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 "ES-8000" Aluminum Window Wall System – L.M.I.

APPROVAL DOCUMENT: Drawing No. **W07-60**, titled "Series 8000 Alum. Window Wall System (L.M.I.)", sheets 1, 1.1, 1.2, 2, 3, 3.1, 4, 4.1, 5, 5.1, 5.2, 6, 6.1, 6.2, 7, 7.1, 8, 9, 9.1, 10, 10.1, 11 and 12 of 12, dated 08/03/07, with revision **J** dated 03/11/24, 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 NOA No. 23-0724.11** 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.**

MIAMI-DADE COUNTY APPROVED

6/05/24

NOA No. 24-0321.07
Expiration Date: April 03, 2028
Approval Date: June 06, 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. 15-0826.26)

2. Drawing No. **W07-60**, titled "Series 8000 Alum. Window Wall System (L.M.I.)", sheets 1, 1.1, 2, 3, 4, 4.1, 5, 5.1, 5.2, 6, 6.1, 6.2, 7, 7.1, 8, 9, 9.1, 10, 11 and 12 of 12, dated 08/03/07, with revision **I** dated 07/18/23, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 23-0724.11)

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) Forced Entry Test, per FBC 2411.3.2.1 and AAMA 1304-02
5) Large Missile Impact Test per FBC, TAS 201-94
6) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a Series ES-8000 MK-20-001, prepared by Blackwater Testing, Inc., Test Report No. **BT-ESW-20-036A**, dated 12/18/20, signed and sealed by Michael D. Caldwell, P.E.
(Submitted under NOA No. 21-0517.02)

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) Forced Entry Test, per FBC 2411.3.2.1 and AAMA 1304-02
5) Large Missile Impact Test per FBC, TAS 201-94
6) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a Series ES-9000 aluminum outswing door, 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. 19-1029.08)

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
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. 18-0129.05)

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0321.07
Expiration Date: April 03, 2028
Approval Date: June 06, 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
along with marked-up drawings and installation diagram of an aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-8372**, dated 03/24/16, signed and sealed by Idalmis Ortega, P.E.
(Submitted under NOA No. 17-0227.08)

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) Drop Load Test, per CPSC 16 CFR 1201 (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-5447**, dated 12/19/07, signed and sealed by Michael R. Wenzel, P.E.
(Submitted under NOA No. 08-0204.06)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC 6th Edition (2017), dated 08/30/17 and 09/12/18, and further updated to comply with FBC 7th Edition (2020), prepared by Al-Farooq Corporation, dated 11/16/20 and 05/07/21, signed and sealed by Jalal Farooq, P.E.
(Submitted under NOA No. 21-0517.02)

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

D. QUALITY ASSURANCE

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

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0321.07
Expiration Date: April 03, 2028
Approval Date: June 06, 2024

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

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 July 19, 2023, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.
Submitted under NOA No. 23-0724.11)

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. 12-0308.36)

3. Private Labeling Agreement document in conformance to Product Control guidelines dated 04/09/09 signed by Jose Nuñez.
(Submitted under NOA No. 12-0308.36)

4. Laboratory compliance letter for Test Report No. **FTL-5447**, issued by Fenestration Testing Laboratory, Inc., dated 12/19/07, signed and sealed by Michael R. Wenzel, P.E.
(Submitted under NOA No. 08-0204.06)

5. Testing Proposal issued by the Product Control Section, dated 10/16/14, signed by Jaime Gascon, P.E.
(Submitted under NOA No. 17-0227.08)

G. OTHERS

1. Notice of Acceptance No. **22-1227.03**, issued to E.S. Windows, LLC for their Series "ES-8000" Aluminum Window Wall System – L.M.I., approved on 01/19/23 and expiring on 04/03/28.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0321.07
Expiration Date: April 03, 2028
Approval Date: June 06, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **W07-60**, titled "Series 8000 Alum. Window Wall System (L.M.I.)", sheets 1, 1.1, 1.2, 2, 3, 3.1, 4, 4.1, 5, 5.1, 5.2, 6, 6.1, 6.2, 7, 7.1, 8, 9, 9.1, 10, 10.1, 11 and 12 of 12, dated 08/03/07, with revision **J** dated 03/11/24, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.

B. TESTS

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94
2) Large Missile Impact Test per FBC, TAS 201-94
3) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series ES-8000 aluminum fixed window, prepared by Blackwater Testing, Inc., Test Report No. **BT-ESW-22-023**, dated 01/12/23, 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
along with marked-up drawings and installation diagram of a series ES-8000T/ES-5000 aluminum fixed window mulled to a casement window, prepared by (QAI) Fenestration Testing Laboratory, Inc., Test Report No. **FTL-12112**, dated 06/19/20 with revision #1 dated 08/11/20, signed and sealed by Idalmis Ortega, P.E.

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC 8th Edition (2023), dated 03/15/24, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.

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

D. QUALITY ASSURANCE

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

Manuel Perez

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0321.07
Expiration Date: April 03, 2028
Approval Date: June 06, 2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. NEW EVIDENCE SUBMITTED (CONTINUED)

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 March 15, 2024, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.

G. OTHERS

1. Notice of Acceptance No. **23-0724.11**, issued to E.S. Windows, LLC for their Series "ES-8000" Aluminum Window Wall System – L.M.I., approved on 09/14/23 and expiring on 04/03/28.

SHOP DRAWING / SUBMITTAL REVIEW

☒ APPROVED ☐ APPROVED WITH CHANGES NOTED

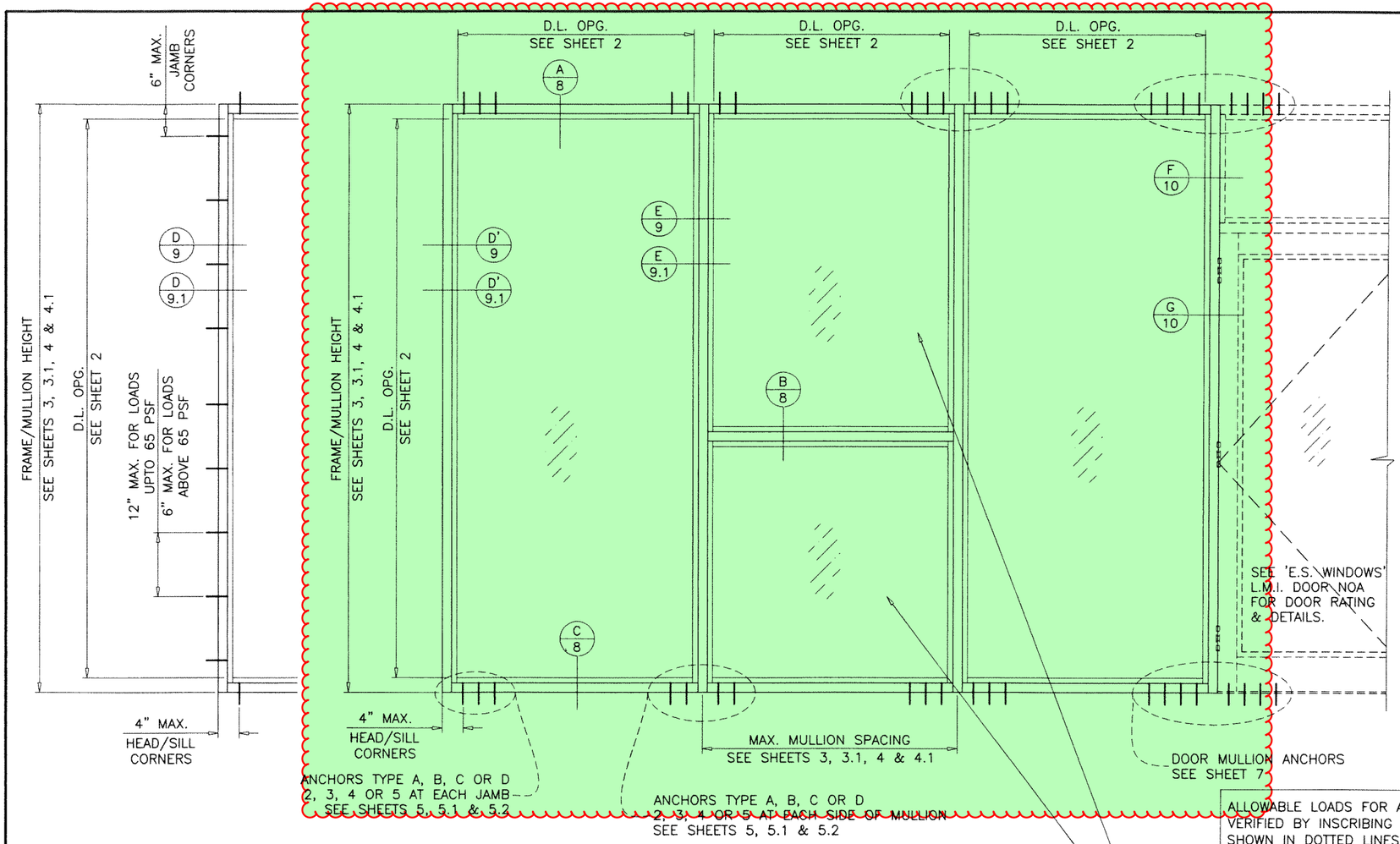
☐ REVISE AND RESUBMIT ☐ REJECTED:_____

SUBMITTAL WAS REVIEWED FOR DESIGN CONFORMITY AND GENERAL CONFORMANCE TO CONTRACT DOCUMENTS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING DIMENSIONS AT JOB SITES FOR TOLERANCES, CLEARANCES, QUANTITIES, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS WORK WITH OTHER TRADES AND FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS.

BY Julio Pulido DATE 04-15-25

NOVUS ARCHETYPE, LLC
12721 SW 30 ST
MIAMI, FL 33175

Manuel Perez, P.E.
Product Control Examiner
NOA No. 24-0321.07
Expiration Date: April 03, 2028
Approval Date: June 06, 2024



ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES. SINGLE LITES MAY BE INSTALLED VERTICALLY AS SHOWN ABOVE OR HORIZONTALLY. ANCHORS AT ALTERNATE SHAPES TO BE ALL AROUND SPACED AS PER JAMB ANCHORS.

LOUVERS, PTAC'S AND WINDOWS, SUPPORTED BY APPROVALS CAN BE INSTALLED WITHIN THE DAYLIGHT OPENING ALLOWED AREA NOT TO EXCEED THE TESTED GLASS AREA AND MAX. MULLION SPACING PER CHARTS ON SHEETS 3, 3.1, 4 & 4.1 PROVIDED THESE ARE PROPERLY SECURED WITH SCREWS AT PERIMETER OF OPENING.

SERIES 8000 ALUMINUM WINDOW WALL SYSTEM

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

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 ELEVATION

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

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

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

STEP 3 CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 3 THRU 4.1 FOR WINDOW WALL MULLION AND SHEETS 6 & 7 FOR DOOR MULLION
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 4 CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 5 THRU 5.2
FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 7.
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 5 THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

LAMINATED GLASS
LARGE MISSILE IMPACT

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

JUN 05 2024

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\W07-60ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

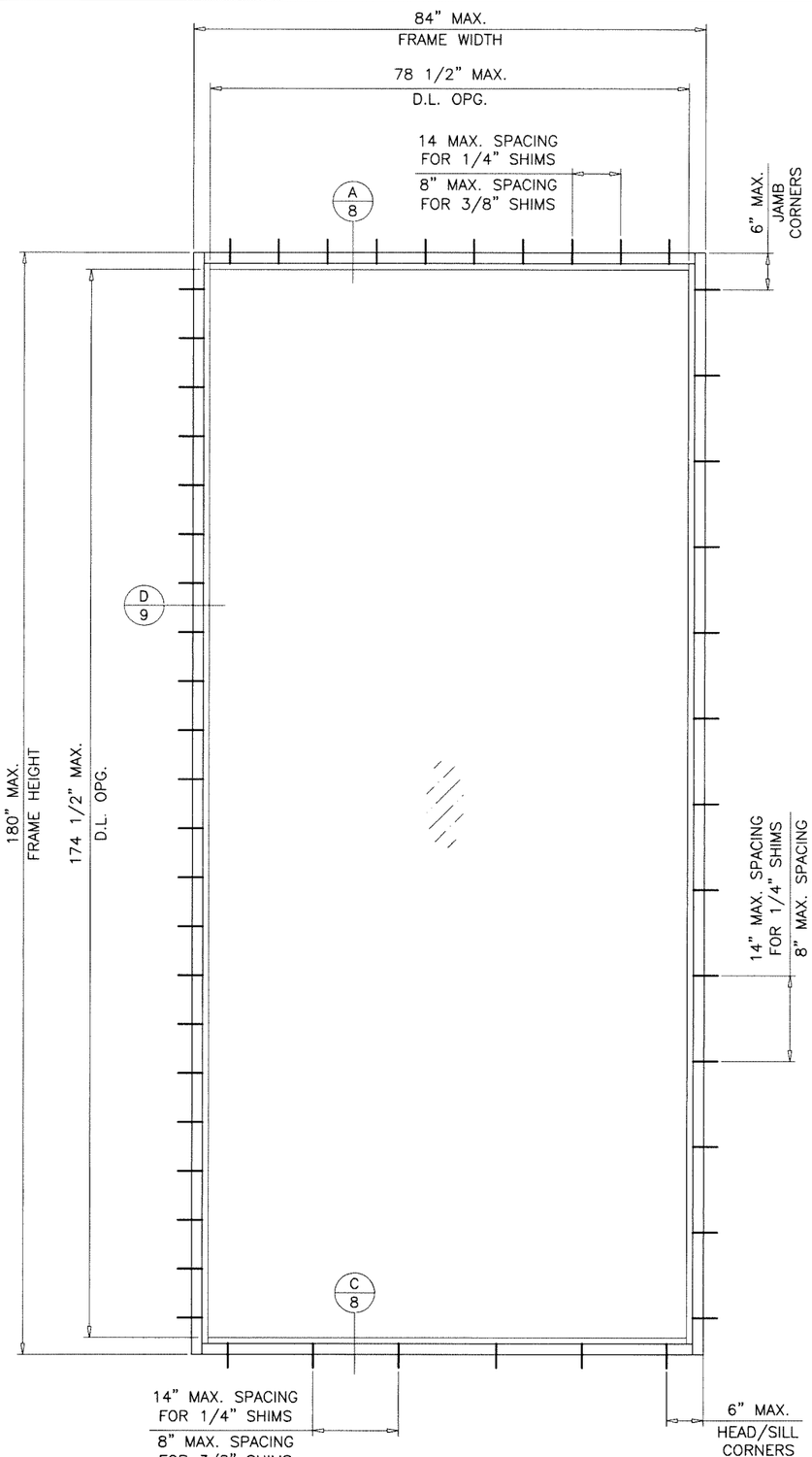
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:			
no	date	by	description
G	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		GENERAL REVISION
I	07.18.23		UPDATED TO 2023 FBC
J	03.11.24		GENERAL REVISION

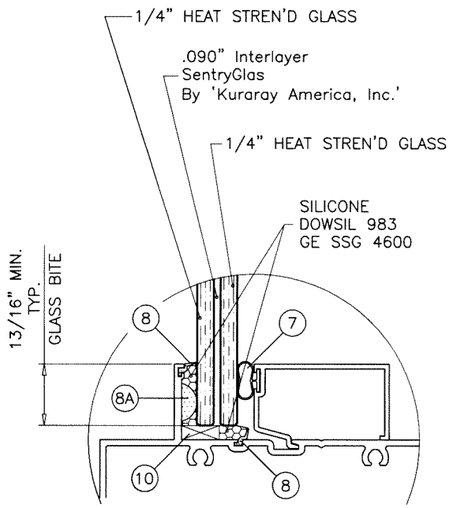
date: 08-03-07
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

drawing no. W07-60

sheet 1 of 12



TYPICAL ELEVATION
SINGLE (O) PANEL



GLASS TYPE 'B1'

GLASS TYPE 'B1' ONLY
MAXIMUM DESIGN LOAD RATING = + 70.0 PSF
– 70.0 PSF
(ONLY FOR SINGLE UNITS SHOWN IN THIS SHEET OR SMALLER)

MAR 19 2024

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION
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9360 SUNSET DRIVE, SUITE 220
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STORE\W07-60ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
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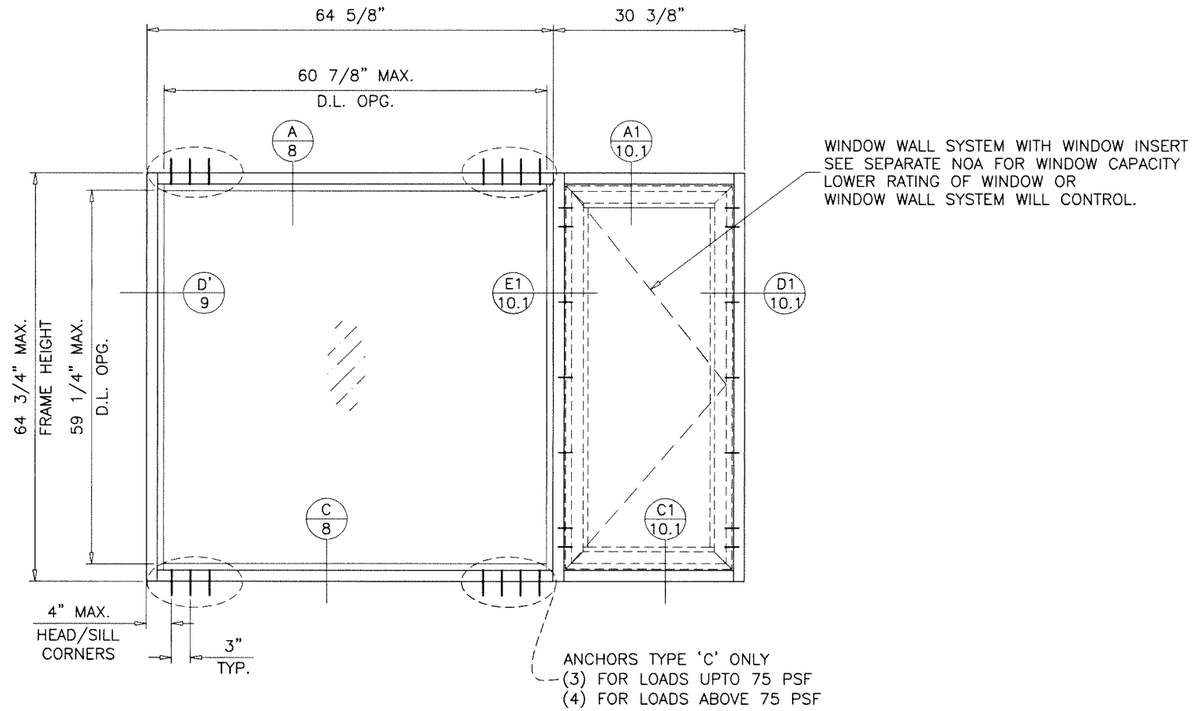
revisions:			
no	date	by	description
G	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		NO CHANGE THIS SHEET
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		GENERAL REVISION

date: 08-03-07
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

drawing no.
W07-60

sheet 1.1 of 12



GLASS TYPE 'A'

