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)

Eco Window Systems, LLC
8502 NW 80 Street
Medley, FL 33166

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 "ECO-450" Aluminum Window Wall System w/wo Reinforcement – S.M.I.

APPROVAL DOCUMENT: Drawing No. **21-26D**, titled "Series 450 Alum. Window Wall System (S.M.I.)" sheets 1, 2, 3, 4, 5, 6, 6.1, 7 and 8 of 8, dated 03/22/21, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E., bearing the Miami-Dade County Product Control Approval Stamp with the Notice of Acceptance number and approval date by the Miami–Dade County Product Control Section.

MISSILE IMPACT RATING: Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, 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 consists of this page 1 and evidence pages E-1, E-2, E-3 and E-4, as well as approval document mentioned above.

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

MIAMI-DADE COUNTY APPROVED

7/30/21

Eco Window Systems, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.

2. Drawing No. **21-26D**, titled "Series 450 Alum. Window Wall System (S.M.I.)" sheets 1, 2, 3, 4, 5, 6, 5.1, 7 and 8 of 8, dated 03/22/21, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.

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 TAS 202-94
5) Drop Load Test, per ANSI Z97.1, Class A, 400 ft-lb energy impact.
along with marked-up drawings and installation diagram of a series 250 HR alum. horizontal rolling window over a series 450 WW alum. window wall system (mockup #1), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8015**, dated 03/31/20, signed and sealed by Rafael E. Droz-Seda, P.E.

2. Test reports on: 1) Small Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
3) Drop Load Test, per ANSI Z97.1, Class A, 400 ft-lb energy impact.
along with marked-up drawings and installation diagram of a series 250 HR alum. horizontal rolling window over a series 450 WW alum. window wall system (mockup #2), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8029**, dated 03/05/20, signed and sealed by Rafael E. Droz-Seda, P.E.

3. Test reports on: 1) Small Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series 250 HR alum. horizontal rolling window (mockup #3), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8030**, dated 03/05/20, signed and sealed by Rafael E. Droz-Seda, P.E.

4. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series 250 HR alum. horizontal rolling window over a series 450 WW alum. window wall system (mockup #4), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8017**, dated 02/18/20, signed and sealed by Rafael E. Droz-Seda, P.E.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 21-0419.05
Expiration Date: October 02, 2025
Approval Date: August 05, 2021

B. TESTS (CONTINUED)

5. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
3) Drop Load Test, per ANSI Z97.1, Class A, 400 ft-lb energy impact.
along with marked-up drawings and installation diagram of a series 250 HR alum. horizontal rolling window over a series 450 WW alum. window wall system (mockup #5), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8027**, dated 03/04/20, signed and sealed by Rafael E. Droz-Seda, P.E.

6. Test reports on: 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of a series 250 HR alum. horizontal rolling window over a series 450 WW alum. window wall system (mockup #6), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8028**, dated 03/04/20, signed and sealed by Rafael E. Droz-Seda, P.E.

7. 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 450 WW alum. window wall system (mockup #7), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8032**, dated 03/06/20, signed and sealed by Rafael E. Droz-Seda, P.E.

8. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
2) Small 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 450 WW alum. window wall system (mockup #8), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8040**, dated 03/26/20, signed and sealed by Rafael E. Droz-Seda, P.E.

9. 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) Small 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 250 HR alum. horizontal rolling window over a series 450 WW alum. window wall system (mockup #9), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8098**, dated 12/07/20, signed and sealed by Rafael E. Droz-Seda, P.E.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 21-0419.05
Expiration Date: October 02, 2025
Approval Date: August 05, 2021

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

B. TESTS (CONTINUED)

10. 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) Small Missile Impact Test per FBC, TAS 201-94
6) Cyclic Wind Pressure Loading per FBC, TAS 203-94
7) Drop Load Test, per ANSI Z97.1, Class A, 400 ft-lb energy impact.
along with marked-up drawings and installation diagram of a series 450 WW alum. window wall system (mockup #10), prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-20-8100**, dated 12/08/20, signed and sealed by Rafael E. Droz-Seda, P.E.

11. 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, Class A, 400 ft-lb energy impact.
along with marked-up drawings and installation diagram of a series 450 aluminum window wall system w/entrance door, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-9911**, dated 01/18/18, signed and sealed by Idalmis Ortega, P.E.
(For reference only - Submitted under NOA No. 20-0128.02)

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC 7th Edition (2020)**, dated 03/04/21, 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, P.E.
Product Control Examiner
NOA No. 21-0419.05
Expiration Date: October 02, 2025
Approval Date: August 05, 2021

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

E. MATERIAL CERTIFICATIONS

1. 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

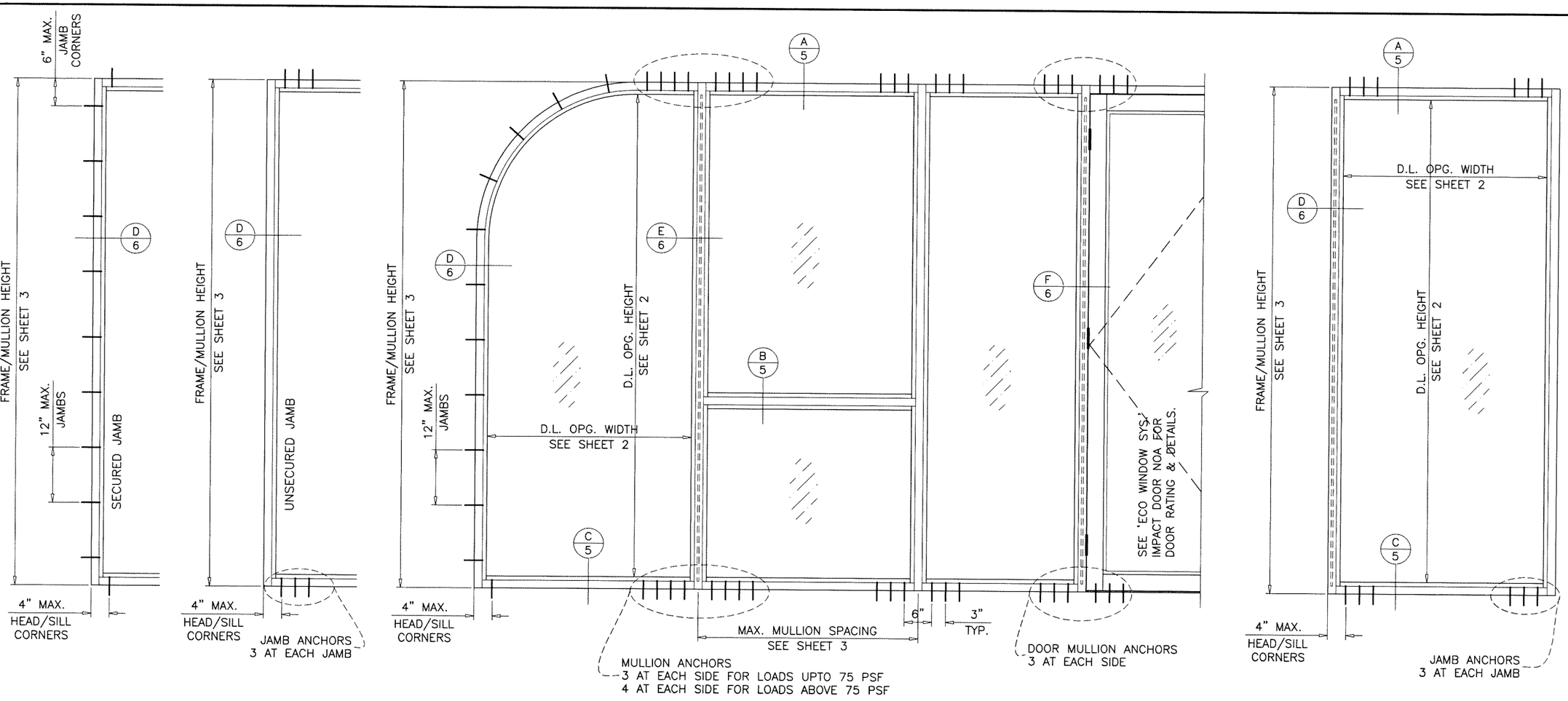
1. Statement letter of conformance, complying with **FBC 7th Edition (2020)** and of no financial interest, dated March 04, 2021, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.

