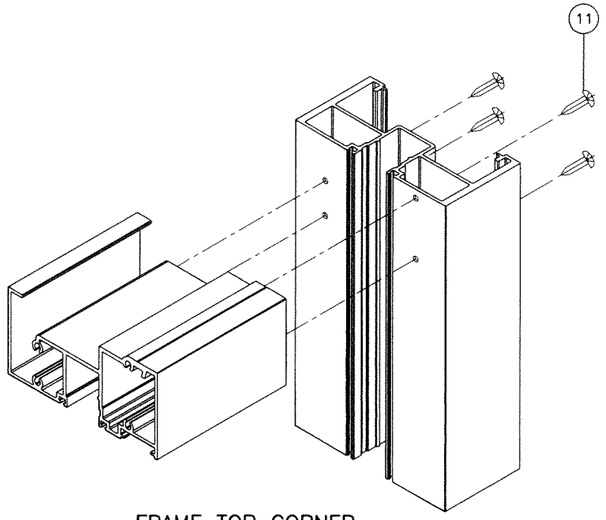
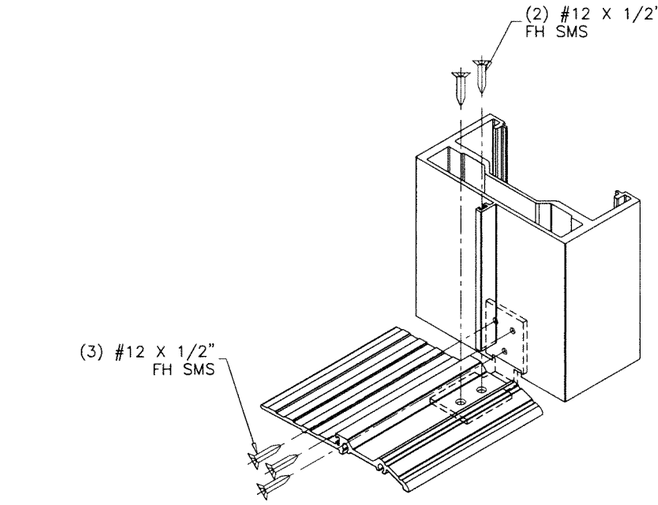
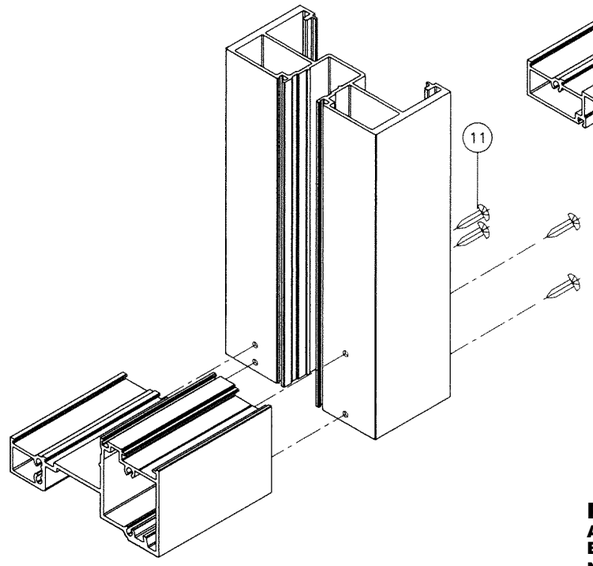
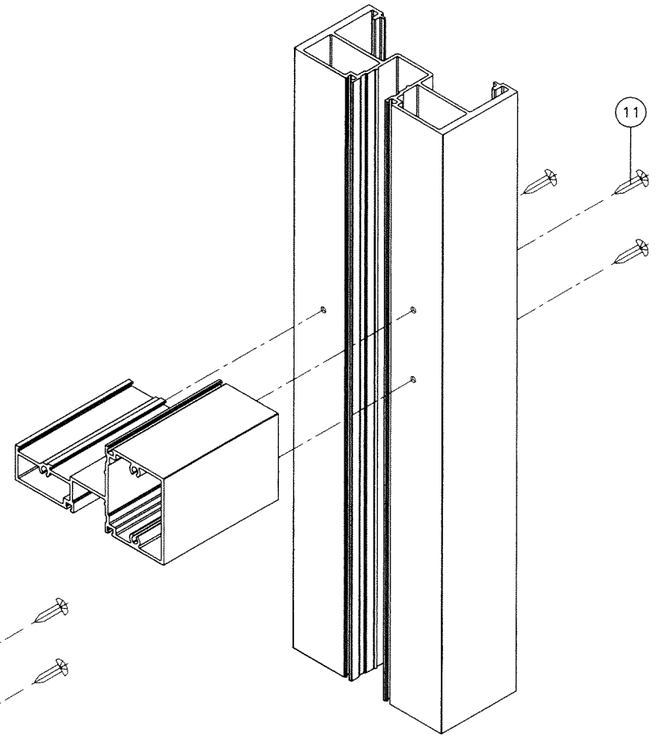