MAXIMUM DESIGN LOAD RATING = + 75.0 PSF
− 75.0 PSF

(ONLY FOR SINGLE UNITS SHOWN IN THIS SHEET)

GLASS TYPE 'B'

MAXIMUM DESIGN LOAD RATING = + 78.0 PSF
− 114.0 PSF

(ONLY FOR SINGLE UNITS SHOWN IN THIS SHEET)

MAR 19 2024

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

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)
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STORE\W07-60ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (I.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
J	03.11.24		GENERAL REVISION

date: 08-03-07
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

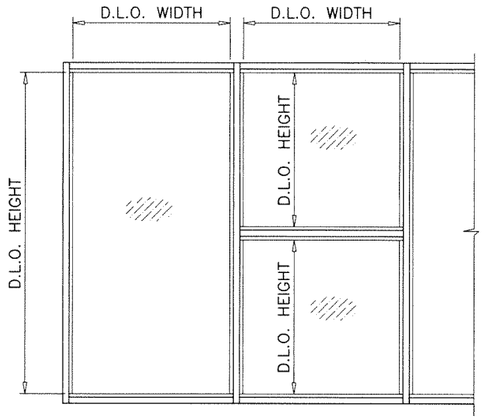
drawing no.
W07-60

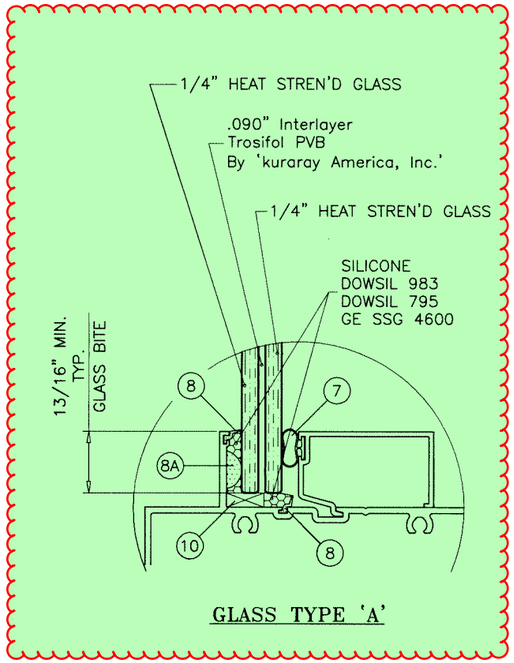
GLASS LOAD CAPACITY – PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(–)	EXT.(+)/INT.(–)
28"	84–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	130.0
56–1/4"		80.0	130.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	90–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	130.0
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	96–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	127.2
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	102–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		80.0	128.9
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
28"	108–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48"		62.2	70.0
54–1/2"		56.0	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3

GLASS LOAD CAPACITY – PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(–)	EXT.(+)/INT.(–)
28"	114–1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44–1/4"		80.0	130.0
48–1/2"		62.2	90.0
51–1/2"		–	90.0
54–1/2"		–	70.0
60–1/2"		–	63.6
66–1/2"		–	58.3
44–1/4"	120–1/2"	70.0	90.0
48"		62.2	90.0
50"		–	90.0
54–1/2"		–	70.0
60–1/2"		–	63.6
42–1/4"	126–1/2"	70.0	90.0
44–1/4"		–	90.0
48"		–	90.0
48–1/2"		–	70.0
54–1/2"		–	70.0
40"	132–1/2"	70.0	90.0
42–1/4"		70.0	90.0
44–1/4"		–	90.0
46"		–	90.0
48–1/2"		–	70.0
54–1/2"		–	70.0
40"	138–1/2"	70.0	90.0
42–1/4"		70.0	90.0
44–1/4"		–	90.0
48–1/2"		–	70.0
54–1/2"		–	70.0

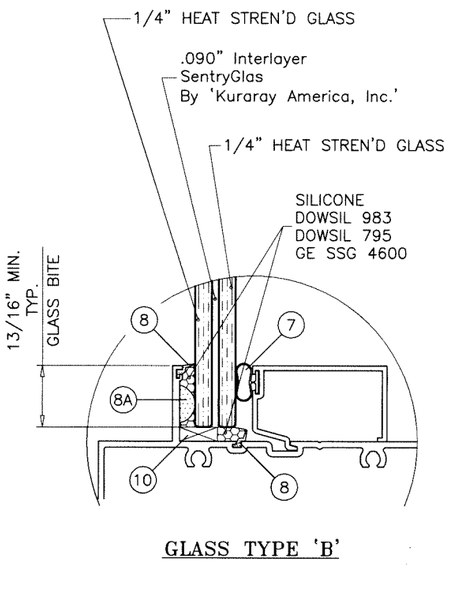
NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

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





GLASS TYPE 'A'



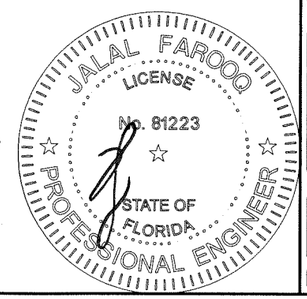
GLASS TYPE 'B'

GLAZING OPTIONS

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami–Dade Product Control

MAR 19 2024

GLASS



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\W07-60ES

SERIES 8000 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	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		GENERAL REVISION
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		GENERAL REVISION

date: 08–03–07
scale: 1/2"=1'–0"
dr. by: TARIQ
chk. by:

drawing no.
W07–60

sheet 2 of 12

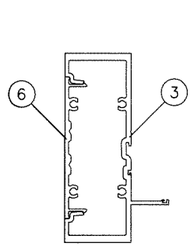
MULLION LOAD CAPACITY – PSF
MULLIONS WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1' MULL 'M1'	JAMB 'J1' MULL 'M2'	JAMB 'J2' JAMB 'J3' MULL 'M3'	JAMB 'J3' MULL 'M4',	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	86–1/2"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		130.0	130.0	130.0	130.0	
60"		127.3	130.0	130.0	130.0	
30"	90"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		122.9	130.0	130.0	130.0	
60"		114.9	130.0	130.0	130.0	
30"	96"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		121.1	130.0	130.0	130.0	
48"		108.6	130.0	130.0	130.0	
54"		99.4	130.0	125.6	130.0	
60"		92.4	130.0	116.3	130.0	
30"	98–1/2"	130.0	130.0	130.0	130.0	
36"		127.6	130.0	130.0	130.0	
42"		111.6	130.0	130.0	130.0	
48"		100.0	130.0	130.0	130.0	
54"		91.4	130.0	118.6	130.0	
58"		86.8	130.0	112.4	130.0	
30"	102"	130.0	130.0	130.0	130.0	
36"		114.5	130.0	130.0	130.0	
42"		100.0	130.0	130.0	130.0	
48"		89.5	130.0	120.9	130.0	
54"		81.6	130.0	109.8	130.0	
56"		79.4	127.7	106.7	130.0	
30"	108"	113.5	130.0	130.0	130.0	
36"		95.9	130.0	130.0	130.0	
42"		83.6	130.0	120.3	130.0	
48"		74.6	120.0	107.0	130.0	
53"		68.8	110.7	98.4	130.0	
30"	110–1/2"	105.9	130.0	130.0	130.0	
36"		89.4	130.0	130.0	130.0	
42"		77.8	125.2	114.7	130.0	
48"		69.4	111.6	101.9	130.0	
52"		64.9	104.5	95.1	130.0	
30"	114"	96.2	130.0	130.0	130.0	
36"		81.2	130.0	123.8	130.0	
42"		70.6	113.6	107.4	130.0	
48"		62.9	101.1	95.3	130.0	
50"		60.8	97.7	92.0	130.0	
30"	120"	82.3	130.0	130.0	130.0	
36"		69.3	111.5	111.4	130.0	
42"		60.2	96.9	96.5	130.0	
48"		53.5	86.1	85.5	130.0	

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

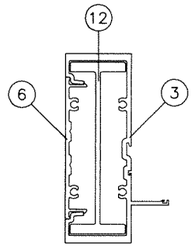
MULLION LOAD CAPACITY – PSF
MULLIONS W/O INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J2' JAMB 'J3' MULL 'M4'	JAMB 'J3' MULL 'M4'	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
54"	120"	90.0	90.0	
57"		90.0	90.0	
60"		–	70.0	
66"		–	70.0	
72"		–	70.0	
30"	126"	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"		–	70.0	
66"		–	70.0	
30"	132"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
52"		90.0	90.0	
54"		–	70.0	
60"		–	70.0	
30"	138"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
50"		86.9	86.9	
54"		–	70.0	
60"		–	64.9	
30"	144"	90.0	90.0	
36"		90.0	90.0	
42"		89.4	89.4	
48"		79.0	79.0	
54"		–	65.1	
60"		–	59.3	



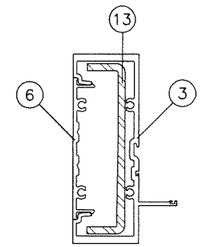
JAMB 'J1'

Ix IN^4	Sx IN^3
6.6509	2.6421



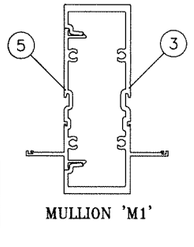
JAMB 'J2'

Ix IN^4	Sx IN^3
10.6486	4.4452



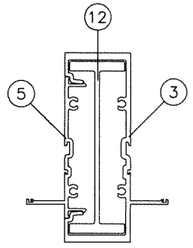
JAMB 'J3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.6509	2.6421
STEEL	2.7506	1.2225
TOTAL Ix ALUM + Ix STL X 2.9	14.6276	



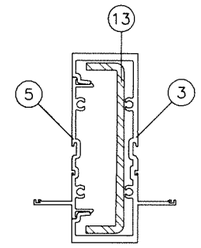
MULLION 'M1'

Ix IN^4	Sx IN^3
6.7195	2.6757



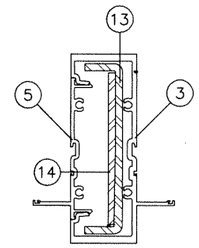
MULLION 'M2'

Ix IN^4	Sx IN^3
10.8072	3.7590



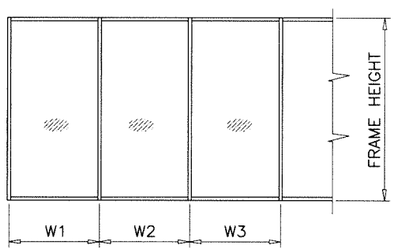
MULLION 'M3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.2225
TOTAL Ix ALUM + Ix STL X 2.9	14.6962	



MULLION 'M4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL Ix ALUM + Ix STL X 2.9	17.6047	



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. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

MAR 19 2024

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\W07-60ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (I.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	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		GENERAL REVISION
i	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

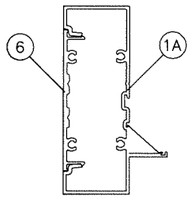
date: 08-03-07
scale: –
dr. by: TARIQ
chk. by:

drawing no. W07–60

sheet 3 of 12

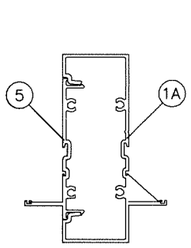
MULLION LOAD CAPACITY – PSF MULLIONS WITHOUT INTERMEDIATE HORIZONTALS			
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)
30"	86–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		60.0	70.0
30"	90"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		60.0	70.0
30"	96"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		55.6	70.0
60"		51.5	70.0
30"	98–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		57.6	70.0
54"		52.4	70.0
30"	102"	60.0	70.0
36"		60.0	70.0
42"		59.7	70.0
48"		53.2	70.0
54"		48.3	70.0
30"	108"	60.0	70.0
36"		60.0	70.0
42"		52.6	70.0
48"		46.8	70.0
54"		–	70.0
60"		–	70.0
30"	110–1/2"	60.0	70.0
36"		57.1	70.0
42"		49.7	70.0
48"		44.3	70.0
54"		–	70.0
60"		–	70.0
30"	114"	60.0	70.0
36"		51.8	70.0
42"		45.1	70.0
48"		40.1	70.0
54"		–	70.0
30"	120"	52.5	70.0
36"		44.3	70.0
42"		38.5	70.0
48"		34.2	66.7
54"		–	60.4
57"		–	57.8

MULLION LOAD CAPACITY – PSF MULLIONS WITHOUT INTERMEDIATE HORIZONTALS				UNANCHORED JAMB OPTIONS MULL OPTIONS
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'	
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	126"	–	70.0	
36"		–	70.0	
42"		–	64.6	
48"		–	57.3	
54"		–	51.8	
30"	132"	–	70.0	
36"		–	64.5	
42"		–	55.9	
48"		–	49.6	
52"		–	46.2	
30"	138"	–	67.1	
36"		–	56.3	
42"		–	48.8	
48"		–	43.2	
50"		–	41.6	
30"	144"	–	58.9	
36"		–	49.5	
42"		–	42.8	
48"		–	37.8	



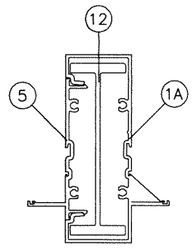
JAMB 'J1A'

Ix IN^4	Sx IN^3
4.1316	1.6902



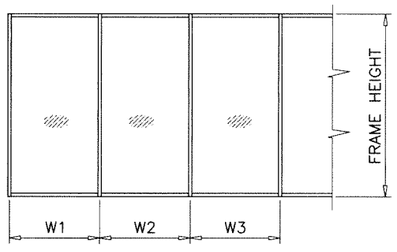
MULLION 'M1A'

Ix IN^4	Sx IN^3
4.2902	1.7239



MULLION 'M2A'

Ix IN^4	Sx IN^3
8.3779	3.527



WIDTH (W) = W1
AT FRAME JAMB

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

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

MULLIONS

MAR 19 2024

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami–Dade Product Control

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

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STORE\W07–60ES

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revisions:

no	date	by	description
H	05.10.21		GENERAL REVISION
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

date: 08–03–07
scale: –
dr. by: TARIQ
chk. by:

drawing no.
W07–60

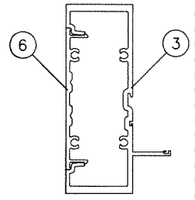
sheet 3.1 of 12

MULLION LOAD CAPACITY – PSF
MULLIONS WITH INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1' MULL 'M1'	JAMB 'J1' MULL 'M2'	JAMB 'J2' JAMB 'J3' MULL 'M3'	JAMB 'J3' MULL 'M4'	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	78"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		130.0	130.0	130.0	130.0	
60"		130.0	130.0	130.0	130.0	
30"	86–1/2"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		130.0	130.0	130.0	130.0	
54"		118.9	130.0	130.0	130.0	
60"		107.0	130.0	124.8	130.0	
30"	90"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		130.0	130.0	130.0	130.0	
48"		119.2	130.0	130.0	130.0	
54"		105.9	130.0	128.1	130.0	
60"		95.3	130.0	115.3	130.0	
30"	96"	130.0	130.0	130.0	130.0	
36"		130.0	130.0	130.0	130.0	
42"		112.2	130.0	130.0	130.0	
48"		98.2	130.0	126.7	130.0	
54"		87.3	130.0	112.6	130.0	
60"		78.5	122.1	101.4	130.0	
30"	98–1/2"	130.0	130.0	130.0	130.0	
36"		121.2	130.0	130.0	130.0	
42"		103.9	130.0	130.0	130.0	
48"		90.9	130.0	120.3	130.0	
54"		80.8	128.9	107.0	130.0	
58"		75.2	120.0	99.6	130.0	
30"	102"	130.0	130.0	130.0	130.0	
36"		109.1	130.0	130.0	130.0	
42"		93.6	130.0	128.3	130.0	
48"		81.9	130.0	112.2	130.0	
54"		72.8	117.0	99.8	130.0	
56"		70.2	112.8	96.2	130.0	
30"	108"	110.3	130.0	130.0	130.0	
36"		91.9	130.0	130.0	130.0	
42"		78.8	126.8	114.4	130.0	
48"		69.0	110.9	100.1	130.0	
53"		62.5	100.4	90.7	130.0	
30"	110–1/2"	103.0	130.0	130.0	130.0	
36"		85.8	130.0	127.5	130.0	
42"		73.6	118.3	109.3	130.0	
48"		64.4	103.6	95.6	130.0	
52"		59.4	95.6	88.3	130.0	
30"	114"	93.8	130.0	130.0	130.0	
36"		78.2	125.7	119.8	130.0	
42"		67.0	107.8	102.7	130.0	
48"		58.6	94.3	89.8	130.0	
50"		56.3	90.5	86.2	130.0	
30"	120"	80.4	129.4	129.7	130.0	
36"		67.0	107.8	108.1	130.0	
42"		57.5	92.4	92.7	130.0	
48"		50.3	80.9	81.1	130.0	

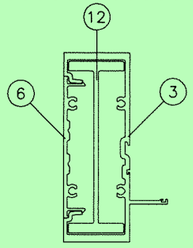
MULLION LOAD CAPACITY – PSF
MULLIONS WITH INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J2' JAMB 'J3' MULL 'M4'	JAMB 'J3' MULL 'M4'	UNANCHORED JAMB OPTIONS MULL OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
54"	120"	90.0	90.0	
57"		90.0	90.0	
30"	126"	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"		–	70.0	
30"	132"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
52"		90.0	90.0	
54"		–	70.0	
60"		–	66.6	
30"	138"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		86.6	86.6	
50"		83.1	83.1	
54"		–	67.7	
60"		–	60.9	
30"	144"	90.0	90.0	
36"		90.0	90.0	
42"		87.1	87.1	
48"		76.2	76.2	
54"		–	62.2	
60"		–	55.9	



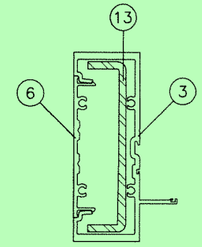
JAMB 'J1'

Ix IN^4	Sx IN^3
6.6509	2.6421



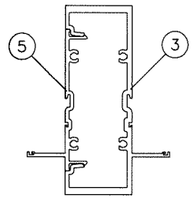
JAMB 'J2'

Ix IN^4	Sx IN^3
10.6486	4.4452



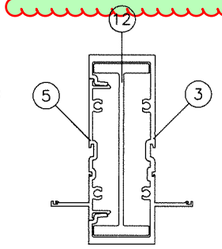
JAMB 'J3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.6509	2.6421
STEEL	2.7506	1.2225
TOTAL Ix ALUM + Ix STL X 2.9	14.6276	



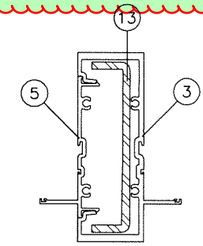
MULLION 'M1'

Ix IN^4	Sx IN^3
6.7195	2.6757



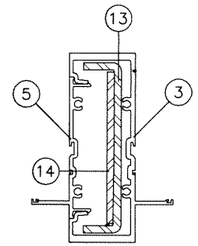
MULLION 'M2'