2. Proposal No. **17-1071** issued by the Product Control Section, dated October 20, 2017, signed by Manuel Perez, P.E.
(Submitted under NOA No. 20-0128.02)

G. OTHERS

1. Notice of Acceptance No. **20-0128.02**, issued to Eco Window Systems, LLC for their Series "ECO-450" Aluminum Window Wall System w/wo Reinforcement – L.M.I., approved on 10/02/20 and expiring on 10/02/25.
(For reference only – Used as original NOA base of this spin-off)

Manuel Perez, P.E.
Product Control Examiner
NOA No. 21-0419.05
Expiration Date: October 02, 2025
Approval Date: August 05, 2021



TYPICAL ELEVATION

SERIES 450 ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH MIAMI–DADE COUNTY APPROVED SMALL MISSILE IMPACT RESISTANT DOORS.

LOWER DESIGN PRESSURE FROM WINDOW WALL OR DOOR NOA WILL APPLY TO ENTIRE SYSTEM.

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

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

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

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

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

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

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

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

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

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

STEP 2 CHECK GLASS CAPACITY TABLE ON SHEET 2 FOR GLASS TYPE, GLASS DIMENSIONS (WIDTH & HEIGHT) AND PRESSURE CAPACITY.
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 3 CHECK WINDOW WALL SYSTEM CAPACITY FOR DESIRED HEIGHT AND MULLION SPACING USING CHARTS ON SHEET 3.
THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.

STEP 4 FOR SYSTEMS WITH UNANCHORED JAMBS, USING SHEET 6 DETERMINE THE MIN. & MAX. GAP DIMENSIONS.

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

STEP 6 WHEN USING THIS SYSTEM WITH DOORS, THE LOWER VALUE OF THE DESIGN PRESSURE RATING FOR THE SYSTEM AND THE DOOR SHALL APPLY.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

THIS SYSTEM IS RATED FOR SMALL MISSILE IMPACT.
MIAMI–DADE COUNTY APPROVED IMPACT RESISTANT SHUTTERS REQUIRED FOR INSTALLATIONS UP TO 30 FT. OF GRADE.
SHUTTERS NOT REQD. FOR INSTALLATIONS ABOVE 30 FT. OF GRADE.

SMALL MISSILE IMPACT

PRODUCT APPROVED
as complying with the Florida Building Code
NOA–No. 21-0419.05
Approval Date: 07/30/2021
By: Manuel Perez
Miami–Dade Product Control
APR 02 2021

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\21-26D-ECO

SERIES 450 ALUM WINDOW WALL SYSTEM (S.M.I.)

ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
MEDLEY, FL. 33166
TEL. (305) 885-5902 FAX (305) 885-5299

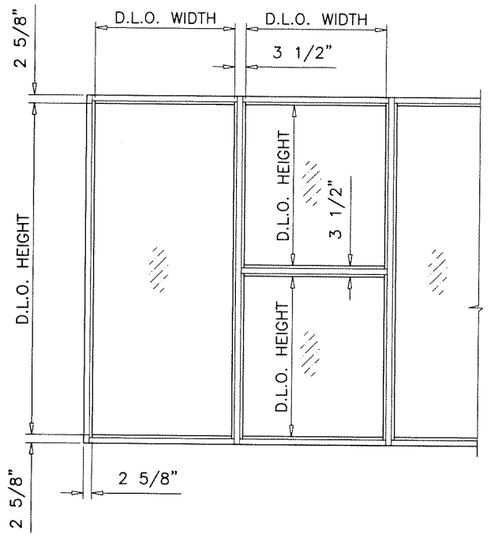
revisions:			
no	date	by	description

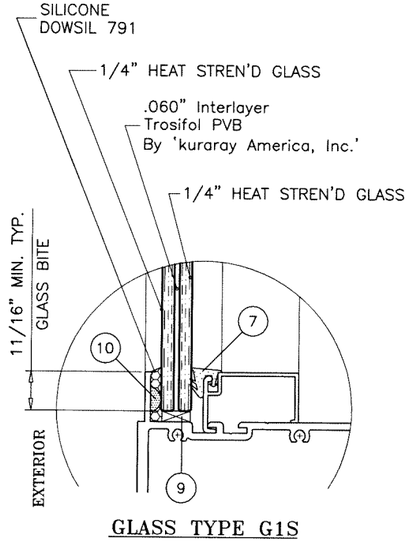
date: 03-22-21
scale: 1/2"=1'-0"
dr. by: TARIQ
chk. by:

drawing no. 21–26D

GLASS LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPE 'G1S'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(−)
30−3/4"	78−3/4"	80.0	90.0
33−3/4"		80.0	90.0
36−3/4"		80.0	90.0
39−3/4"		80.0	90.0
42−3/4"		80.0	90.0
45−3/4"		80.0	90.0
48−3/4"		80.0	90.0
51−3/4"		80.0	90.0
54−3/4"		80.0	90.0
57−3/4"		76.2	85.7
60−3/4"		72.7	81.8
30−3/4"	84−3/4"	80.0	90.0
33−3/4"		80.0	90.0
36−3/4"		80.0	90.0
39−3/4"		80.0	90.0
42−3/4"		80.0	90.0
45−3/4"		80.0	90.0
48−3/4"		80.0	90.0
51−3/4"		80.0	90.0
54−3/4"		80.0	90.0
57−3/4"		76.2	85.7
30−3/4"	90−3/4"	80.0	90.0
33−3/4"		80.0	90.0
36−3/4"		80.0	90.0
39−3/4"		80.0	90.0
42−3/4"		80.0	90.0
45−3/4"		80.0	90.0
48−3/4"		80.0	90.0
51−3/4"		80.0	90.0
54−3/4"		80.0	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.