FRAME TOP CORNER

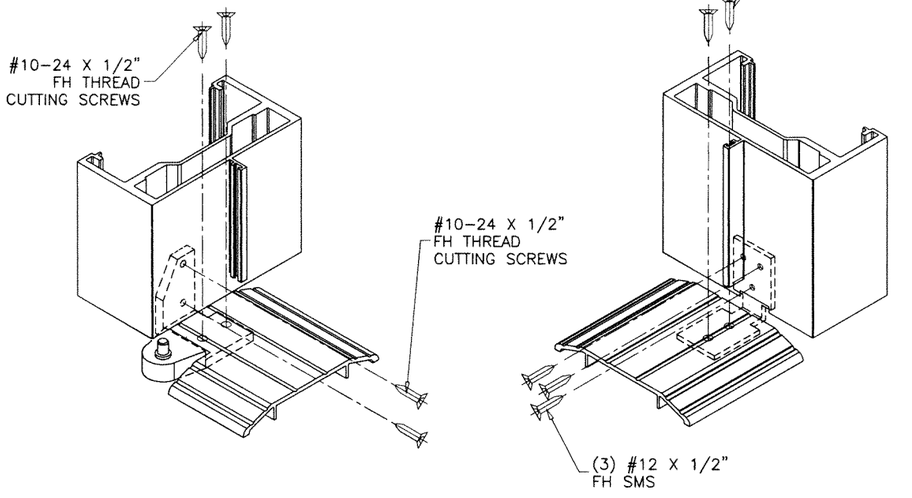




FRAME BOTTOM CORNER



HORIZONTAL CORNER



DOOR MULLION CORNER

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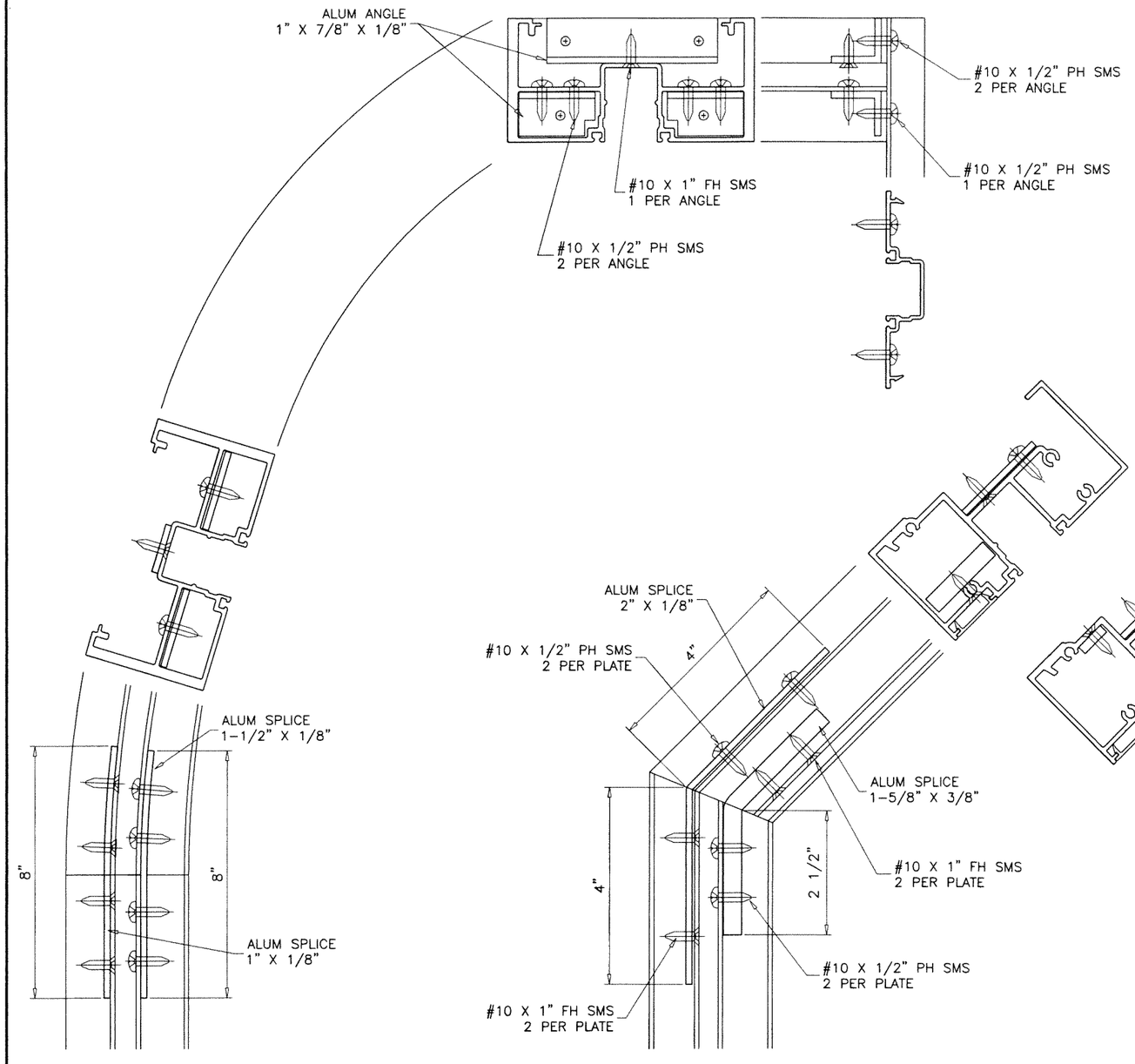