Ix IN^4	Sx IN^3
10.8072	3.7590



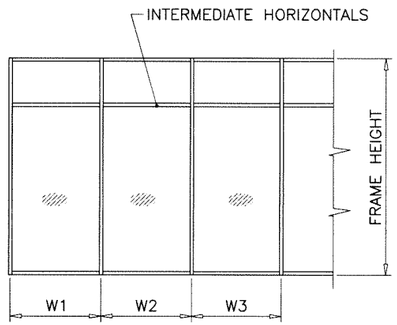
MULLION 'M3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.2225
TOTAL Ix ALUM + Ix STL X 2.9	14.6962	



MULLION 'M4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL Ix ALUM + Ix STL X 2.9	17.6047	



WIDTH (W) = W1
AT FRAME JAMB

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

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

MAR 19 2024

MULLIONS

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\W07-60ES

SERIES 8000 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	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		GENERAL REVISION
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

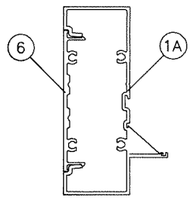
date: 08-03-07
scale: –
dr. by: TARIQ
chk. by:

drawing no. W07–60

sheet 4 of 12

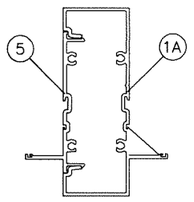
MULLION LOAD CAPACITY – PSF MULLIONS WITH INTERMEDIATE HORIZONTALS			
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)
30"	86–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		55.9	70.0
30"	90"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		57.1	70.0
60"		51.4	70.0
30"	96"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		56.1	70.0
54"		49.9	70.0
60"		44.9	70.0
30"	98–1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		53.2	70.0
54"		47.2	70.0
30"	102"	60.0	70.0
36"		60.0	70.0
42"		56.4	70.0
48"		49.4	70.0
54"		43.9	70.0
30"	108"	60.0	70.0
36"		58.4	70.0
42"		50.0	70.0
48"		43.8	70.0
54"		–	70.0
60"		–	70.0
30"	110–1/2"	60.0	70.0
36"		54.8	70.0
42"		47.0	70.0
48"		41.1	70.0
54"		–	70.0
60"		–	70.0
30"	114"	59.9	70.0
36"		49.9	70.0
42"		42.8	70.0
48"		37.4	70.0
54"		–	70.0
30"	120"	51.4	70.0
36"		42.8	70.0
42"		36.7	70.0
48"		32.1	66.7
54"		–	60.4
57"		–	57.8

MULLION LOAD CAPACITY – PSF MULLIONS WITH INTERMEDIATE HORIZONTALS				UNANCHORED JAMB OPTIONS MULL OPTIONS
NOMINAL DIMS.		JAMB 'J1A' MULL 'M1A'	JAMB 'J1A' MULL 'M2A'	
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (–)	EXT. (+) INT. (–)	
30"	126"	–	70.0	
36"		–	70.0	
42"		–	64.6	
48"		–	57.3	
54"		–	51.8	
30"	132"	–	70.0	
36"		–	64.5	
42"		–	55.9	
48"		–	49.6	
52"		–	46.2	
30"	138"	–	67.1	
36"		–	56.3	
42"		–	48.8	
48"		–	43.2	
50"		–	41.6	
30"	144"	–	58.9	
36"		–	49.5	
42"		–	42.8	
48"		–	37.8	



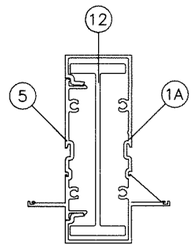
JAMB 'J1A'

Ix IN^4	Sx IN^3
4.1316	1.6902



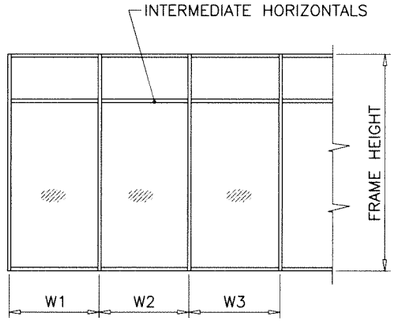
MULLION 'M1A'

Ix IN^4	Sx IN^3
4.2902	1.7239



MULLION 'M2A'

Ix IN^4	Sx IN^3
8.3779	3.527



WIDTH (W) = W1
AT FRAME JAMB

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

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami–Dade Product Control

MAR 19 2024

MULLIONS

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\W07–60ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

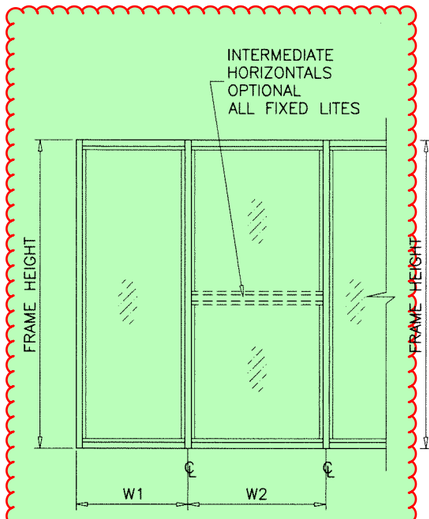
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638–5151 FAX. (305) 638–5158

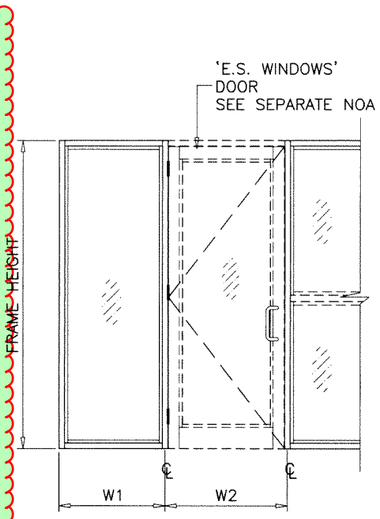
revisions:			
no	date	by	description
H	05.10.21		GENERAL REVISION
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

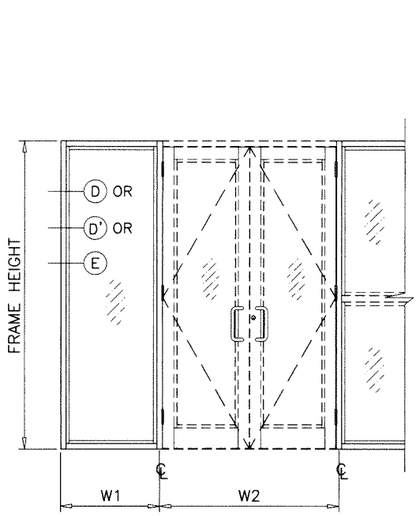
date: 08–03–07
scale: –
dr. by: TARIQ
chk. by:

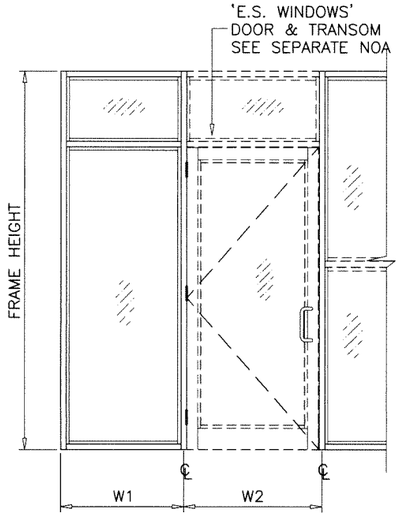
drawing no.
W07–60

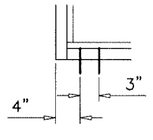
sheet 4.1 of 12

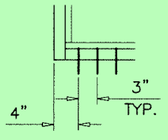


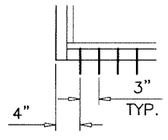


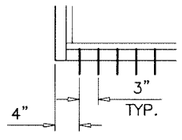


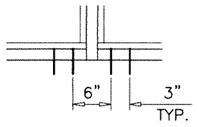




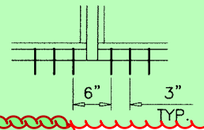




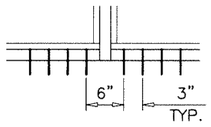




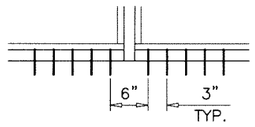
A2, B2, C2, D2



A3, B3, C3, D3



A4, B4, C4, D4



A5, B5, C5

ANCHORS TYPES: SEE SHEET 8 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

A5 = (5) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

SEE SHEETS 5, 5.1, 5.2 & 7 FOR ANCHOR CAPACITY CHART.
SEE SHEET 8 FOR ANCHOR DESCRIPTION.

ANCHORS

MAR 19 2024

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

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STORE\W07-60ES

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dr. by: TARIQ
chk. by:

drawing no. W07-60

sheet 5 of 12

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

NOMINAL DIMS.		ANCHORS TYPE 'A'								ANCHORS TYPE 'B'								ANCHORS TYPE 'C'								1/4" MAX. SHIM
		3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				ANCHORS TYPE 'D'
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A5	A2	A3	A4	A5	B2	B3	B4	B5	B2	B3	B4	B5	C2	C3	C4	C5	C2	C3	C4	C5	D2	D3	D4
30"	86–1/2"	59.1	88.6	118.2	130.0	46.1	69.2	92.2	115.3	67.9	101.9	130.0	130.0	53.3	79.9	106.5	130.0	115.9	130.0	130.0	130.0	91.4	130.0	130.0	130.0	130.0	130.0	130.0
36"		49.2	73.9	98.5	123.1	38.4	57.7	76.9	96.1	56.6	84.9	113.2	130.0	44.4	66.6	88.8	111.0	96.6	130.0	130.0	130.0	76.2	114.3	130.0	130.0	130.0	130.0	130.0
42"		42.2	63.3	84.4	105.5	32.9	49.4	65.9	82.4	48.5	72.8	97.0	121.3	38.1	57.1	76.1	95.1	82.8	123.7	130.0	130.0	65.3	98.0	130.0	130.0	124.0	130.0	130.0
48"		36.9	55.4	73.9	92.3	28.8	43.2	57.7	72.1	42.5	63.7	84.9	106.1	33.3	49.9	66.6	83.2	72.4	108.2	130.0	130.0	57.2	85.7	114.3	130.0	108.5	130.0	130.0
54"		32.8	49.2	65.7	82.1	25.6	38.4	51.2	64.1	37.7	56.6	75.5	94.3	29.6	44.4	59.2	74.0	64.4	96.2	128.7	130.0	50.8	76.2	101.6	127.0	96.4	130.0	130.0
60"		29.5	44.3	59.1	73.9	23.1	34.6	46.1	57.7	34.0	50.9	67.9	84.9	26.6	40.0	53.3	66.6	57.9	86.6	115.9	130.0	45.7	68.6	91.4	114.3	86.8	130.0	130.0
66"		26.9	40.3	53.7	67.1	21.0	31.4	41.9	52.4	30.9	46.4	61.8	77.3	24.3	36.4	48.5	60.6	52.7	79.0	105.4	130.0	41.5	62.2	83.0	103.7	78.9	118.3	130.0
72"		24.6	36.9	49.2	61.5	–	28.8	38.4	48.0	28.3	42.5	56.7	70.8	22.2	33.4	44.5	55.6	48.3	72.4	96.6	120.7	38.0	57.0	76.1	95.1	72.3	108.5	130.0
30"	90"	56.8	85.2	113.6	130.0	44.3	66.5	88.7	110.8	65.3	97.9	130.0	130.0	51.2	76.8	102.4	128.0	111.4	130.0	130.0	130.0	87.9	130.0	130.0	130.0	130.0	130.0	130.0
36"		47.3	71.0	94.6	118.3	36.9	55.4	73.9	92.4	54.4	81.6	108.8	130.0	42.7	64.0	85.3	106.7	92.8	130.0	130.0	130.0	73.2	109.9	130.0	130.0	130.0	130.0	130.0
42"		40.6	60.8	81.1	101.4	31.7	47.5	63.3	79.2	46.6	69.9	93.3	116.6	36.6	54.9	73.1	91.4	79.5	118.9	130.0	130.0	62.8	94.2	125.6	130.0	119.2	130.0	130.0
48"		35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	102.0	32.0	48.0	64.0	80.0	69.6	104.0	130.0	130.0	54.9	82.4	109.9	130.0	104.3	130.0	130.0
54"		31.5	47.3	63.1	78.9	24.6	36.9	49.3	61.6	36.3	54.4	72.5	90.7	28.4	42.7	56.9	71.1	61.9	92.4	123.7	130.0	48.8	73.2	97.7	122.1	92.7	130.0	130.0
60"		28.4	42.6	56.8	71.0	22.2	33.2	44.3	55.4	32.6	49.0	65.3	81.6	25.6	38.4	51.2	64.0	55.7	83.2	111.4	130.0	43.9	65.9	87.9	109.9	83.4	125.1	130.0
66"		25.8	38.7	51.6	64.5	20.2	30.2	40.3	50.4	29.7	44.6	59.4	74.3	23.3	35.0	46.6	58.3	50.6	76.0	101.3	126.6	39.9	59.8	79.7	99.7	75.8	113.7	130.0
72"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.9	54.5	68.1	21.4	32.1	42.7	53.4	46.4	69.6	92.8	116.0	36.6	54.8	73.1	91.4	69.5	104.3	130.0
30"	96"	53.2	79.9	106.5	130.0	41.6	62.3	83.1	103.9	61.2	91.8	122.4	130.0	48.0	72.0	96.0	120.0	104.4	130.0	130.0	130.0	82.4	123.6	130.0	130.0	130.0	130.0	130.0
36"		44.4	66.6	88.7	110.9	34.6	52.0	69.3	86.6	51.0	76.5	102.0	127.5	40.0	60.0	80.0	100.0	87.0	130.0	130.0	130.0	68.7	103.0	130.0	130.0	130.0	130.0	130.0
42"		38.0	57.0	76.1	95.1	29.7	44.5	59.4	74.2	43.7	65.6	87.4	109.3	34.3	51.4	68.6	85.7	74.6	111.4	130.0	130.0	58.9	88.3	117.7	130.0	111.7	130.0	130.0
48"		33.3	49.9	66.6	83.2	26.0	39.0	52.0	64.9	38.3	57.4	76.5	95.6	30.0	45.0	60.0	75.0	65.3	97.5	130.0	130.0	51.5	77.3	103.0	128.8	97.8	130.0	130.0
54"		29.6	44.4	59.2	73.9	23.1	34.6	46.2	57.7	34.0	51.0	68.0	85.0	26.7	40.0	53.3	66.7	58.0	86.7	116.0	130.0	45.8	68.7	91.6	114.4	86.9	130.0	130.0
60"		26.6	39.9	53.2	66.6	20.8	31.2	41.6	52.0	30.6	45.9	61.2	76.5	24.0	36.0	48.0	60.0	52.2	78.0	104.4	130.0	41.2	61.8	82.4	103.0	78.2	117.3	130.0
66"		24.2	36.3	48.4	60.5	–	28.3	37.8	47.2	27.9	41.8	55.7	69.6	21.9	32.8	43.7	54.6	47.5	71.2	94.9	118.7	37.4	56.1	74.8	93.5	71.1	106.6	130.0
72"		22.2	33.3	44.4	55.5	–	26.0	34.6	43.3	25.5	38.3	51.1	63.8	20.0	30.1	40.1	50.1	43.5	65.3	87.0	108.8	34.3	51.4	68.5	85.7	65.2	97.8	130.0
30"	98–1/2"	51.9	77.8	103.8	129.7	40.5	60.8	81.0	101.3	59.6	89.5	119.3	130.0	46.8	70.2	93.6	117.0	101.8	130.0	130.0	130.0	80.3	120.5	130.0	130.0	130.0	130.0	130.0
36"		43.2	64.9	86.5	108.1	33.8	50.6	67.5	84.4	49.7	74.6	99.4	124.3	39.0	58.5	78.0	97.5	84.8	126.7	130.0	130.0	66.9	100.4	130.0	130.0	127.0	130.0	130.0
42"		37.1	55.6	74.1	92.7	28.9	43.4	57.9	72.3	42.6	63.9	85.2	106.5	33.4	50.1	66.8	83.5	72.7	108.6	130.0	130.0	57.4	86.0	114.7	130.0	108.9	130.0	130.0
48"		32.4	48.6	64.9	81.1	25.3	38.0	50.6	63.3	37.3	55.9	74.6	93.2	29.2	43.9	58.5	73.1	63.6	95.0	127.2	130.0	50.2	75.3	100.4	125.5	95.3	130.0	130.0
54"		28.8	43.2	57.7	72.1	22.5	33.8	45.0	56.3	33.1	49.7	66.3	82.8	26.0	39.0	52.0	65.0	56.5	84.5	113.1	130.0	44.6	66.9	89.2	111.5	84.7	127.0	130.0
60"		25.9	38.9	51.9	64.9	20.3	30.4	40.5	50.6	29.8	44.7	59.6	74.6	23.4	35.1	46.8	58.5	50.9	76.0	101.8	127.2	40.2	60.2	80.3	100.4	76.2	114.3	130.0
66"		23.6	35.4	47.2	59.0	–	27.6	36.8	46.0	27.1	40.7	54.3	67.9	21.3	31.9	42.6	53.2	46.3	69.4	92.5	115.7	36.4	54.6	72.9	91.1	69.3	103.9	130.0
72"		21.6	32.4	43.2	54.1	–	25.3	33.8	42.2	24.9	37.3	49.8	62.2	–	29.3	39.0	48.8	42.4	63.6	84.8	106.0	33.4	50.1	66.8	83.5	63.5	95.3	127.0
30"	102"	50.1	75.2	100.2	125.3	39.1	58.7	78.2	97.8	57.6	86.4	115.2	130.0	45.2	67.8	90.4	112.9	98.3	130.0	130.0	130.0	77.6	116.3	130.0	130.0	130.0	130.0	130.0
36"		41.8	62.6	83.5	104.4	32.6	48.9	65.2	81.5	48.0	72.0	96.0	120.0	37.6	56.5	75.3	94.1	81.9	122.4	130.0	130.0	64.6	96.9	129.3	130.0	122.7	130.0	130.0
42"		35.8	53.7	71.6	89.5	27.9	41.9	55.9	69.8	41.1	61.7	82.3	102.9	32.3	48.4	64.5	80.7	70.2	104.9	130.0	130.0	55.4	83.1	110.8	130.0	105.1	130.0	130.0
48"		31.3	47.0	62.6	78.3	24.4	36.7	48.9	61.1	36.0	54.0	72.0	90.0	28.2	42.4	56.5	70.6	61.4	91.8	122.8	130.0	48.5	72.7	96.9	121.2	92.0	130.0	130.0
54"		27.8	41.8	55.7	69.6	21.7	32.6	43.5	54.3	32.0	48.0	64.0	80.0	25.1	37.6	50.2	62.7	54.6	81.6	109.2	130.0	43.1	64.6	86.2	107.7	81.8	122.7	130.0
60"		25.1	37.6	50.1	62.6	–	29.3	39.1	48.9	28.8	43.2	57.6	72.0	22.6	33.9	45.2	56.5	49.1	73.4	98.3	122.8	38.8	58.2	77.6	96.9	73.6	110.4	130.0
66"		22.8	34.2	45.6	56.9	–	26.7	35.6	44.4	26.2	39.3	52.4	65.5	20.6	30.9	41.1	51.4	44.7	67.0	89.4	111.7	35.2	52.8	70.4	88.0	66.9	100.4	130.0
72"		20.9	31.3	41.8	52.2	–	24.4	32.6	40.7	24.0	36.0	48.1	60.1	–	28.3	37.7	47.1	41.0	61.4	81.9	102.4	32.3	48.4	64.5	80.6	61.3	92.0	122.7
30"	108"	47.3	71.0	94.6	118.3	36.9	55.4	73.9	92.4	54.4	81.6	108.8	130.0	42.7	64.0	85.3	106.7	92.8	130.0	130.0	130.0	73.2	109.9	130.0	130.0	130.0	130.0	130.0
36"		39.4	59.2	78.9	98.6	30.8	46.2	61.6	77.0	45.3	68.0	90.7	113.3	35.6	53.3	71.1	88.9	77.3	115.6	130.0	130.0	61.0	91.6	122.1	130.0	115.9	130.0	130.0
42"		33.8	50.7	67.6	84.5	26.4	39.6	52.8	66.0	38.9	58.3	77.7	97.1	30.5	45.7	61.0	76.2	66.3	99.0	130.0	130.0	52.3	78.5	104.6	130.0	99.3	130.0	130.0
48"		29.6	44.4	59.2	73.9	23.1	34.6	46.2	57.7	34.0	51.0	68.0	85.0	26.7	40.0	53.3	66.7	58.0	86.7	116.0	130.0	45.8	68.7	91.6	114.4	86.9	130.0	130.0
54"		26.3	39.4	52.6	65.7	20.5	30.8	41.0	51.3	30.2	45.3	60.4	75.6	23.7	35.6	47.4	59.3	51.6	77.0	103.1	128.9	40.7	61.0	81.4	101.7	77.2	115.9	130.0
60"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.8	54.4	68.0	21.3	32.0	42.7	53.3	46.4	69.3	92.8	116.0	36.6	54.9	73.2	91.6	69.5	104.3	130.0
66"		21.5	32.3	43.0	53.8	–	25.2	33.6	42.0	24.8	37.1	49.5	61.9	–	29.1	38.9	48.6	42.2	63.3	84.4	105.5	33.2	49.8	66.5	83.1	63.2	94.8	126.4
72"		–	29.6	39.4	49.3	–	23.1	30.8	38.5	22.7	34.0	45.4	56.7	–	26.7	35.6	44.5	38.7	58.0	77.4	96.7	30.5	45.7	60.9	76.1	57.9	86.9	115.9