GLASS TYPE G1S

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

PRODUCT APPROVED
as complying with the Florida Building Code
NOA−No. 21-0419.05
Approval Date: 07/30/2021
By: Manuel Perez
Miami−Dade Product Control
APR 02 2021

GLASS

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
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STORE\21−26D−ECO

SERIES 450 ALUM WINDOW WALL SYSTEM (S.M.I.)

ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
MEDLEY, FL. 33166
TEL. (305) 885-5299 FAX (305) 885-5902

revisions:

no	date	by	description

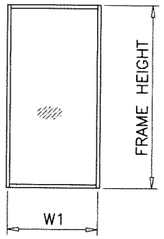
date: 03-22-21
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

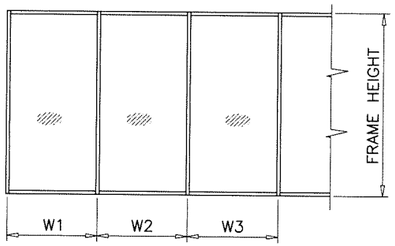
drawing no. 21−26D

sheet 2 of 8

JAMB & MULLION LOAD CAPACITY – PSF
JAMBS & MULLIONS WITHOUT INTERMEDIATE HORIZONTALS

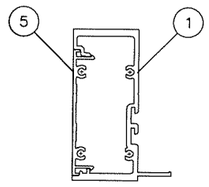
NOMINAL DIMS.		JAMB 'J1'		MULL 'M1'		MULL 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
36"	84"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	75.0	80.0	90.0
54"		70.0	75.0	70.0	75.0	80.0	90.0
57"		70.0	75.0	–	–	80.0	90.0
60"		70.0	75.0	–	–	80.0	90.0
63"		–	–	–	–	80.0	90.0
66"		–	–	–	–	80.0	90.0
36"	90"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	75.0	80.0	90.0
54"		70.0	75.0	–	–	80.0	90.0
57"		70.0	75.0	–	–	80.0	90.0
60"		–	–	–	–	80.0	90.0
36"	96"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	74.5	80.0	90.0
48"		70.0	75.0	70.0	70.7	80.0	90.0
51"		70.0	75.0	–	–	80.0	90.0
54"		70.0	75.0	–	–	80.0	90.0
57"		–	–	–	–	80.0	86.9
58–3/4"		–	–	–	–	80.0	85.0





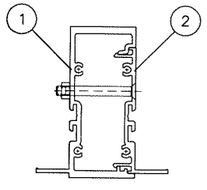
WIDTH (W) = W1
AT FRAME JAMB

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



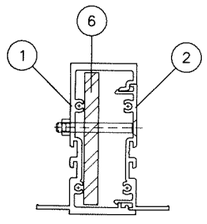
UNSECURED JAMB 'J1'

Ix IN^4	Sx IN^3
4.155	2.02



MULLION 'M1'

Ix IN^4	Sx IN^3
4.3758	2.1274

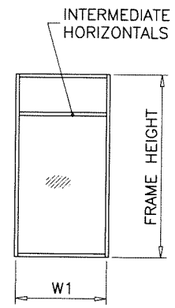


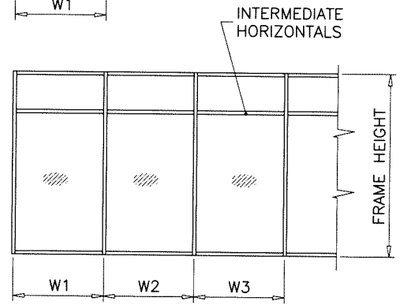
MULLION 'M2'

	Ix IN^4	Sx IN^3
ALUMINUM	4.3758	2.1274
STEEL	1.2058	.7656
TOTAL Ix ALUM + Ix STL X 2.9	7.4004	

JAMB & MULLION LOAD CAPACITY – PSF
JAMBS & MULLIONS WITH INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1'		MULL 'M1'		MULL 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
36"	84"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	75.0	80.0	90.0
54"		70.0	75.0	70.0	75.0	80.0	90.0
57"		70.0	75.0	–	–	80.0	90.0
60"		70.0	75.0	–	–	80.0	90.0
63"		–	–	–	–	80.0	90.0
66"		–	–	–	–	80.0	86.7
36"	90"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	75.0	80.0	90.0
45"		70.0	75.0	70.0	75.0	80.0	90.0
48"		70.0	75.0	70.0	75.0	80.0	90.0
51"		70.0	75.0	70.0	73.0	80.0	90.0
54"		70.0	75.0	–	–	80.0	90.0
57"		70.0	75.0	–	–	80.0	87.5
60"		–	–	–	–	80.0	83.1
36"	96"	70.0	75.0	70.0	75.0	80.0	90.0
39"		70.0	75.0	70.0	75.0	80.0	90.0
42"		70.0	75.0	70.0	73.1	80.0	90.0
45"		70.0	75.0	68.2	68.2	80.0	90.0
48"		70.0	75.0	63.9	63.9	80.0	90.0
51"		70.0	75.0	–	–	80.0	85.9
54"		70.0	75.0	–	–	80.0	81.1
57"		–	–	–	–	76.9	76.9
58–3/4"		–	–	–	–	74.6	74.6
36"	102"	70.0	75.0	–	–	70.0	75.0
39"		70.0	75.0	–	–	70.0	75.0
42"		70.0	75.0	–	–	70.0	75.0
45"		70.0	75.0	–	–	70.0	75.0
48"		70.0	75.0	–	–	70.0	75.0
36"	108"	70.0	75.0	–	–	70.0	75.0
39"		70.0	75.0	–	–	70.0	75.0
42"		70.0	75.0	–	–	70.0	75.0
45"		70.0	75.0	–	–	70.0	75.0
48"		70.0	72.7	–	–	70.0	72.7





WIDTH (W) = W1
AT FRAME JAMB

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

PRODUCT APPROVED
as complying with the Florida Building Code
NOA–No. 21-0419.05
Approval Date: 07/30/2021
By: Manuel Perez
Miami–Dade Product Control
APR 02 2021

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

MULLION

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\21-26D-ECO

SERIES 450 ALUM WINDOW WALL SYSTEM (S.M.I.)

ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
MEDLEY, FL. 33166
TEL. (305) 885-5299 FAX (305) 885-5902

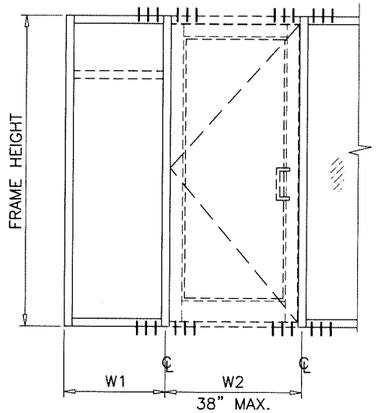
revisions:

no	date	by	description

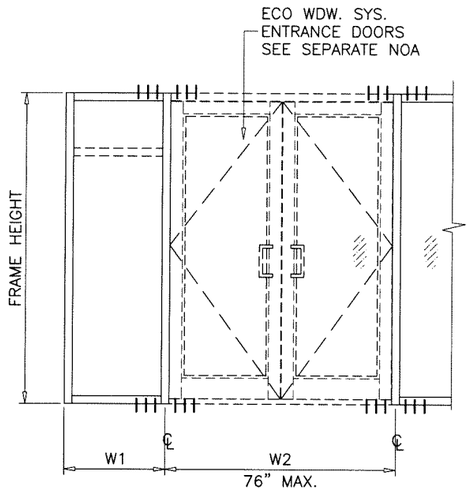
date: 03-22-21
scale: –
dr. by: TARIQ
chk. by:

drawing no. 21–26D

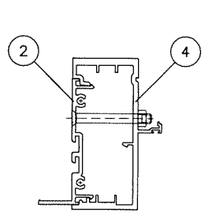
DOOR MULLION LOAD CAPACITY					
NOMINAL DIMS.		WITHOUT REINF.		WITH REINF.	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
37"	84"	70.0	75.0	70.0	75.0
38−1/2"		70.0	75.0	70.0	75.0
40"		70.0	75.0	70.0	75.0
41−1/2"		70.0	75.0	70.0	75.0
43"		70.0	75.0	70.0	75.0
44−1/2"		70.0	75.0	70.0	75.0
46"		70.0	75.0	70.0	75.0
47−1/2"		70.0	75.0	70.0	75.0
49"		70.0	74.8	70.0	75.0
37"	90"	70.0	75.0	70.0	75.0
38−1/2"		70.0	75.0	70.0	75.0
40"		70.0	75.0	70.0	75.0
41−1/2"		70.0	75.0	70.0	75.0
43"		70.0	74.3	70.0	75.0
44−1/2"		70.0	71.8	70.0	75.0
46"		−	−	70.0	75.0
47−1/2"		−	−	70.0	75.0
49"		−	−	70.0	75.0
37"	96"	70.0	74.0	70.0	75.0
38−1/2"		70.0	71.1	70.0	75.0
40"		68.5	68.5	70.0	75.0
41−1/2"		66.0	66.0	70.0	75.0
43"		63.7	63.7	70.0	75.0
44−1/2"		−	−	70.0	75.0
46"		−	−	70.0	75.0
47−1/2"		−	−	70.0	75.0
37"	102"	−	−	70.0	75.0
38−1/2"		−	−	70.0	75.0
40"		−	−	70.0	75.0
41−1/2"		−	−	70.0	75.0
43"		−	−	70.0	75.0
44−1/2"		−	−	70.0	75.0
37"	108"	−	−	70.0	75.0
38−1/2"		−	−	70.0	75.0
40"		−	−	70.0	75.0
41−1/2"		−	−	70.0	75.0
43"		−	−	70.0	75.0



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

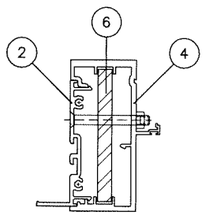


$$\text{WIDTH (W)} = \frac{W1}{2} + \frac{W2}{4}$$



DOOR MULLION
WITHOUT REINF.

Ix IN^4	Sx IN^3
3.9038	1.8241



DOOR MULLION
WITH REINF.

	Ix IN^4	Sx IN^3
ALUMINUM	3.9038	1.8241
STEEL	1.3398	3.6217
TOTAL Ix ALUM + Ix STL X 2.9	7.7507	

PRODUCT APPROVED
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Miami-Dade Product Control
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JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

DOOR MULLION

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9360 SUNSET DRIVE, SUITE 220
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STORE\21-26D-ECO

SERIES 450 ALUM WINDOW WALL SYSTEM (S.M.I.)

ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
MEDLEY, FL. 33166
TEL. (305) 885-5902 FAX (305) 885-5299

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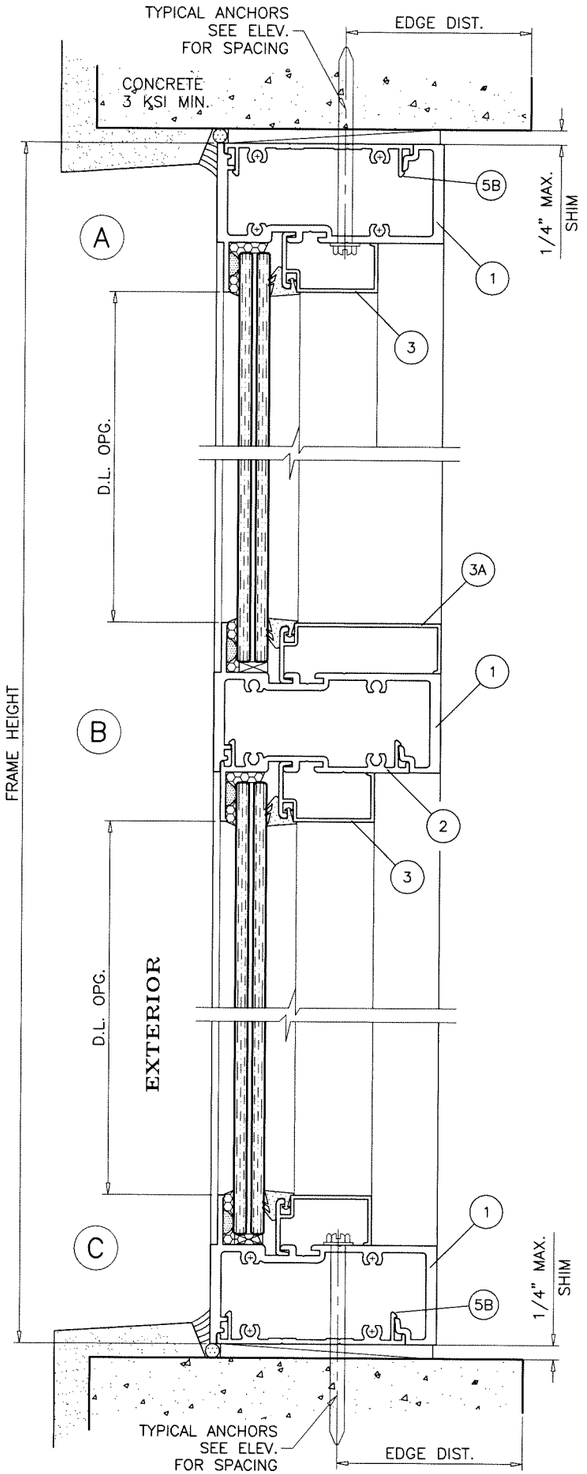
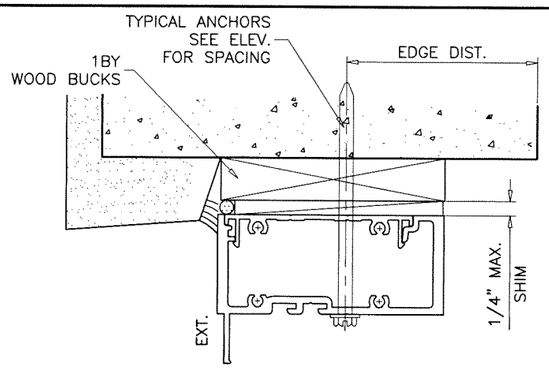
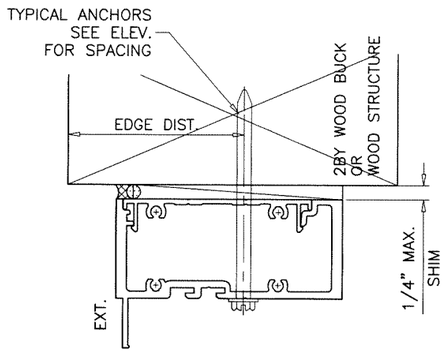
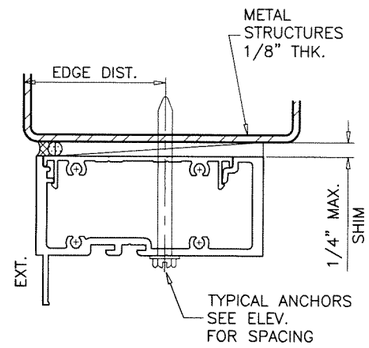
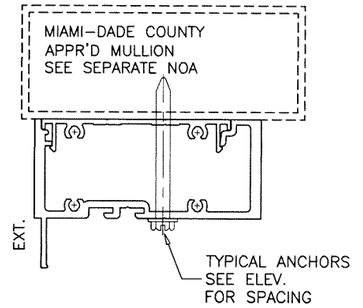
sheet 4 of 8