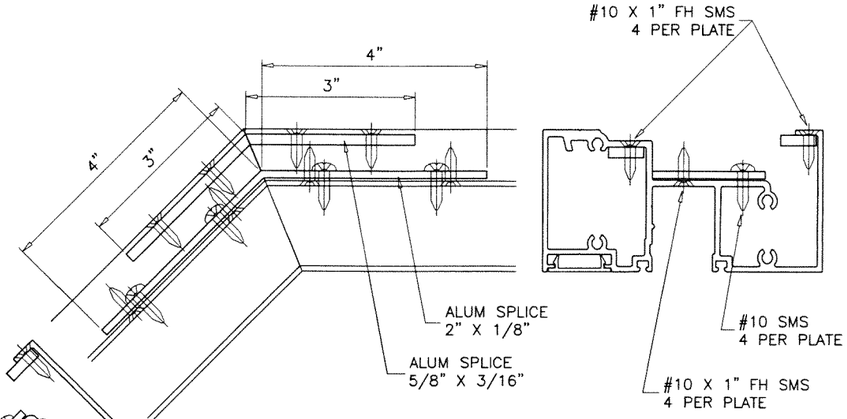


JAMB AT CIRCULAR JOINT

JAMB & HEAD AT ANGLE JOINT



HEAD & HEAD AT ANGLE JOINT

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