CHART CONTINUES NEXT SHEET

SEE SHEETS 5 AND 8 FOR ANCHOR DESCRIPTION.

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

ANCHORS

MAR 19 2024

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\W07-60ES

SERIES 8000 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	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		GENERAL REVISION
i	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

date: 08-03-07
scale: –
dr. by: TARIQ
chk. by:

drawing no. W07–60

sheet 5.1 of 12

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

NOMINAL DIMS.		ANCHORS TYPE 'A'								ANCHORS TYPE 'B'								ANCHORS TYPE 'C'								1/4" MAX. SHIM		
		3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				ANCHORS TYPE 'D'		
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A5	A2	A3	A4	A5	B2	B3	B4	B5	B2	B3	B4	B5	C2	C3	C4	C5	C2	C3	C4	C5	D2	D3	D4
30"	110–1/2"	46.3	69.4	92.5	115.6	36.1	54.2	72.2	90.3	53.2	79.8	106.3	130.0	41.7	62.6	83.4	104.3	90.7	130.0	130.0	130.0	71.6	107.4	130.0	130.0	130.0	130.0	130.0
36"		38.5	57.8	77.1	96.4	30.1	45.1	60.2	75.2	44.3	66.5	88.6	110.8	34.8	52.1	69.5	86.9	75.6	112.9	130.0	130.0	59.7	89.5	119.3	130.0	113.2	130.0	130.0
42"		33.0	49.6	66.1	82.6	25.8	38.7	51.6	64.5	38.0	57.0	76.0	94.9	29.8	44.7	59.6	74.5	64.8	96.8	129.6	130.0	51.1	76.7	102.3	127.8	97.1	130.0	130.0
48"		28.9	43.4	57.8	72.3	22.6	33.8	45.1	56.4	33.2	49.8	66.5	83.1	26.1	39.1	52.1	65.2	56.7	84.7	113.4	130.0	44.7	67.1	89.5	111.9	84.9	127.4	130.0
54"		25.7	38.5	51.4	64.2	20.1	30.1	40.1	50.1	29.5	44.3	59.1	73.8	23.2	34.8	46.3	57.9	50.4	75.3	100.8	126.0	39.8	59.7	79.5	99.4	75.5	113.2	130.0
60"		23.1	34.7	46.3	57.8	–	27.1	36.1	45.1	26.6	39.9	53.2	66.5	20.9	31.3	41.7	52.1	45.4	67.8	90.7	113.4	35.8	53.7	71.6	89.5	67.9	101.9	130.0
66"		21.0	31.5	42.0	52.6	–	24.6	32.8	41.0	24.2	36.3	48.4	60.5	–	28.5	38.0	47.5	41.2	61.9	82.5	103.1	32.5	48.7	65.0	81.2	61.8	92.6	123.5
72"		–	28.9	38.5	48.2	–	22.6	30.1	37.6	22.2	33.3	44.4	55.5	–	26.1	34.8	43.5	37.8	56.7	75.6	94.5	29.8	44.7	59.5	74.4	56.6	84.9	113.2
30"	114"	44.8	67.3	89.7	112.1	35.0	52.5	70.0	87.5	51.5	77.3	103.1	128.8	40.4	60.6	80.8	101.1	87.9	130.0	130.0	130.0	69.4	104.1	130.0	130.0	130.0	130.0	130.0
36"		37.4	56.0	74.7	93.4	29.2	43.7	58.3	72.9	42.9	64.4	85.9	107.4	33.7	50.5	67.4	84.2	73.3	109.5	130.0	130.0	57.8	86.7	115.6	130.0	109.8	130.0	130.0
42"		32.0	48.0	64.0	80.1	25.0	37.5	50.0	62.5	36.8	55.2	73.6	92.0	28.9	43.3	57.7	72.2	62.8	93.8	125.6	130.0	49.6	74.3	99.1	123.9	94.1	130.0	130.0
48"		28.0	42.0	56.0	70.1	21.9	32.8	43.7	54.7	32.2	48.3	64.4	80.5	25.3	37.9	50.5	63.2	54.9	82.1	109.9	130.0	43.4	65.1	86.7	108.4	82.3	123.5	130.0
54"		24.9	37.4	49.8	62.3	–	29.2	38.9	48.6	28.6	42.9	57.3	71.6	22.5	33.7	44.9	56.1	48.8	73.0	97.7	122.1	38.5	57.8	77.1	96.4	73.2	109.8	130.0
60"		22.4	33.6	44.8	56.0	–	26.2	35.0	43.7	25.8	38.7	51.5	64.4	20.2	30.3	40.4	50.5	44.0	65.7	87.9	109.9	34.7	52.0	69.4	86.7	65.9	98.8	130.0
66"		20.4	30.6	40.8	50.9	–	23.9	31.8	39.8	23.5	35.2	46.9	58.6	–	27.6	36.8	46.0	40.0	60.0	80.0	99.9	31.5	47.2	63.0	78.7	59.9	89.8	119.7
72"		–	28.0	37.4	46.7	–	21.9	29.2	36.5	21.5	32.3	43.0	53.8	–	25.3	33.7	42.2	36.6	55.0	73.3	91.6	28.9	43.3	57.7	72.1	54.9	82.3	109.8
30"	120"	42.6	63.9	85.2	106.5	33.2	49.9	66.5	83.1	49.0	73.4	97.9	122.4	38.4	57.6	76.8	96.0	83.5	124.8	130.0	130.0	65.9	98.9	130.0	130.0	125.1	130.0	130.0
36"		35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	102.0	32.0	48.0	64.0	80.0	69.6	104.0	130.0	130.0	54.9	82.4	109.9	130.0	104.3	130.0	130.0
42"		30.4	45.6	60.8	76.1	23.7	35.6	47.5	59.4	35.0	52.5	69.9	87.4	27.4	41.1	54.9	68.6	59.7	89.1	119.3	130.0	47.1	70.6	94.2	117.7	89.4	130.0	130.0
48"		26.6	39.9	53.2	66.6	20.8	31.2	41.6	52.0	30.6	45.9	61.2	76.5	24.0	36.0	48.0	60.0	52.2	78.0	104.4	130.0	41.2	61.8	82.4	103.0	78.2	117.3	130.0
54"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.8	54.4	68.0	21.3	32.0	42.7	53.3	46.4	69.3	90.0	90.0	36.6	54.9	73.2	90.0	69.5	90.0	90.0
60"		21.3	31.9	42.6	53.2	–	24.9	33.2	41.6	24.5	36.8	49.0	61.3	–	28.8	38.5	48.1	41.8	62.7	83.6	90.0	32.9	49.3	65.8	82.2	62.6	90.0	90.0
66"		–	29.0	38.7	48.4	–	22.7	30.2	37.8	22.3	33.4	44.6	55.7	–	26.2	35.0	43.7	38.0	57.0	76.0	90.0	29.9	44.9	59.8	74.8	56.9	85.3	90.0
72"		–	26.6	35.5	44.4	–	20.8	27.7	34.6	20.4	30.6	40.9	51.1	–	24.0	32.1	40.1	34.8	52.2	69.6	87.0	27.4	41.1	54.8	68.5	52.1	78.2	90.0
30"	126"	40.6	60.8	81.1	90.0	31.7	47.5	63.3	79.2	46.6	69.9	90.0	90.0	36.6	54.9	73.1	90.0	79.5	90.0	90.0	90.0	62.8	90.0	90.0	90.0	90.0	90.0	90.0
36"		33.8	50.7	67.6	84.5	26.4	39.6	52.8	66.0	38.9	58.3	77.7	90.0	30.5	45.7	61.0	76.2	66.3	90.0	90.0	90.0	52.3	78.5	90.0	90.0	90.0	90.0	90.0
42"		29.0	43.5	57.9	72.4	22.6	33.9	45.2	56.5	33.3	50.0	66.6	83.3	26.1	39.2	52.2	65.3	56.8	84.9	90.0	90.0	44.8	67.3	89.7	90.0	85.1	90.0	90.0
48"		25.4	38.0	50.7	63.4	–	29.7	39.6	49.5	29.1	43.7	58.3	72.9	22.9	34.3	45.7	57.1	49.7	74.3	90.0	90.0	39.2	58.9	78.5	90.0	74.5	90.0	90.0
54"		22.5	33.8	45.1	56.3	–	26.4	35.2	44.0	25.9	38.9	51.8	64.8	20.3	30.5	40.6	50.8	44.2	66.0	88.4	90.0	34.9	52.3	69.8	87.2	66.2	90.0	90.0
60"		20.3	30.4	40.6	50.7	–	23.7	31.7	39.6	23.3	35.0	46.7	58.4	–	27.5	36.6	45.8	39.8	59.7	79.6	90.0	31.3	47.0	62.7	78.3	59.6	89.4	90.0
30"	132"	38.7	58.1	77.4	90.0	30.2	45.3	60.5	75.6	44.5	66.8	89.0	90.0	34.9	52.4	69.8	87.3	75.9	90.0	90.0	90.0	59.9	89.9	90.0	90.0	90.0	90.0	90.0
36"		32.3	48.4	64.5	80.7	25.2	37.8	50.4	63.0	37.1	55.6	74.2	90.0	29.1	43.6	58.2	72.7	63.3	90.0	90.0	90.0	49.9	74.9	90.0	90.0	90.0	90.0	90.0
42"		27.7	41.5	55.3	69.1	21.6	32.4	43.2	54.0	31.8	47.7	63.6	79.5	24.9	37.4	49.9	62.3	54.2	81.0	90.0	90.0	42.8	64.2	85.6	90.0	81.2	90.0	90.0
48"		24.2	36.3	48.4	60.5	–	28.3	37.8	47.2	27.8	41.7	55.6	69.5	21.8	32.7	43.6	54.5	47.5	70.9	90.0	90.0	37.5	56.2	74.9	90.0	71.1	90.0	90.0
54"		21.5	32.3	43.0	53.8	–	25.2	33.6	42.0	24.8	37.1	49.5	61.9	–	29.1	38.9	48.6	42.2	53.3	84.4	90.0	33.2	49.8	66.5	83.1	63.2	90.0	90.0
60"		–	29.0	38.7	48.4	–	22.7	30.2	37.8	22.3	33.4	44.6	55.7	–	26.2	35.0	43.7	38.0	57.0	76.0	90.0	29.9	44.9	59.8	74.8	56.9	85.3	90.0
30"	138"	37.0	55.6	74.1	92.6	28.9	43.4	57.8	72.3	42.6	63.9	85.1	90.0	33.4	50.1	66.8	83.5	72.6	90.0	90.0	90.0	57.3	86.0	90.0	90.0	90.0	90.0	90.0
36"		30.9	46.3	61.7	77.2	24.1	36.1	48.2	60.2	35.5	53.2	71.0	88.7	27.8	41.7	55.7	69.6	60.5	90.0	90.0	90.0	47.8	71.7	90.0	90.0	90.0	90.0	90.0
42"		26.5	39.7	52.9	66.1	20.7	31.0	41.3	51.6	30.4	45.6	60.8	76.0	23.9	35.8	47.7	59.6	51.9	77.5	90.0	90.0	40.9	61.4	81.9	90.0	77.7	90.0	90.0
48"		23.1	34.7	46.3	57.9	–	27.1	36.1	45.2	26.6	39.9	53.2	66.5	20.9	31.3	41.7	52.2	45.4	67.8	90.0	90.0	35.8	53.7	71.7	89.6	68.0	90.0	90.0
54"		20.6	30.9	41.2	51.4	–	24.1	32.1	40.2	23.7	35.5	47.4	59.2	–	27.9	37.2	46.5	40.4	60.5	80.7	90.0	31.8	47.7	63.6	79.5	60.4	90.0	90.0
60"		–	27.8	37.0	46.3	–	21.7	28.9	36.1	21.3	32.0	42.6	53.3	–	25.1	33.4	41.8	36.3	54.5	72.7	90.0	28.6	42.9	57.2	71.5	54.4	81.6	90.0
30"	144"	35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	90.0	32.0	48.0	64.0	80.0	69.6	90.0	90.0	90.0	54.9	82.4	90.0	90.0	90.0	90.0	90.0
36"		29.6	44.4	59.2	73.9	23.1	34.6	46.2	57.7	34.0	51.0	68.0	85.0	26.7	40.0	53.3	66.7	58.0	86.7	90.0	90.0	45.8	68.7	90.0	90.0	86.9	90.0	90.0
42"		25.4	38.0	50.7	63.4	–	29.7	39.6	49.5	29.1	43.7	58.3	72.9	22.9	34.3	45.7	57.1	49.7	74.3	90.0	90.0	39.2	58.9	78.5	90.0	74.5	90.0	90.0
48"		22.2	33.3	44.4	55.5	–	26.0	34.6	43.3	25.5	38.3	51.0	63.8	20.0	30.0	40.0	50.0	43.5	65.0	87.0	90.0	34.3	51.5	68.7	85.8	65.2	90.0	90.0
54"		–	29.6	39.4	49.3	–	23.1	30.8	38.5	22.7	34.0	45.4	56.7	–	26.7	35.6	44.5	38.7	58.0	77.4	90.0	30.5	45.7	60.9	76.1	57.9	86.9	90.0
60"		–	26.6	35.5	44.4	–	20.8	27.7	34.6	20.4	30.6	40.9	51.1	–	24.0	32.1	40.1	34.8	52.2	69.6	87.0	27.4	41.1	54.8	68.5	52.1	78.2	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.
SEE SHEET 5 FOR ANCHOR TYPES.