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

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

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

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

1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)
DIRECTLY INTO CONCRETE OR BLOCKS
1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)
1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

 # 14 SMS OR SELF DRILLING SCREWS (GRADE 2 CRS)
INTO MIAMI-DADE COUNTY APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/SILL/JAMBS)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

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

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

PRODUCT APPROVED
as complying with the Florida Building Code
NOA-No. 21-0419.05
Approval Date: 07/30/2021
By: Manuel Perez
Miami-Dade Product Control

APR 02 2021

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\21-26D-ECO

SERIES 450 ALUM WINDOW WALL SYSTEM (S.M.I.)

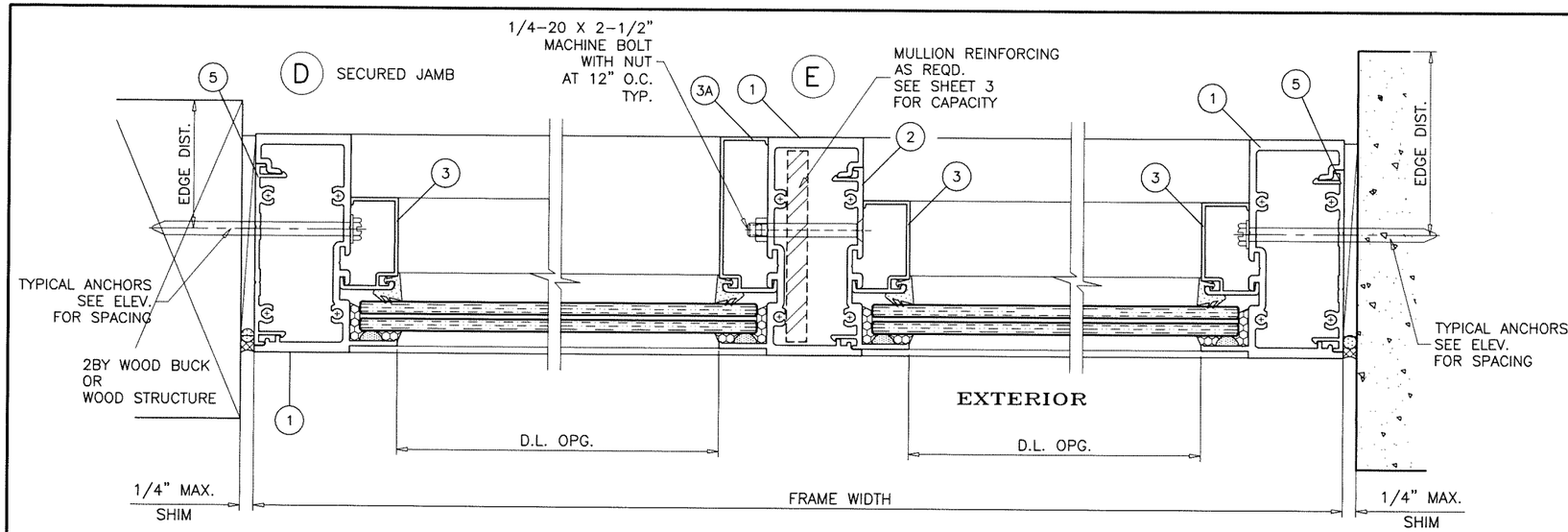
ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
MEDLEY, FL. 33166
TEL. (305) 885-5299 FAX (305) 885-5902

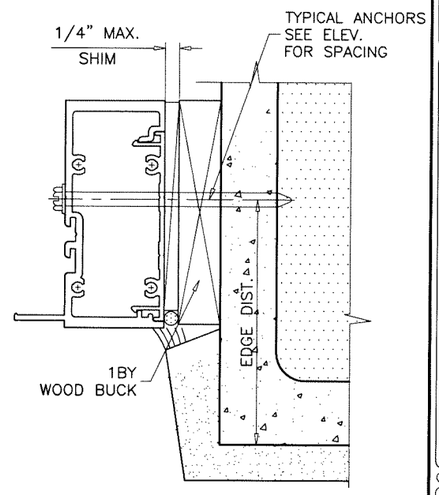
revisions:

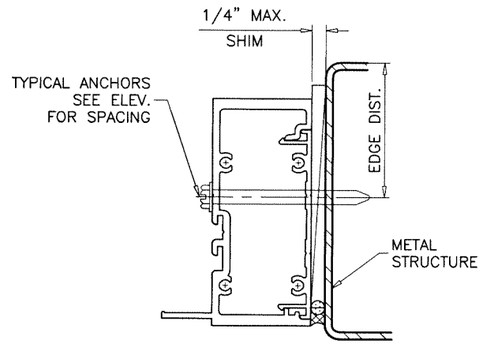
no	date	by	description

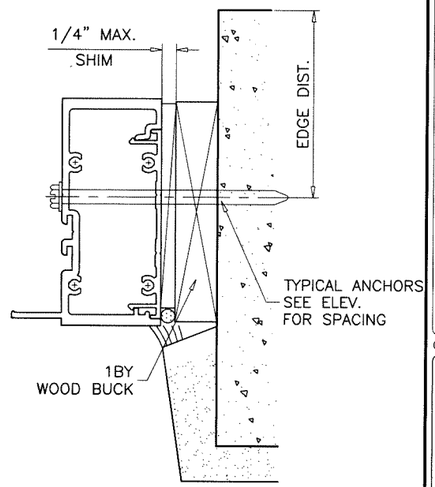
date: 03-22-21
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

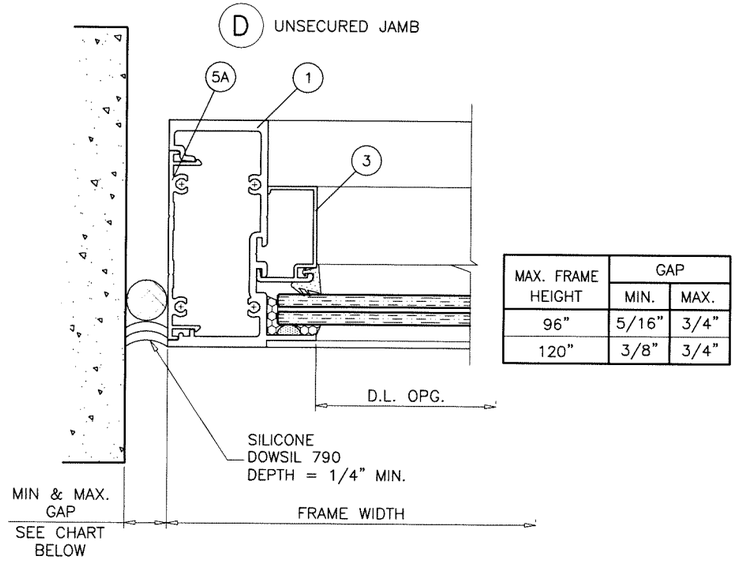
drawing no. 21-26D



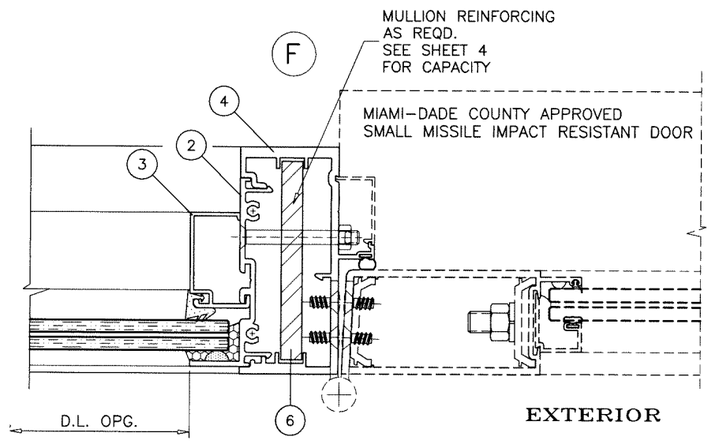








MAX. FRAME HEIGHT	GAP	
	MIN.	MAX.
96"	5/16"	3/4"
120"	3/8"	3/4"



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

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

GAPS LESS THAN 1/4" MAY BE DESIGNED BY ENGINEER OF RECORD BY THE USE OF BOND BREAKER TAPE OR 15% OF GAP ALLOWED MOVEMENT.

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

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

PRODUCT APPROVED
as complying with the Florida Building Code
NOA–No. 21-0419.05
Approval Date: 07/30/2021
By: Manuel Perez
Miami–Dade Product Control

APR 02 2021

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STORE\21-26D-ECO

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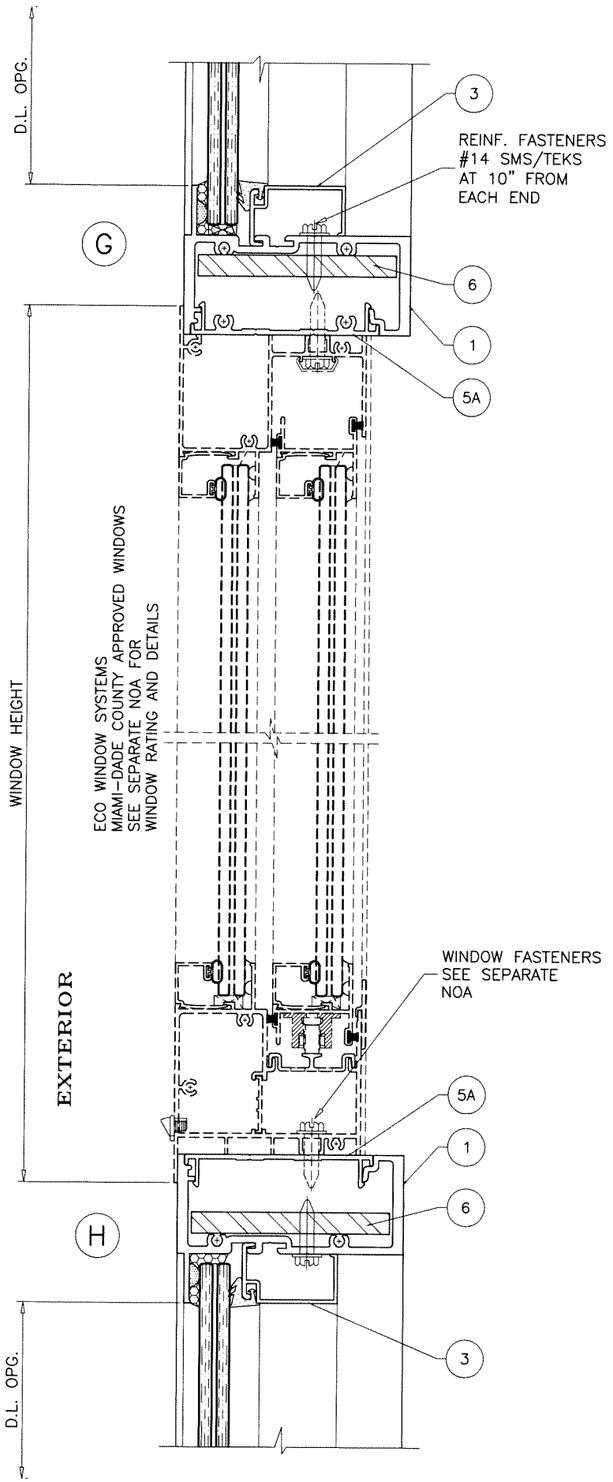