MAR 19 2024

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami–Dade Product Control

ANCHORS

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\W07–60ES

SERIES 8000 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

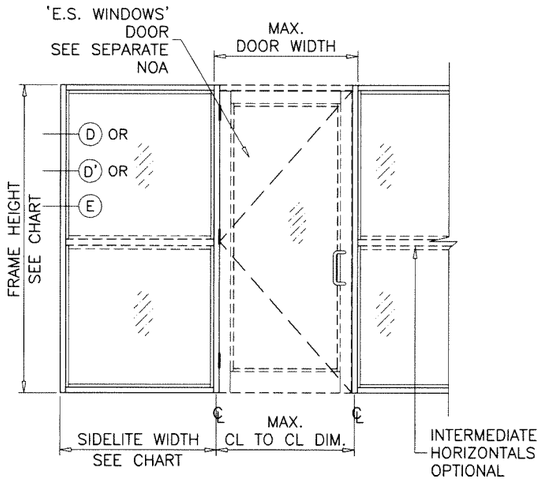
revisions:			
no	date	by	description
G	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		GENERAL REVISION
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

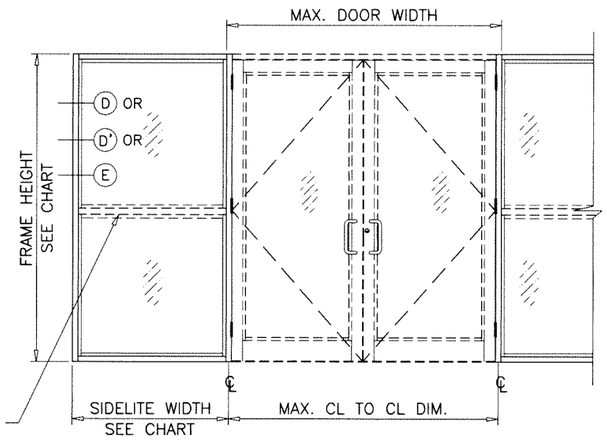
date: 08–03–07
scale: –
dr. by: TARIQ
chk. by:

drawing no. W07–60

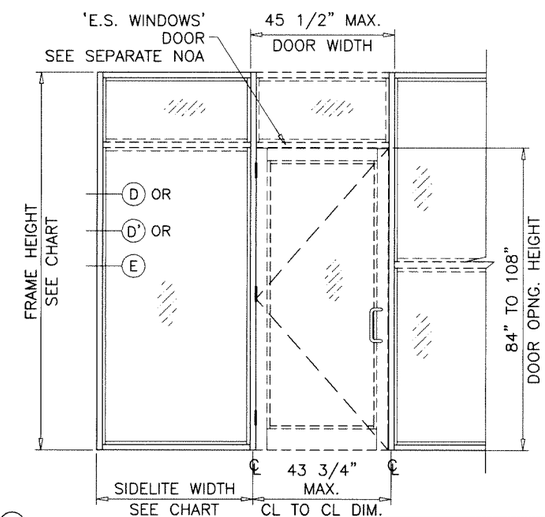
sheet 5.2 of 12

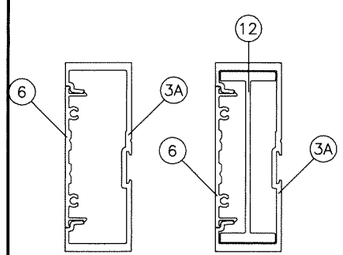
DOOR MULLION LOAD CAPACITY-PSF						
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1' EXT. (+) INT. (−)	JAMB 'JD1' MULL 'MD2' EXT. (+) INT. (−)	JAMB 'JD2' JAMB 'JD3' MULL 'MD3' EXT. (+) INT. (−)	JAMB 'JD3' MULL 'MD4' EXT. (+) INT. (−)	
32	86−1/2	120.0	120.0	120.0	120.0	
36		120.0	120.0	120.0	120.0	
42		120.0	120.0	120.0	120.0	
48		120.0	120.0	120.0	120.0	
54		120.0	120.0	120.0	120.0	
60		120.0	120.0	120.0	120.0	
32	98−1/2	112.6	120.0	120.0	120.0	MAX. DOOR WIDTH = 45−1/2" (X) 87−1/2" (XX)
36		107.1	120.0	120.0	120.0	
42		99.7	120.0	120.0	120.0	MAX. CL TO CL DIM. = 43−3/4" (X) 85−3/4" (XX)
48		93.3	120.0	120.0	120.0	
54		87.7	120.0	116.1	120.0	
32	110−1/2	79.8	120.0	118.5	120.0	
36		75.8	120.0	112.6	120.0	
42		70.6	113.6	104.9	120.0	
48		66.1	106.3	98.2	120.0	
32	120	−	−	−	90.0	MAX. DOOR WIDTH = 49−3/4" (X) 97−3/4" (XX)
36		−	−	−	90.0	
42		−	−	−	90.0	MAX. CL TO CL DIM. = 48" (X) 96" (XX)
48		−	−	−	85.1	





DOOR MULLION LOAD CAPACITY-PSF					
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1' MULL 'MD1' EXT. (+) INT. (−)	JAMB 'JD1' MULL 'MD2' EXT. (+) INT. (−)	JAMB 'JD2' JAMB 'JD3' MULL 'MD3' EXT. (+) INT. (−)	JAMB 'JD3' MULL 'MD4' EXT. (+) INT. (−)
32	98−1/2	90.0	90.0	90.0	90.0
36		90.0	90.0	90.0	90.0
42		90.0	90.0	90.0	90.0
48		90.0	90.0	90.0	90.0
54		87.7	90.0	90.0	90.0
32	110−1/2	79.8	90.0	90.0	90.0
36		75.8	90.0	90.0	90.0
42		70.6	90.0	90.0	90.0
48		66.1	90.0	90.0	90.0
32	114	72.6	90.0	90.0	90.0
36		69.1	90.0	90.0	90.0
42		64.3	90.0	90.0	90.0
48		60.2	90.0	90.0	90.0
32	120	62.3	90.0	90.0	90.0
36		59.2	90.0	90.0	90.0
42		55.2	88.7	89.1	90.0
48		51.6	83.0	83.4	90.0
32	144	−	−	−	90.0
36		−	−	−	89.8
42		−	−	−	83.6
48		−	−	−	78.3



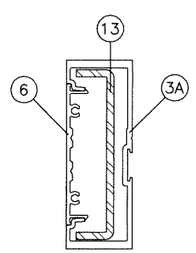


JAMB 'JD1'

Ix IN^4	Sx IN^3
6.570	2.7226

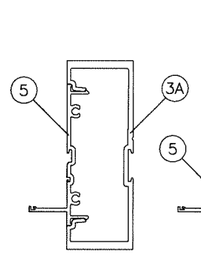
JAMB 'JD2'

Ix IN^4	Sx IN^3
10.6577	3.8057



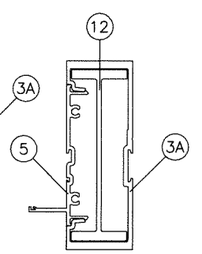
JAMB 'JD3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.570	2.7226
STEEL	2.7506	1.2224
TOTAL Ix ALUM + Ix STL X 2.9	14.5467	



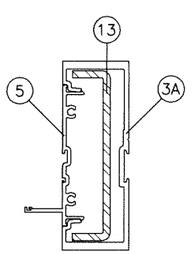
MULLION 'MD1'

Ix IN^4	Sx IN^3
6.7195	2.6757



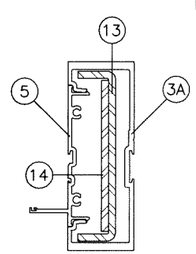
MULLION 'MD2'

Ix IN^4	Sx IN^3
10.8072	4.4788



MULLION 'MD3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.224
TOTAL Ix ALUM + Ix STL X 2.9	14.6962	



MULLION 'MD4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	

DOOR−WINDOWALL TRANSITION MULLION

MAR 19 2024

PRODUCT REVISED
As complying with the Florida Building Code
NOA−No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

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\W07−60ES

SERIES 8000 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	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		NO CHANGE THIS SHEET
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		GENERAL REVISION

date: 08−03−07
scale: −
dr. by: TARIQ
chk. by:

drawing no. W07−60

sheet 6 of 12

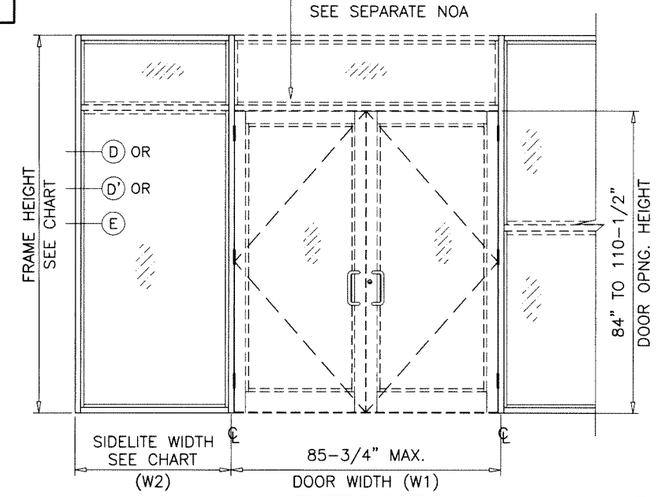
DOOR MULLION LOAD CAPACITY - PSF

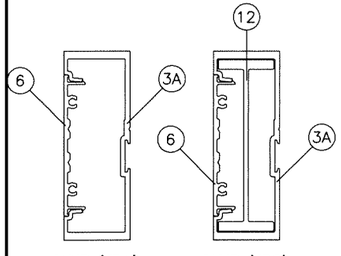
NOMINAL DIMS.				JAMB 'JD1' MULL 'MD1'	JAMB 'JD1' MULL 'MD2'	JAMB 'JD2' JAMB 'JD3' MULL 'MD3'	JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(−)	EXT.(+) INT.(−)	EXT.(+) INT.(−)	EXT.(+) INT.(−)
85−3/4	30	96	84	90.0	90.0	90.0	90.0
	36			90.0	90.0	90.0	90.0
	42			90.0	90.0	90.0	90.0
	48			90.0	90.0	90.0	90.0
	54			90.0	90.0	90.0	90.0
	60			85.7	90.0	90.0	90.0
	30	102		90.0	90.0	90.0	90.0
	36			86.9	90.0	90.0	90.0
	42			81.5	90.0	90.0	90.0
	48			76.7	90.0	90.0	90.0
	54			72.5	90.0	89.0	90.0
	30	108		74.2	90.0	90.0	90.0
	36			69.5	90.0	89.1	90.0
	42			65.4	90.0	84.4	90.0
	48			61.7	90.0	80.2	90.0
	30	114		60.2	90.0	81.7	90.0
	36			56.6	90.0	77.4	90.0
	42			53.3	85.8	73.4	87.8
	48			50.5	81.2	69.9	83.5
	30	120		49.7	80.0	71.9	85.9
	36			46.8	75.3	68.1	81.5
	42			44.2	71.2	64.8	77.4
	48			41.9	67.5	61.7	73.8
85−3/4	30	102	90	90.0	90.0	90.0	90.0
	36			90.0	90.0	90.0	90.0
	42			86.6	90.0	90.0	90.0
	48			81.2	90.0	90.0	90.0
	54			76.5	90.0	90.0	90.0
	30	108		79.3	90.0	90.0	90.0
	36			74.0	90.0	90.0	90.0
	42			69.3	90.0	88.9	90.0
	48			65.2	90.0	84.3	90.0
	30	114		63.9	90.0	85.6	90.0
	36			59.9	90.0	80.8	90.0
	42			56.3	90.0	76.5	90.0
	48			53.1	85.4	72.7	86.9
	30	120		52.4	84.2	74.5	89.1
	36			49.2	79.1	70.5	84.3
	42			46.3	74.5	66.9	80.0
	48			43.8	70.5	63.6	76.1

DOOR MULLION LOAD CAPACITY - PSF

NOMINAL DIMS.				JAMB 'JD1' MULL 'MD1'	JAMB 'JD1' MULL 'MD2'	JAMB 'JD2' JAMB 'JD3' MULL 'MD3'	JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(−)	EXT.(+) INT.(−)	EXT.(+) INT.(−)	EXT.(+) INT.(−)
85−3/4	30	108	96	84.6	90.0	90.0	90.0
	36			78.6	90.0	90.0	90.0
	42			73.4	90.0	90.0	90.0
	48			68.8	90.0	89.7	90.0
	30	114		68.2	90.0	90.0	90.0
	36			63.5	90.0	85.3	90.0
	42			59.5	90.0	80.6	90.0
	48			56.0	90.0	76.3	90.0
	30	120		55.5	89.3	78.0	90.0
	36			51.9	83.5	73.6	88.0
	42			48.8	78.5	69.7	83.3
	48			46.0	74.0	66.2	79.1
85−3/4	30	114	102	72.4	90.0	90.0	90.0
	36			67.2	90.0	90.0	90.0
	42			62.7	90.0	85.9	90.0
	48			58.8	90.0	81.1	90.0
	30	120		59.0	90.0	82.6	90.0
	36			55.0	88.4	77.7	90.0
	42			51.5	82.8	73.3	87.7
	48			48.4	77.8	69.4	83.0
85−3/4	30	120	110−1/2	63.7	90.0	90.0	90.0
	36			59.0	90.0	85.7	90.0
	42			55.0	88.4	80.4	90.0
	48			51.5	82.8	75.7	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



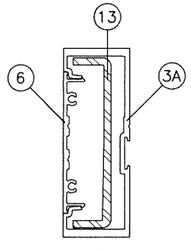


JAMB 'JD1'

Ix IN^4	Sx IN^3
6.570	2.7226

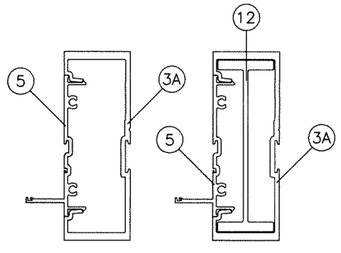
JAMB 'JD2'

Ix IN^4	Sx IN^3
10.6577	3.8057



JAMB 'JD3'

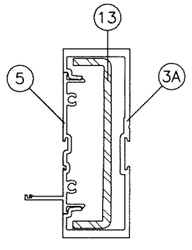
	Ix IN^4	Sx IN^3
ALUMINUM	6.570	2.7226
STEEL	2.7506	1.2224
TOTAL Ix ALUM + Ix STL X 2.9	14.5467	



MULLION 'MD1' MULLION 'MD2'

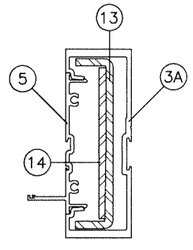
Ix IN^4	Sx IN^3
6.7195	2.6757

Ix IN^4	Sx IN^3
10.8072	4.4788



MULLION 'MD3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.224
TOTAL Ix ALUM + Ix STL X 2.9	14.6962	



MULLION 'MD4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

MAR 19 2024

DOOR-WINDOWALL TRANSITION MULLION

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\W07-60ES

SERIES 8000 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	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		NO CHANGE THIS SHEET
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

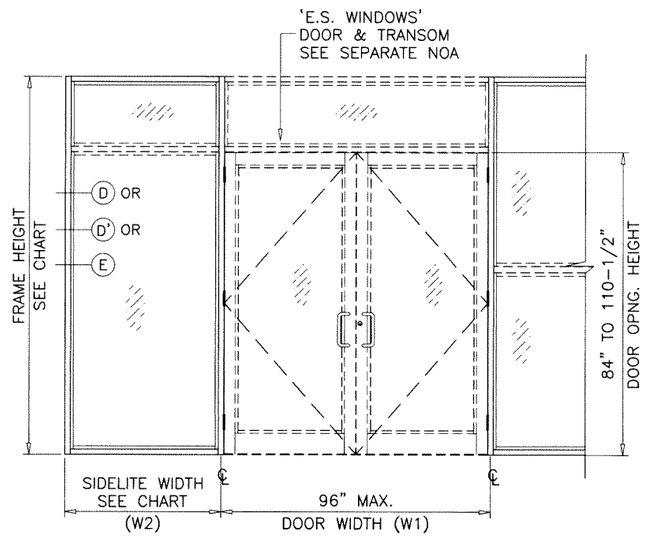
date: 08-03-07
scale: -
dr. by: TARIQ
chk. by:

drawing no. W07-60

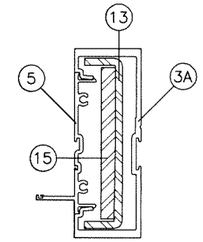
sheet 6.1 of 12

DOOR MULLION LOAD CAPACITY – PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
96	30	96	84	90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	60			90.0
	30	102		90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	30	108		90.0
	36			90.0
	42			90.0
	48			89.4
	30	114		90.0
	36			85.5
	42			81.5
	48			77.8
	30	120		79.1
	36			75.3
	42			71.8
	48			68.7
96	30	102	90	90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	30	108		90.0
	36			90.0
	42			90.0
	48			90.0
	30	114		90.0
	36			89.5
	42			85.1
	48			81.1
	30	120		82.1
	36			78.0
	42			74.3
	48			70.9

DOOR MULLION LOAD CAPACITY – PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
96	30	108	96	90.0
	36			90.0
	42			90.0
	48			90.0
	30	114		90.0
	36			90.0
	42			89.8
	48			85.3
	30	120		86.1
	36			81.6
	42			77.5
	48			73.9
96	30	114	102	90.0
	36			90.0
	42			90.0
	48			90.0
	30	120		90.0
	36			86.3
	42			81.8
	48			77.7
96	30	120	110–1/2	90.0
	36			90.0
	42			90.0
	48			85.1
96	30	144	108	57.0
	36			54.2
	42			51.6
	48			49.2

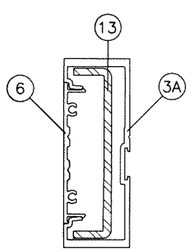


DOOR MULLION LOAD CAPACITY – PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD5'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
76	30	144	108	78.4
	36			73.8
	42			69.7
	48			66.1
84	30			73.1
	36			69.1
	42			65.5
	48			62.3
96	30			66.3
	36			63.0
	42			60.0
	48			57.3



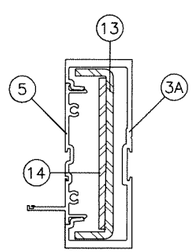
MULLION 'MD5'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	4.7506	2.1114
TOTAL Ix ALUM + Ix STL X 2.9	20.3598	



JAMB 'JD3'

	Ix IN^4	Sx IN^3
ALUMINUM	6.570	2.7226
STEEL	2.7506	1.2224
TOTAL Ix ALUM + Ix STL X 2.9	14.5467	



MULLION 'MD4'

	Ix IN^4	Sx IN^3
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami–Dade Product Control

MAR 19 2024

DOOR–WINDOWALL TRANSITION MULLION

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\W07-60ES

SERIES 8000 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	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		NO CHANGE THIS SHEET
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		GENERAL REVISION

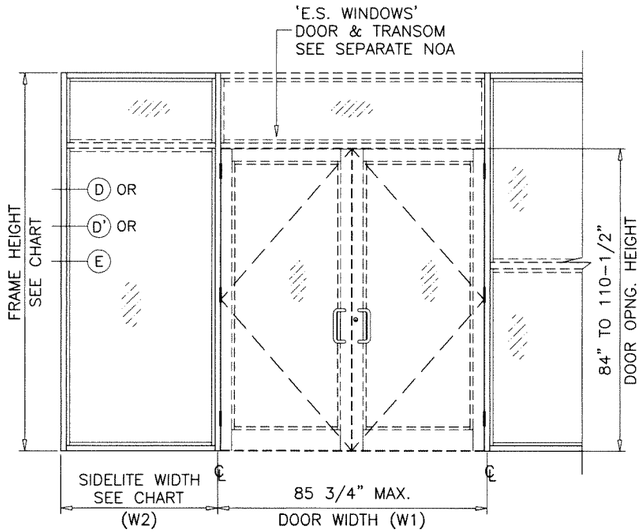
date: 08-03-07
scale: –
dr. by: TARIQ
chk. by:

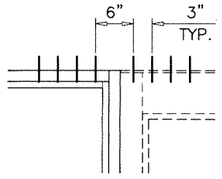
drawing no. W07–60

DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'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
	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
	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
	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
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
	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
	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
	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

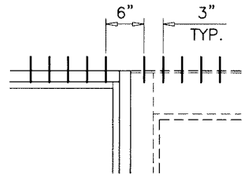
DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
85–3/4	30	108	96	79.2	90.0	90.0
	36			75.1	90.0	90.0
	42			71.5	89.3	90.0
	48			68.1	85.2	90.0
	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.

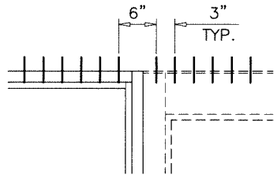




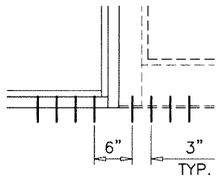
'C4'



'C5'



'C6'



'C4' AT SILL ALL CASES

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

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.