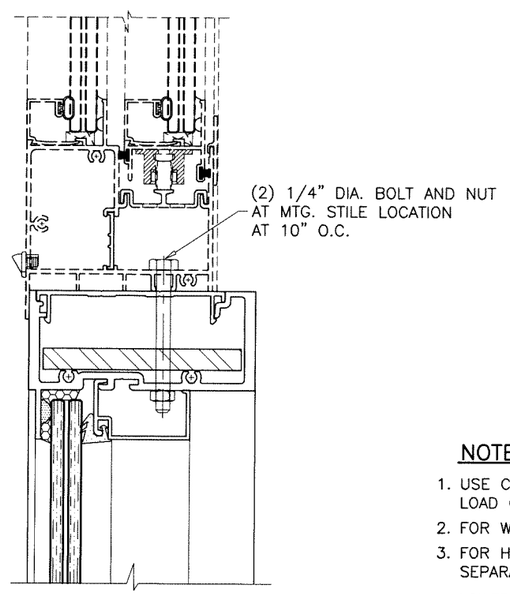

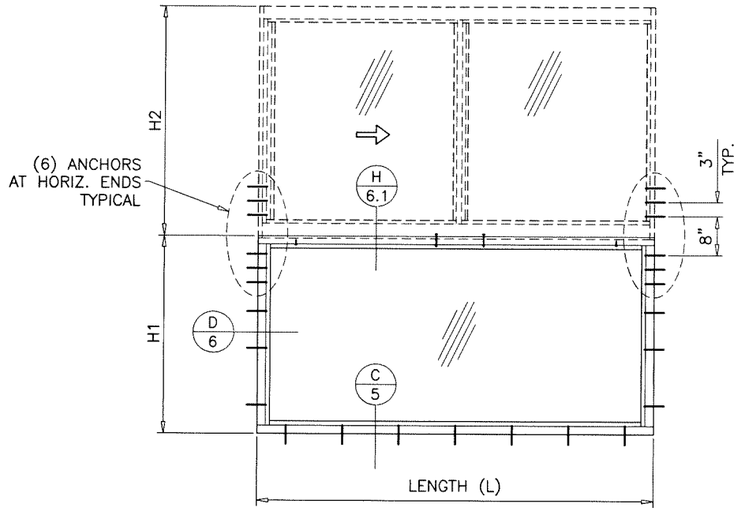

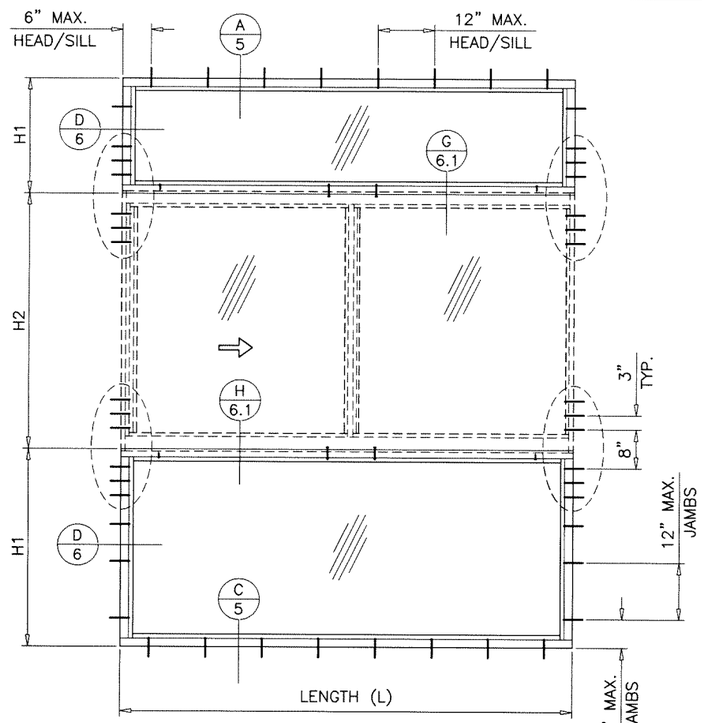

TYPICAL ELEVATION
TOP OR BOTTOM WINDOWS

$$\text{HEIGHT (H)} = \frac{\text{H1} + \text{H2}}{2}$$

HORIZONTAL LOAD CAPACITY - PSF			
NOMINAL DIMS.		HORIZONTAL MULLION	
HEIGHT (H)	LENGTH (L)	EXT.(+)	INT.(−)
57"	84"	80.0	90.0
60"		80.0	90.0
63"		80.0	90.0
66"		80.0	90.0
69"		80.0	90.0
54"	90"	80.0	90.0
57"		80.0	90.0
60"		80.0	90.0
63"		80.0	90.0
54"	96"	80.0	90.0
57"		80.0	88.9
60"		80.0	85.0

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Miami-Dade Product Control

APR 02 2021

NOTES:

1. USE CHART ON THIS SHEET FOR WINDOW WALL HORIZONTAL LOAD CAPACITY.
2. FOR WINDOW WALL GLASS CAPACITY SEE CHART ON SHEET 2.
3. FOR HORIZONTAL SLIDING WINDOW LOAD CAPACITY SEE SEPARATE NOA.

   LOWER VALUES FROM STEPS 1, 2 OR 3 WILL APPLY TO ENTIRE SYSTEM.

JALAL FAROOQ LICENSE No. 81223 STATE OF FLORIDA PROFESSIONAL ENGINEER

afc
AL-FAROOQ CORPORATION
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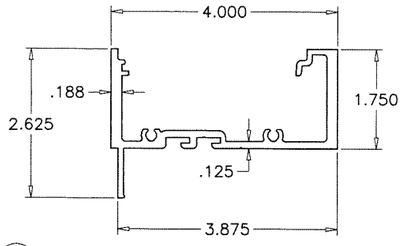
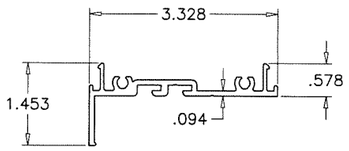
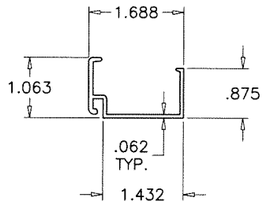
sheet 6.1 of 8



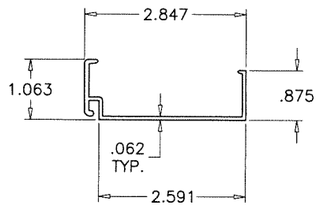
1 FRAME HEAD/SILL/JAMB/MULLION



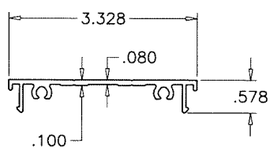
2 SNAP IN MATE



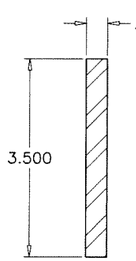
3 GLAZING BEAD



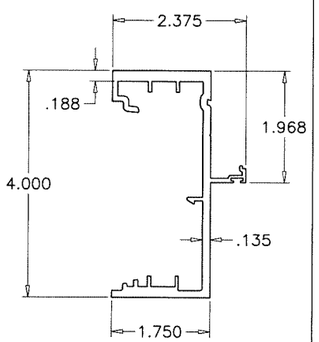
3A GLAZING BEAD



5 5A 5B SHEAR CLIP



6 STIFFENER BAR



4 DOOR FRAME JAMB

ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	451	AS REQD.	FRAME HEAD/SILL/JAMB/MULLION	6063–T6	–
2	452	AS REQD.	SNAP–IN MATE	6063–T6	–
3	UW–404	AS REQD.	GLAZING BEAD	6063–T6	–
3A	E458	AS REQD.	GLAZING BEAD	6063–T6	–
4	454	AS REQD.	DOOR FRAME JAMB	6063–T6	–
5	453	AS REQD.	SHEAR CLIP, 3–3/4" LONG AT JAMB ANCHORS	6063–T6	–
5A	453	AS REQD.	SHEAR CLIP, FULL LENGTH	6063–T6	–
5B	453	AS REQD.	SHEAR CLIP, LENGTH VARIES TO COVER ANCHOR SPACINGS	6063–T6	–
6	–	AS REQD.	STIFFENER BAR	GALV. STEEL	–
7	UW–406	AS REQD.	GLAZING GASKET	NEOPRENE	DUROMETER 55±5 SHORE A
8	#12 X 1–1/4"	4/ CORNER	FRAME ASSEMBLY SCREWS	–	PH SMS
9	–	2/ LITE	SETTING BLOCKS AT 1/4 POINTS (3/16" X 1/2" X 2" LONG)	EPDM	DUROMETER 80±5 SHORE A
10	–	AS REQD.	GLASS SPACER	SILICONE	FRANK LOWE

SEALANTS:

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

PRODUCT APPROVED
as complying with the Florida Building Code
NOA–No. 21-0419.05
Approval Date: 07/30/2021
By: Manuel Perez
Miami–Dade Product Control

APR 02 2021

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\21-26D-ECO

SERIES 450 ALUM WINDOW WALL SYSTEM (S.M.I.)

ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
MEDLEY, FL. 33166
TEL. (305) 885-5299 FAX (305) 885-5902

revisions:

no	date	by	description

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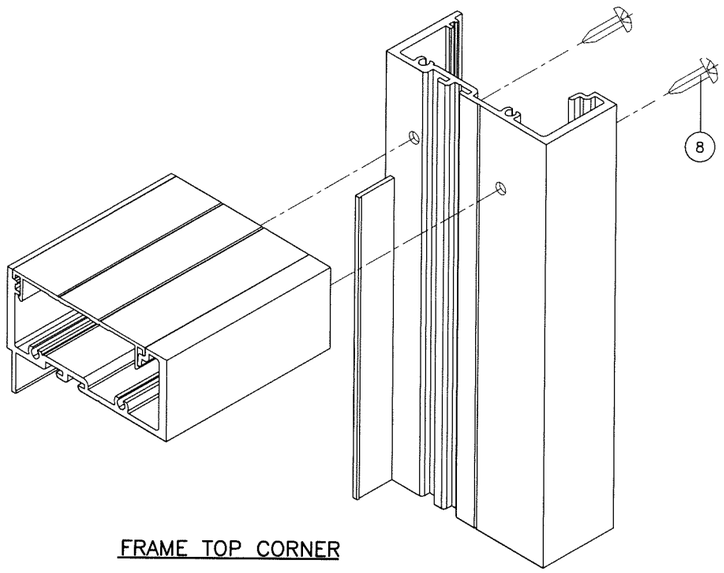
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no. 21–26D

sheet 7 of 8



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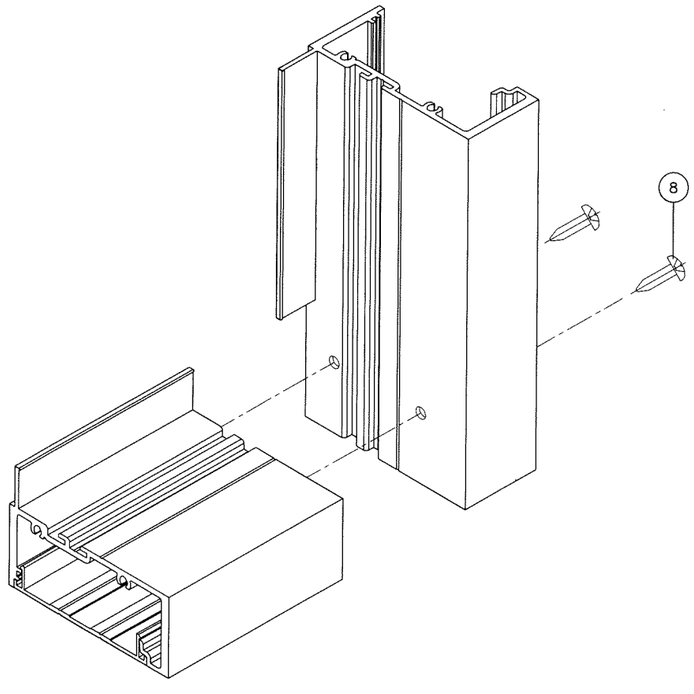

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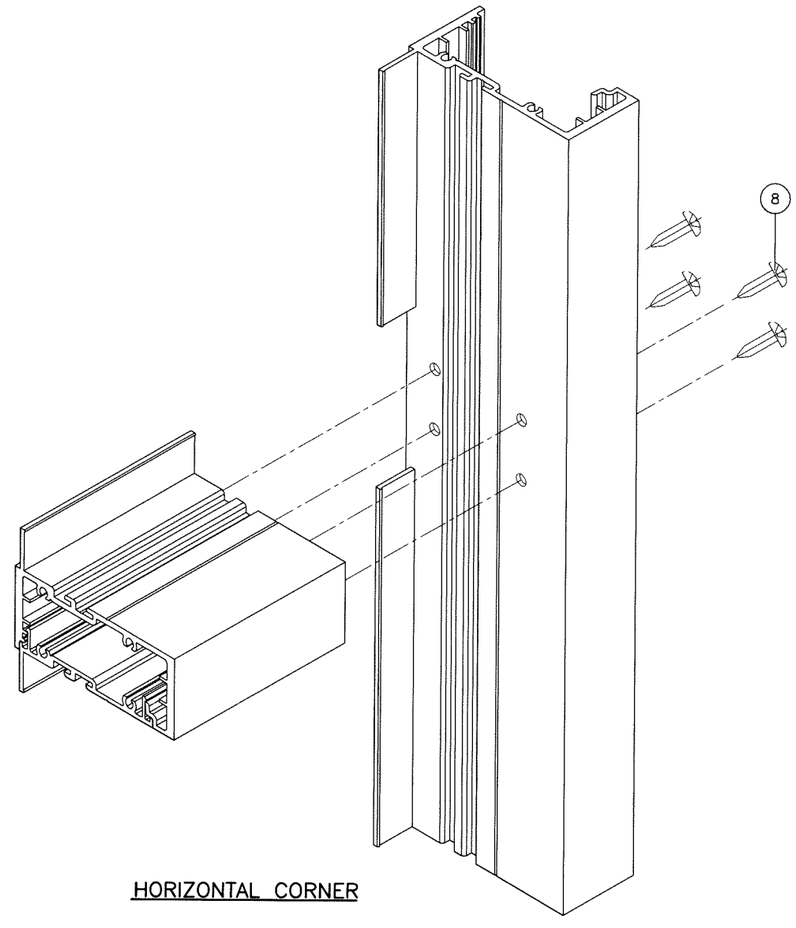

HORIZONTAL CORNER

PRODUCT APPROVED
as complying with the Florida Building Code
NOA-No. 21-0419.05
Approval Date: 07/30/2021
By: Manuel Perez
Miami-Dade Product Control

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sheet 8 of 8