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami-Dade Product Control

MAR 19 2024

TRANSITION MULLION ANCHORS

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
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STORE\W07-60ES

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MIAMI, FL. 33142
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revisions:

no	date	by	description
G	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		NO CHANGE THIS SHEET
I	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

date: 08-03-07
scale: –
dr. by: TARIQ
chk. by:

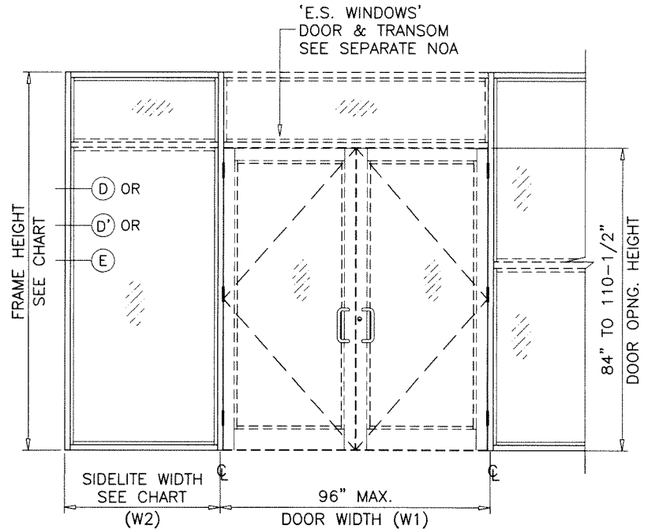
drawing no. W07–60

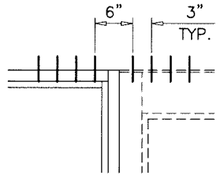
sheet 7 of 12

DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
96	30	96	84	82.4	90.0	90.0
	36			78.5	90.0	90.0
	42			74.9	90.0	90.0
	48			71.7	89.6	90.0
	54			68.7	85.8	90.0
	60			65.9	82.4	90.0
	30	102		79.2	90.0	90.0
	36			75.3	90.0	90.0
	42			71.8	89.8	90.0
	48			68.7	85.8	90.0
	54			65.8	82.2	90.0
	30	108		76.2	90.0	90.0
	36			72.4	90.0	90.0
	42			69.0	86.3	90.0
	48			65.9	82.4	90.0
	30	114		73.4	90.0	90.0
	36			69.8	87.2	90.0
	42			66.4	83.0	90.0
	48			63.4	79.2	90.0
	30	120		70.9	88.6	90.0
	36			67.3	84.1	90.0
	42			64.0	80.0	90.0
	48			61.0	76.3	90.0
96	30	102	90	77.3	90.0	90.0
	36			73.7	90.0	90.0
	42			70.3	87.9	90.0
	48			67.3	84.1	90.0
	54			64.5	80.6	90.0
	30	108		74.5	90.0	90.0
	36			70.9	88.6	90.0
	42			67.6	84.5	90.0
	48			64.6	80.8	90.0
	30	114		71.8	89.8	90.0
	36			68.3	85.4	90.0
	42			65.1	81.4	90.0
	48			62.2	77.7	90.0
	30	120		69.4	86.7	90.0
	36			65.9	82.4	90.0
	42			62.8	78.5	90.0
	48			59.9	74.9	89.9

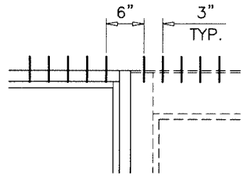
DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
96	30	108	96	72.8	90.0	90.0
	36			69.4	86.7	90.0
	42			66.3	82.8	90.0
	48			63.4	79.2	90.0
	30	114		70.3	87.9	90.0
	36			66.9	83.7	90.0
	42			63.8	79.8	90.0
	48			61.0	76.3	90.0
	30	120		68.0	84.9	90.0
	36			64.6	80.8	90.0
	42			61.6	77.0	90.0
	48			58.9	73.6	88.3
96	30	114	102	68.8	86.1	90.0
	36			65.6	82.0	90.0
	42			62.6	78.3	90.0
	48			59.9	74.9	89.9
	30	120		66.6	83.2	90.0
	36			63.4	79.2	90.0
	42			60.5	75.6	90.0
	48			57.8	72.3	86.7
96	30	120	110–1/2	64.7	80.9	90.0
	36			61.7	77.1	90.0
	42			58.9	73.7	88.4
	48			56.4	70.5	84.6
96	30	144	108	57.8	72.3	86.7
	36			54.9	68.7	82.4
	42			52.3	65.4	78.5
	48			49.9	62.4	74.9

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.





'C4'



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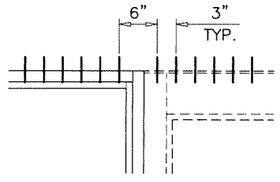

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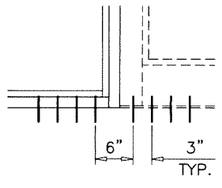

'C4' AT SILL ALL CASES

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

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.

PRODUCT REVISED
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Miami–Dade Product Control

MAR 19 2024

TRANSITION MULLION ANCHORS

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\W07-60ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (I.M.I.)

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3550 N.W. 49 STREET
MIAMI, FL. 33142
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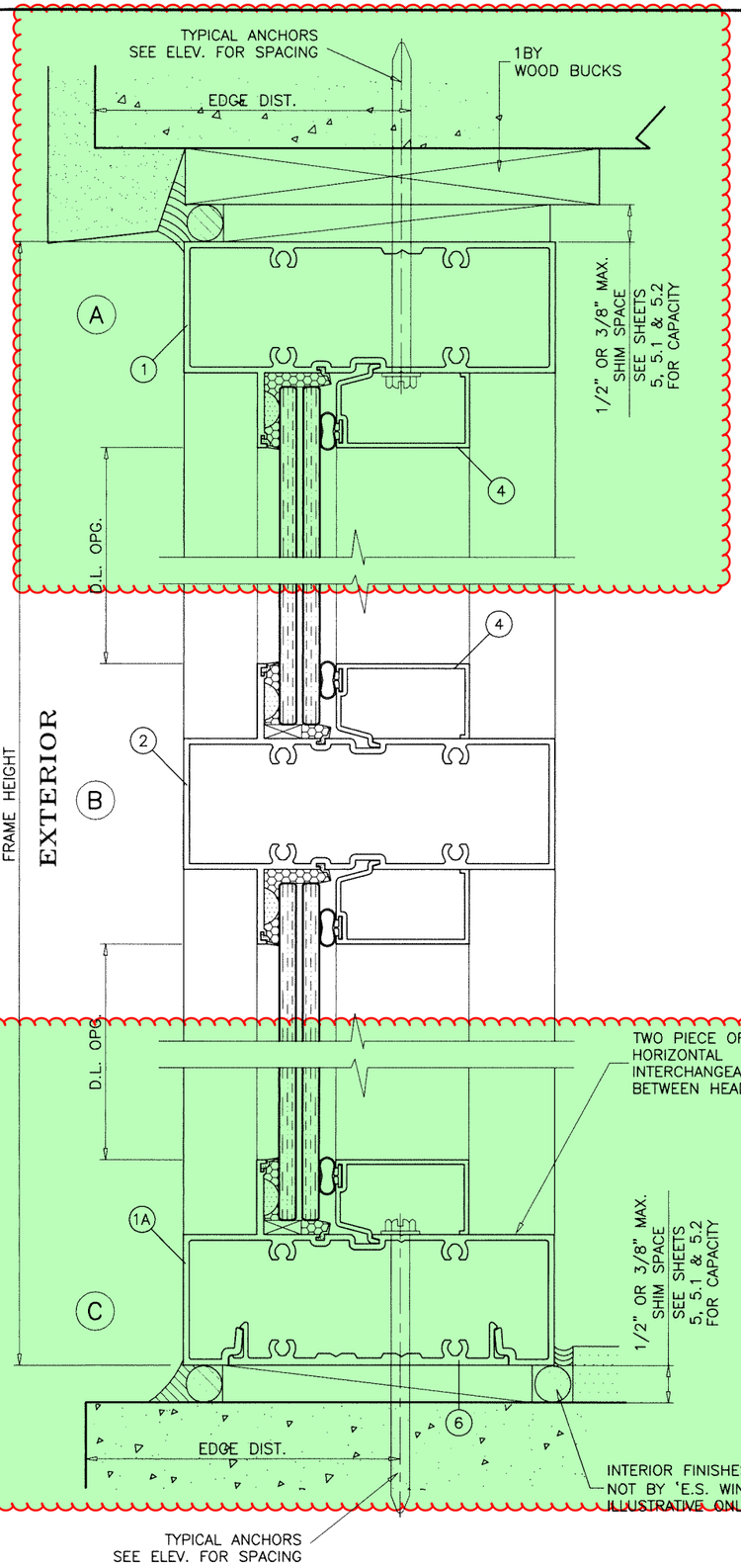
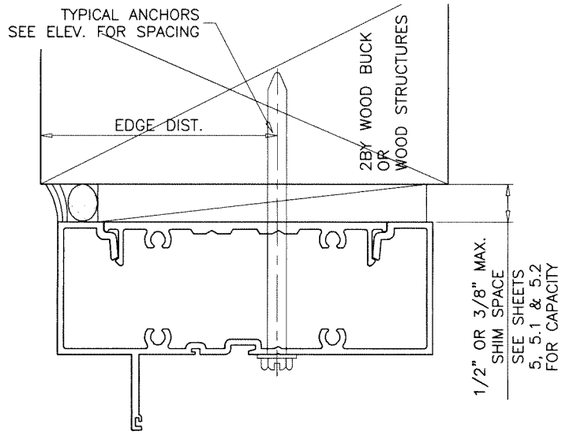
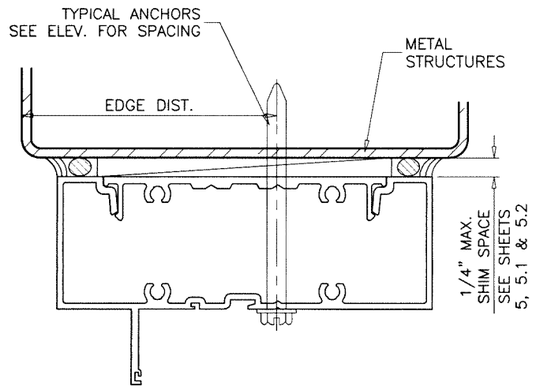
scale: –
dr. by: TARIQ
chk. by:

drawing no. W07–60

sheet 7.1 of 12







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
WITH 1–1/2" MIN. PENETRATION INTO WOOD

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

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

ANCHOR EDGE DISTANCES

INTO CONCRETE AND MASONRY = 2–1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.

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

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

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

ANCHOR EDGE DISTANCES

INTO CONCRETE AND MASONRY = 3" 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
WITH 1–1/2" MIN. PENETRATION INTO WOOD

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

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

ANCHOR EDGE DISTANCES

INTO CONCRETE AND MASONRY = 3" MIN.
INTO WOOD STRUCTURE = 1–1/4" MIN.

TYPE 'D'– 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST (GRADE 5 CRS)
INTO METAL STRUCTURES
(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 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

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SEALANTS:

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

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

MAR 19 2024

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STORE\W07-60ES

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chk. by:

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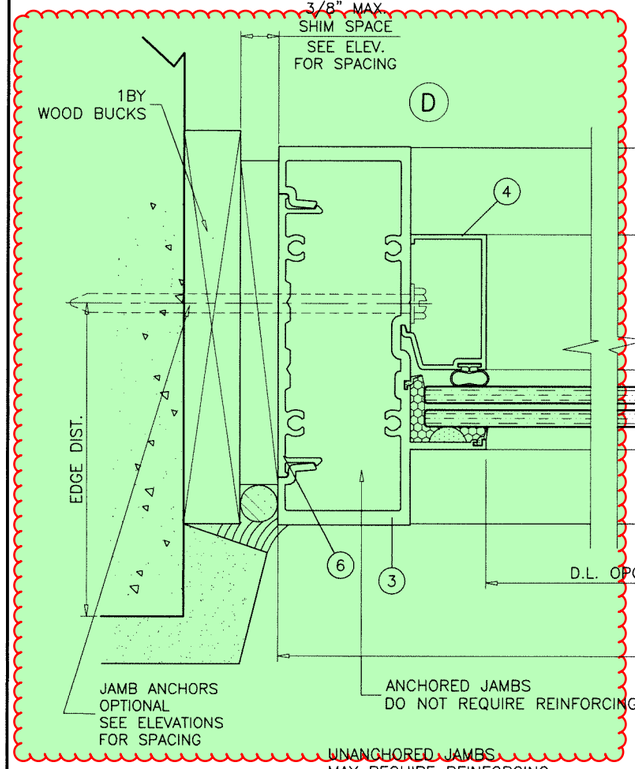
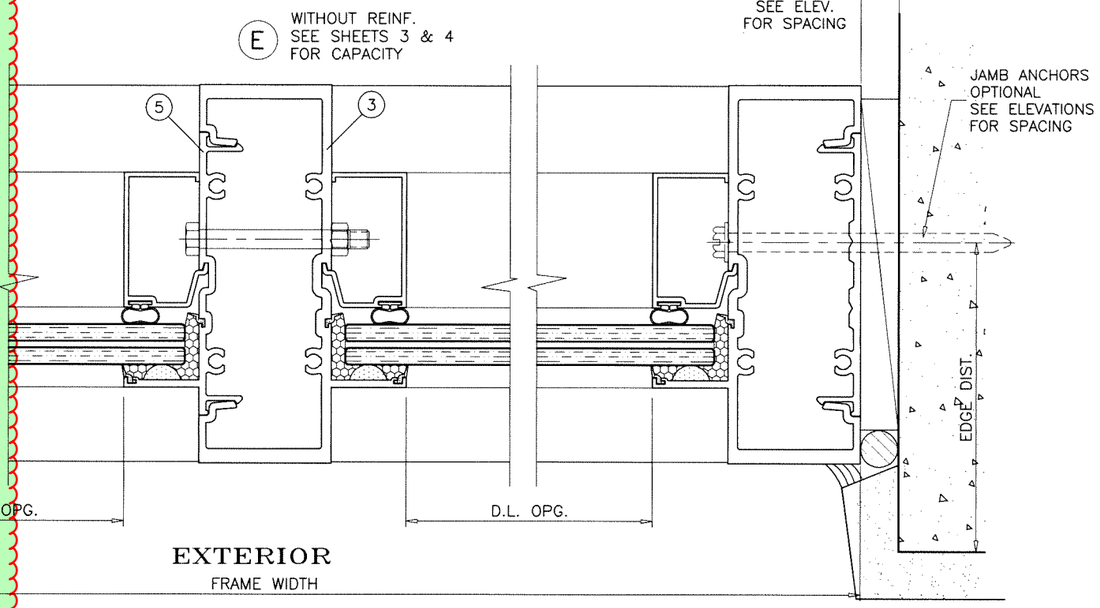
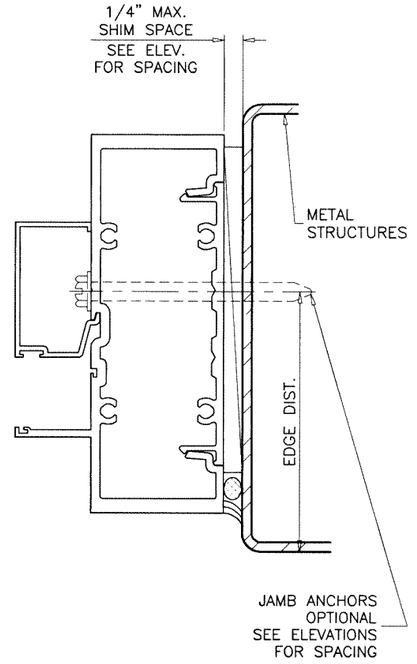
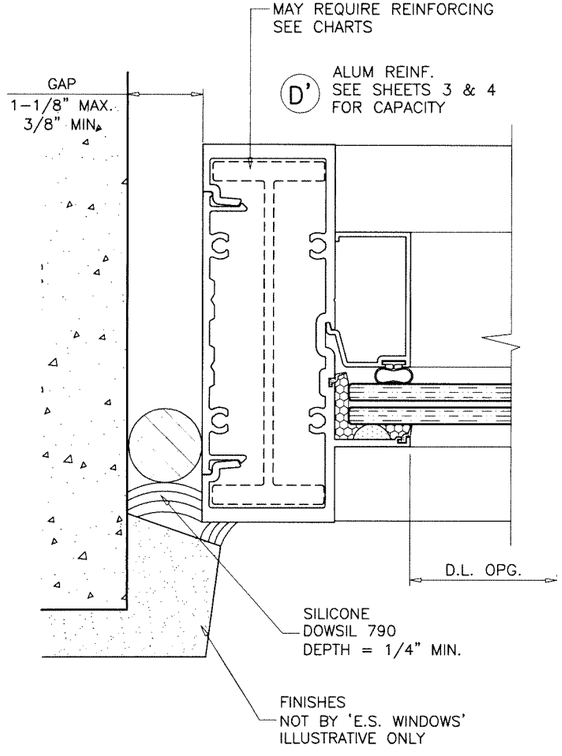
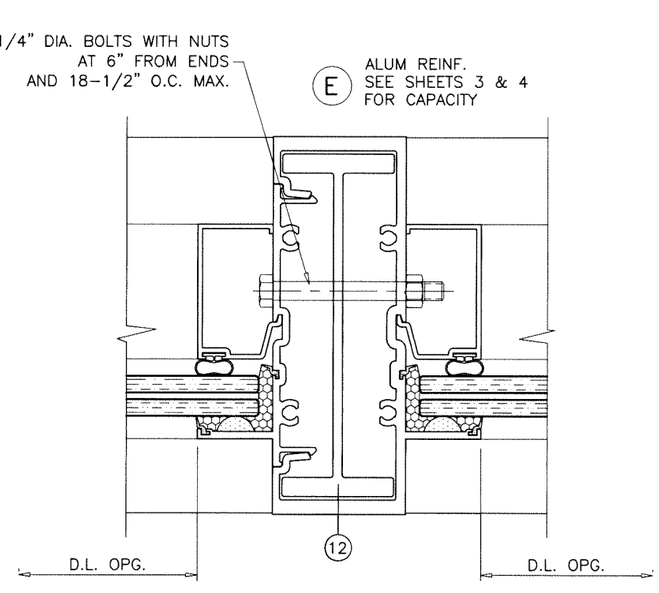
sheet 8 of 12

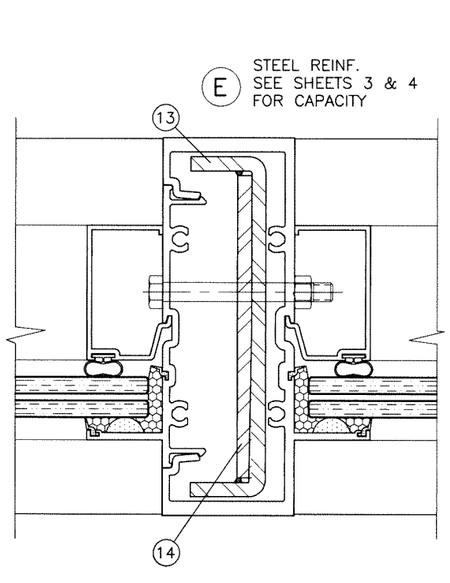












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Miami-Dade Product Control

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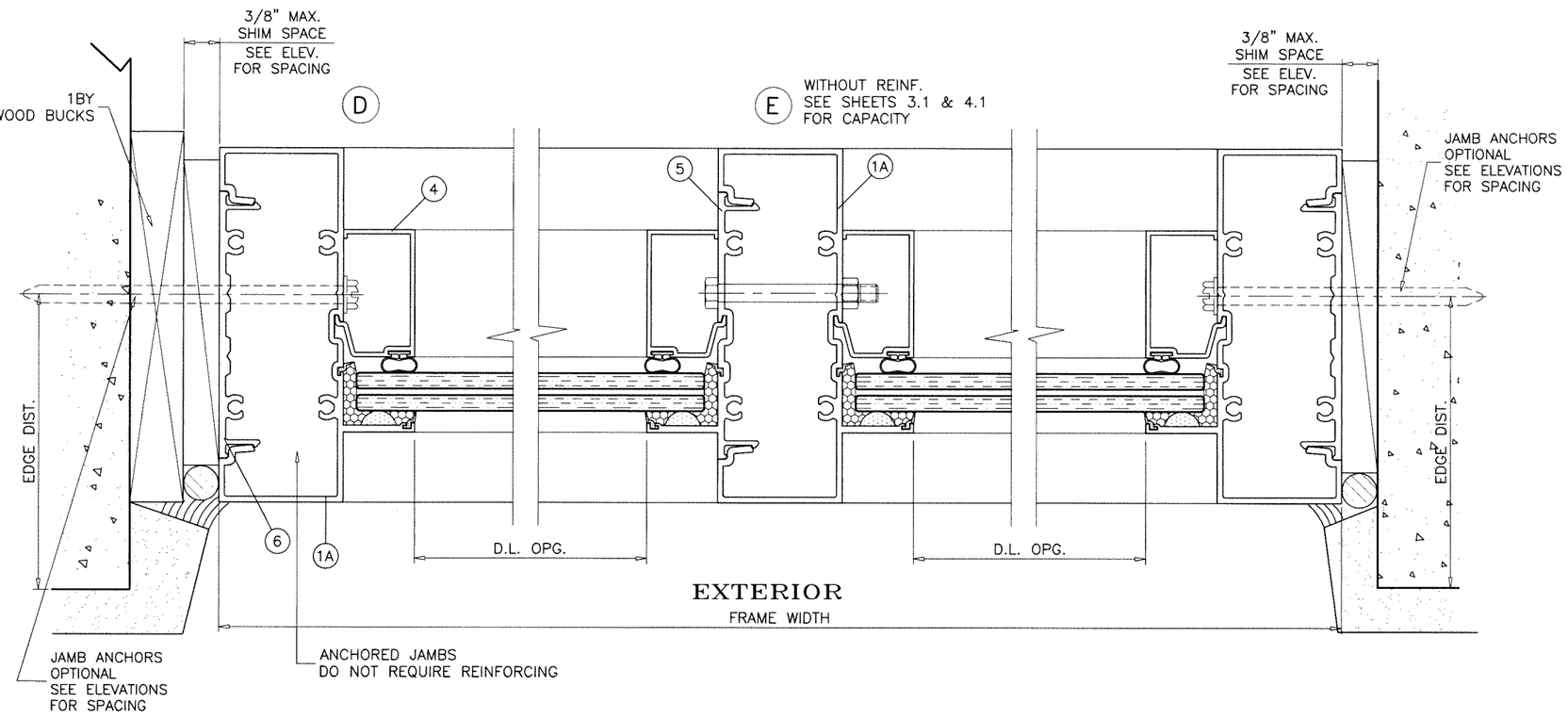

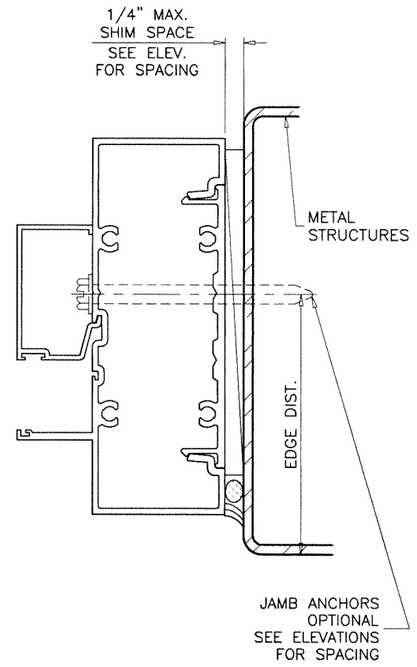

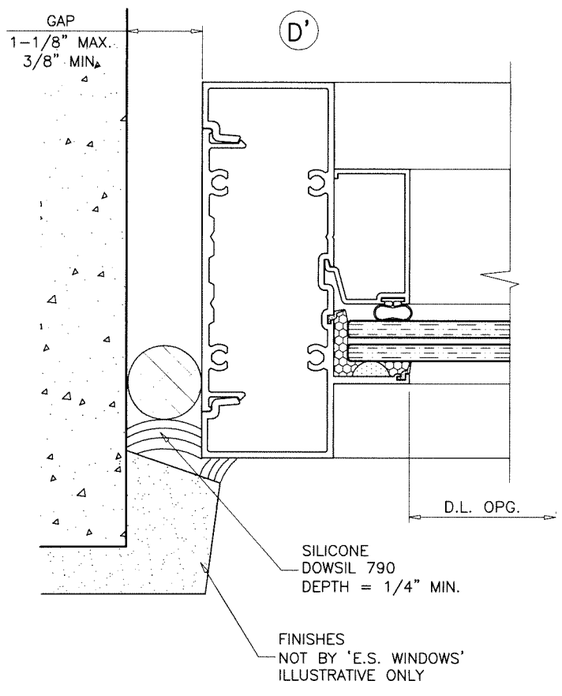

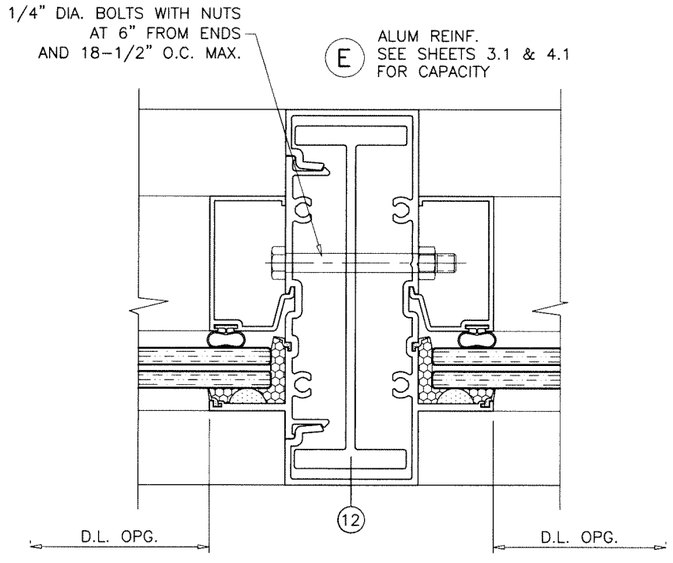

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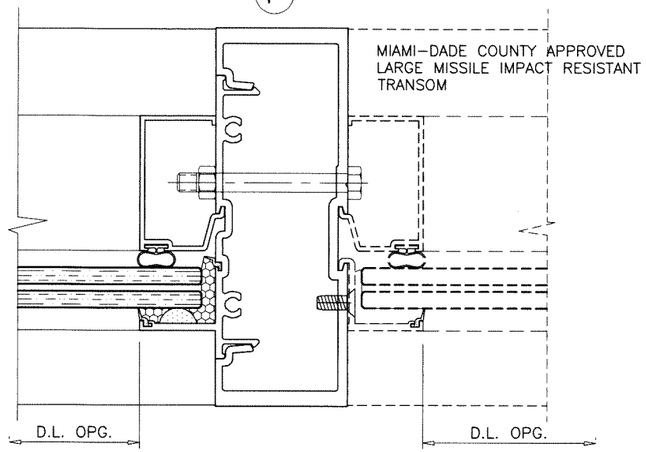
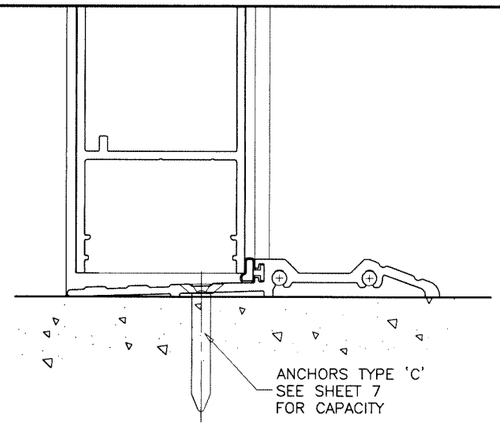
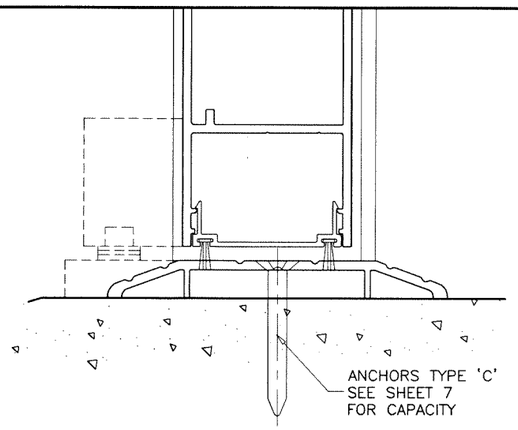
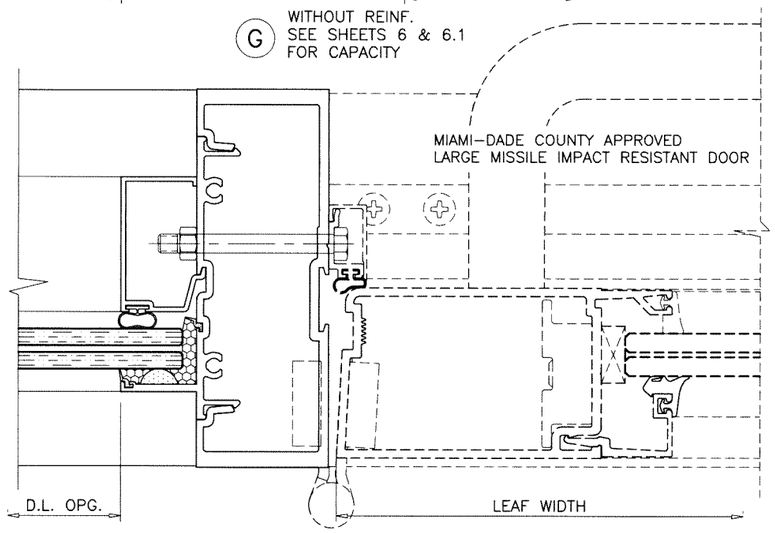






G WITHOUT REINF.
SEE SHEETS 6 & 6.1
FOR CAPACITY



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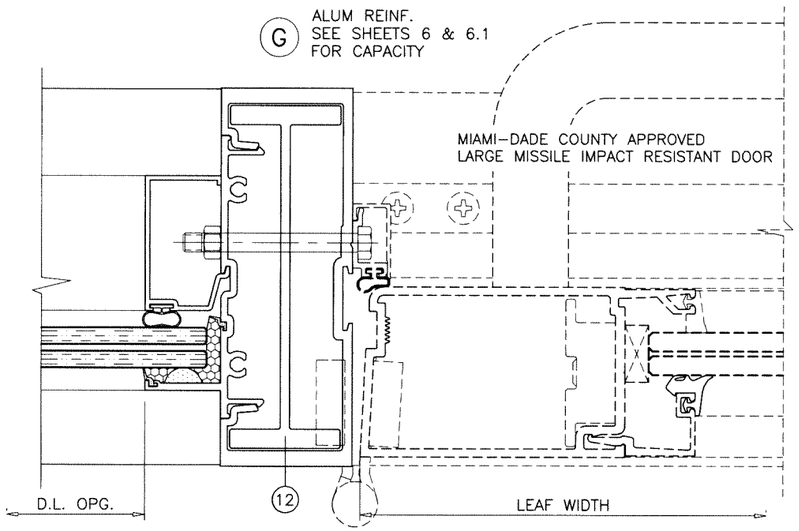

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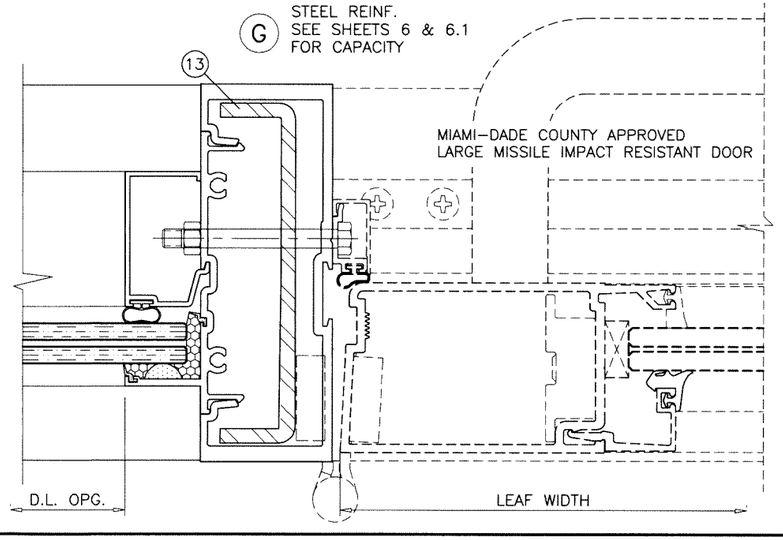

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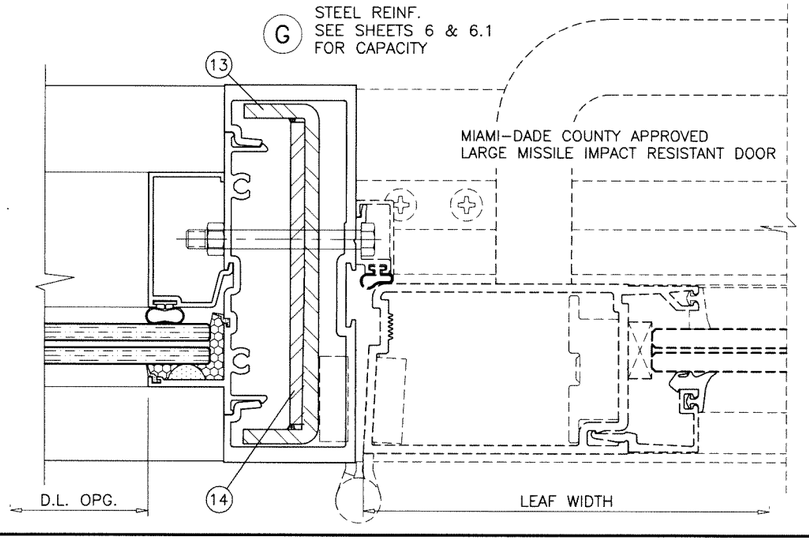

SEE SEPARATE NOA FOR DESIGN LOAD CAPACITY OF DOORS AND DOOR ANCHORS.

LOWER VALUES FROM DOORS NOA OR STOREFRONT SYSTEM CAPACITY CHARTS WILL APPLY TO ENTIRE SYSTEM.

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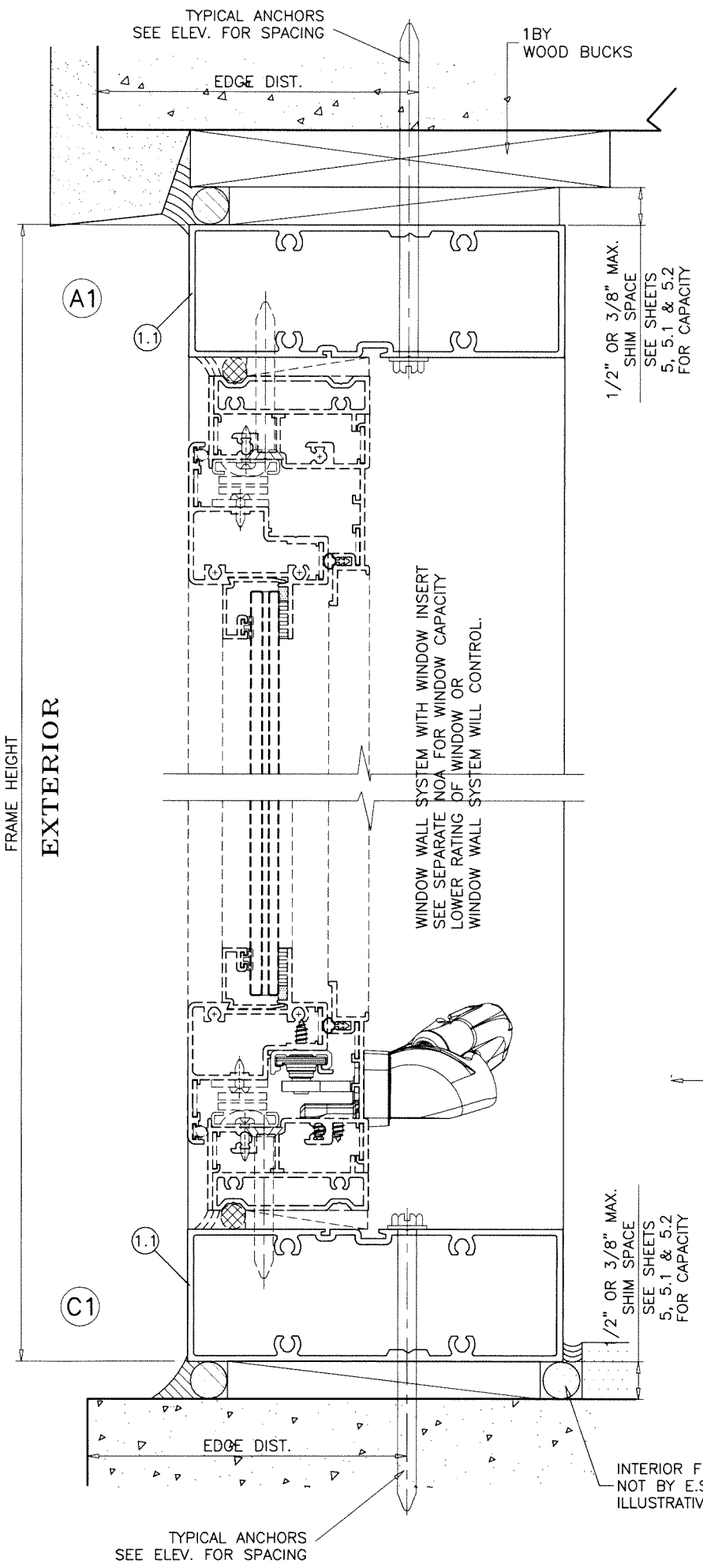

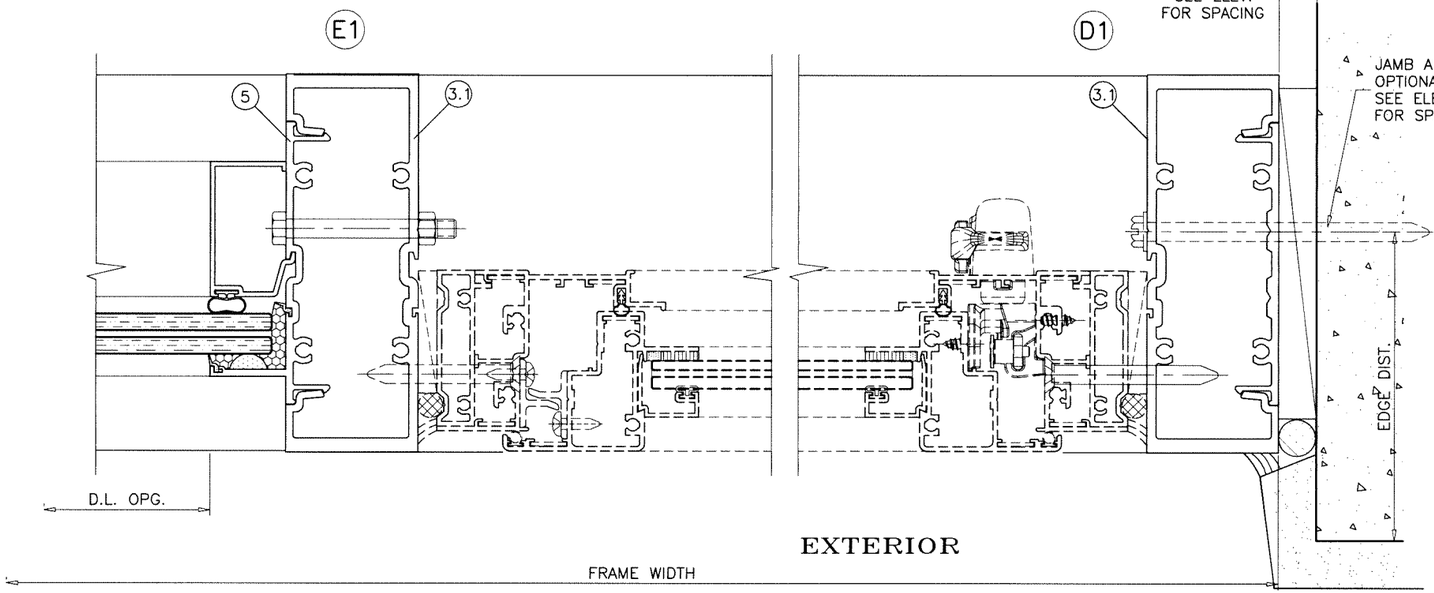

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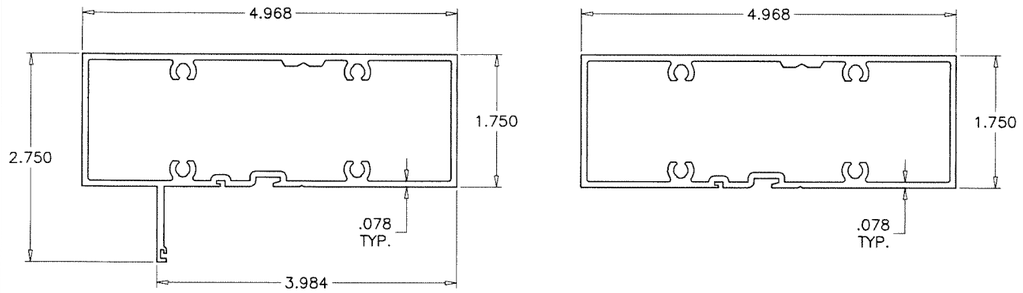
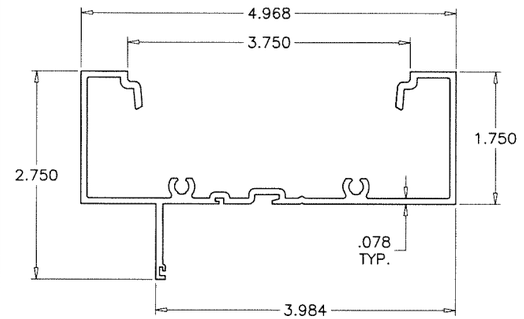
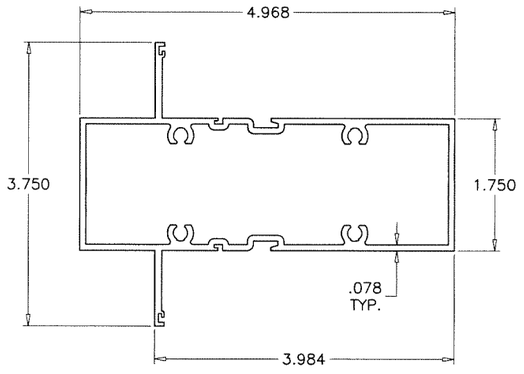


1 HOLLOW FRAME HEAD/SILL

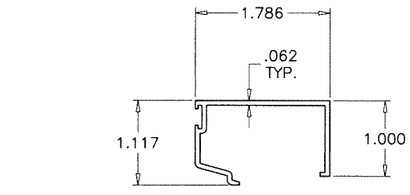
1.1



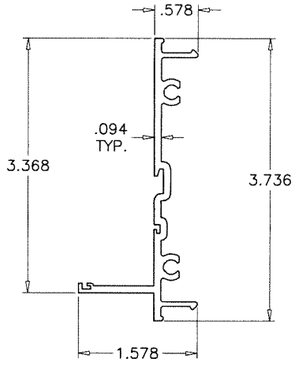
1A FRAME HEAD/SILL/JAMB/MULLION



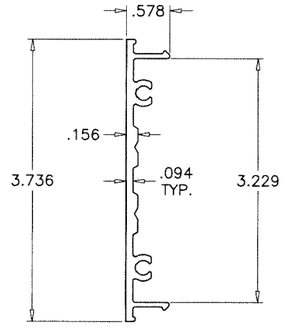
2 INTERMEDIATE HORIZONTAL



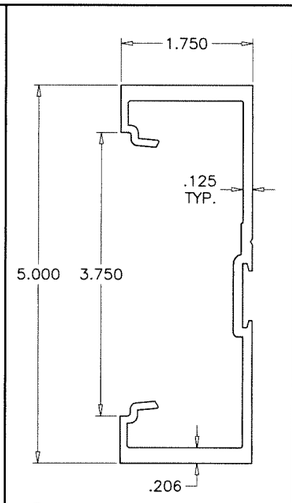
4 GLASS STOP



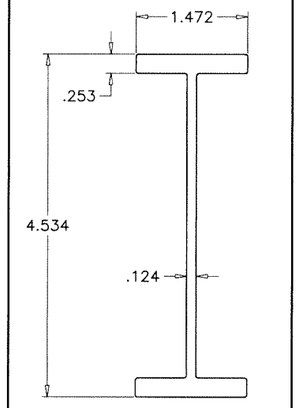
5 MULLION SNAP–IN MATE



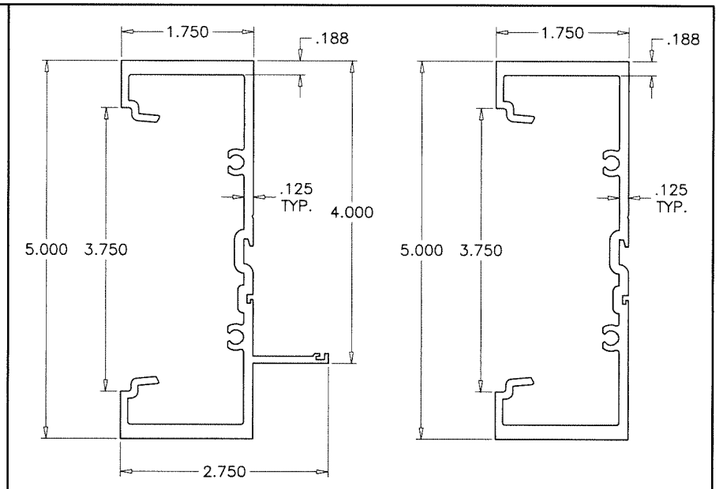
6 SHEAR CLIP



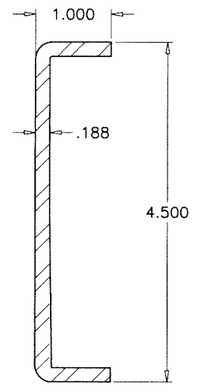
3A DOOR MULLION



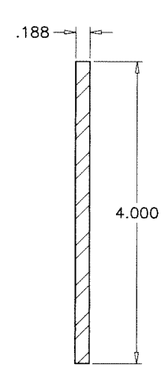
12 STIFFENER



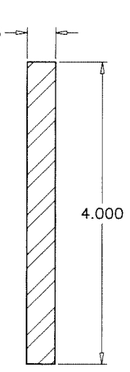
3 FRAME JAMB/MULLION 3.1



13 STEEL REINFORCING
36 KSI MIN.



14



15

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	ES8005	AS REQD.	HOLLOW FRAME HEAD/SILL	6005–T5	–
1.1	ES8005	AS REQD.	HOLLOW FRAME HEAD/SILL (TRIMMED)	6005–T5	–
1A	ES8007	AS REQD.	FRAME HEAD/SILL/JAMB/MULLION	6063–T6	–
2	ES8004	AS REQD.	INTERMEDIATE HORIZONTAL	6063–T6	–
3	ES8001	AS REQD.	FRAME JAMB/MULLION	6005–T5	–
3.1	ES8001	AS REQD.	FRAME JAMB/MULLION (TRIMMED)	6005–T5	–
3A	ES8012	AS REQD.	DOOR MULLION	6005–T5	–
4	ES8006	AS REQD.	GLASS STOP	6063–T5	–
5	ES8002	AS REQD.	MULLION SNAP–IN MATE	6005–T5	–
6	ES8003	AS REQD.	SHEAR CLIP	6005–T5	–
7	–	AS REQD.	INTERIOR BULB GASKET	VINYL	–
8	ES8009	AS REQD.	SILICONE STOP	VINYL	–
8A	ES–8011A	AS REQD.	1/4" BUTTON BUMPER SPACER	SILICONE	DUROMETER 85±5 SHORE A
9	–	–	FRAME JAMB/MULLION	–	–
10	–	2/ LITE	3/16" X 1/2" X 2" LONG SETTING BLOCK, AT 1/4" POINTS	EPDM	DUROMETER 85±5 SHORE A
11	#12 X 1–1/2"	4/ CORNER	ASSEMBLY SCREWS PHSMS	STEEL	–
12	–	AS REQD.	MULLION STIFFENER	6005–T5	–
13	–	AS REQD.	MULLION REINFORCING CHANNEL	STEEL	–
14	–	AS REQD.	MULLION REINFORCING BAR (3/16" X 4")	STEEL	–
15	–	AS REQD.	MULLION REINFORCING BAR (3/8" X 4")	STEEL	–

PRODUCT REVISED
As complying with the Florida Building Code
NOA–No. 24-0321.07
Expiration Date: 04/03/2028
By: Manuel Perez
Miami–Dade Product Control

MAR 19 2024

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\W07-60ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

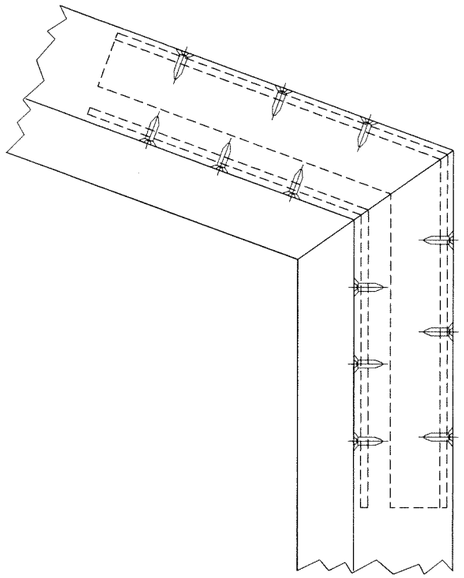
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

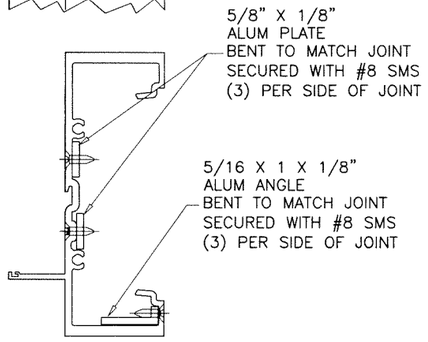
revisions:			
no	date	by	description
G	11.12.20		UPDATED TO 2020 FBC
H	05.10.21		GENERAL REVISION
i	07.18.23		NO CHANGE THIS SHEET
J	03.11.24		NO CHANGE THIS SHEET

date: 08–03–07
scale: 1/2" = 1"
dr. by: TARIQ
chk. by:

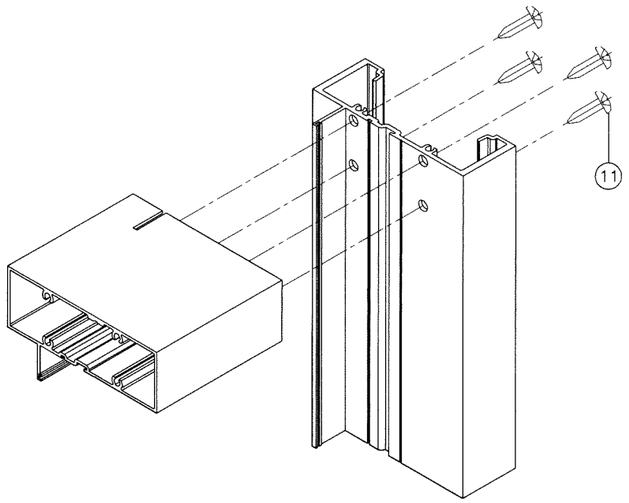
drawing no.
W07–60

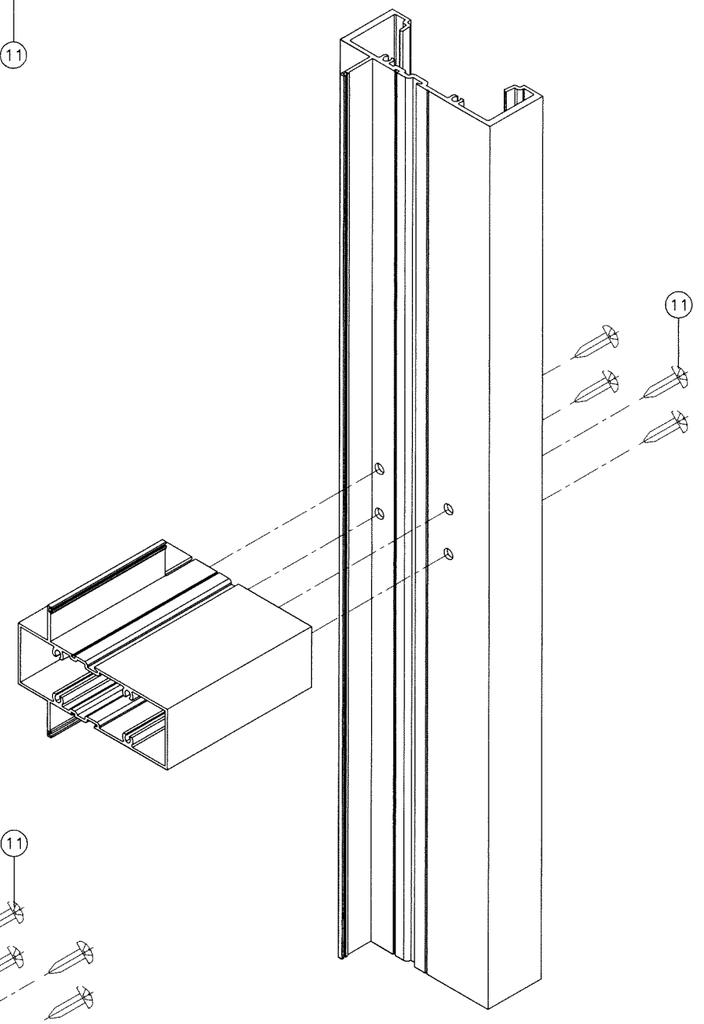
sheet 11 of 12



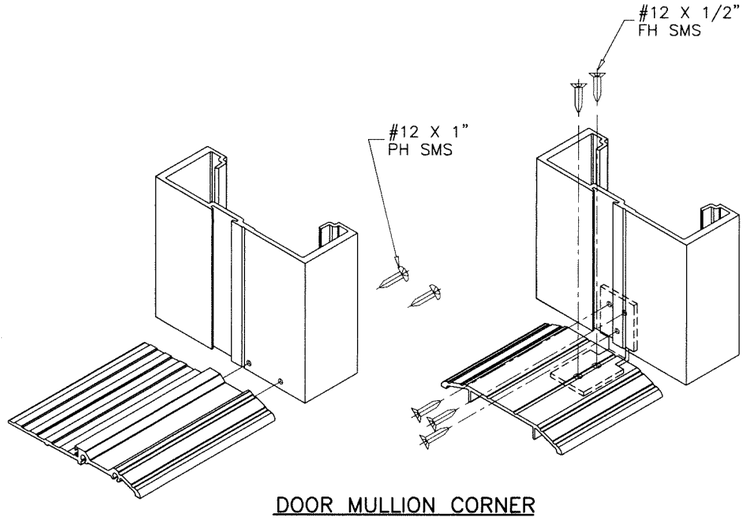


CIRCULAR OR ANGLED CORNERS

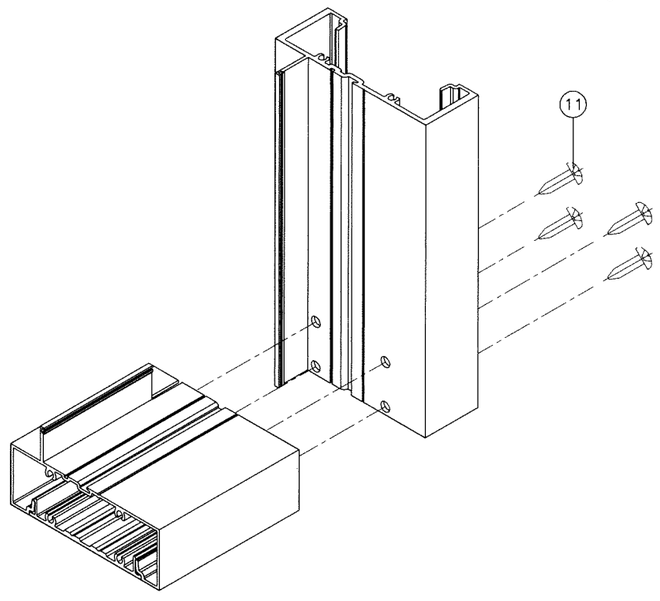




HORIZONTAL CORNER



DOOR MULLION CORNER



RECT. OR SQUARE CORNERS

PRODUCT REVISED
As complying with the Florida Building Code
NOA-No. 24-0321.07
Expiration Date: 04/03/2028
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sheet 12 of 12