



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

## NOTICE OF ACCEPTANCE (NOA)

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](http://www.miamidade.gov/building)

E.S. Windows, LLC  
3550 NW 49<sup>th</sup> 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 "EL200" Aluminum Horizontal Rolling Window - L.M.I.

**APPROVAL DOCUMENT:** Drawing No. **W16-86**, titled "ES-EL200 Horizontal Rolling Alum. Wdw. (L.M.I.)", sheets 1, 2, 3, 3.1, 4 and 5 through 11 of 11, dated 12/19/16, with revision **D** dated 06/22/20, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E., bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

### MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

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

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

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

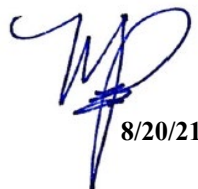
**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

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

This NOA **renews NOA No. 20-1208.07** and consists of this page 1 and evidence pages E-1, E-2, E-3 and E-4, as well as approval document mentioned above.

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



  
8/20/21

NOA No. 21-0608.03  
Expiration Date: January 19, 2027  
Approval Date: September 02, 2021  
Page 1

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

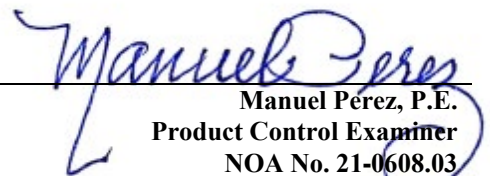
**1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's**

**A. DRAWINGS**

1. Manufacturer's die drawings and sections.  
*(Submitted under NOA No. 16-0617.04)*
2. Drawing No. **W16-86**, titled "ES-EL200 Horizontal Rolling Alum. Wdw. (L.M.I.)", sheets 1, 2, 3, 3.1, 4 and 5 through 11 of 11, dated 12/19/16, with revision **D** dated 06/22/20, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.  
*(Submitted under NOA No. 20-1208.07)*

**B. TESTS**

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94  
2) Uniform Static Air Pressure Test, Loading per FBC, TAS 202-94  
3) Water Resistance Test, per FBC, TAS 202-94  
4) Large Missile Impact Test per FBC, TAS 201-94  
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with marked-up drawings and installation diagram of an aluminum horizontal sliding window, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-11027**, dated 04/23/20, signed and sealed by Idalmis Ortega, P.E.  
*(Submitted under NOA No. 20-1208.07)*
2. 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 an aluminum horizontal sliding window, prepared by Blackwater Testing, Inc., Test Report No. **BT-ESW-17-007**, dated 10/24/17, and addendum letter dated 12/15/16, both signed and sealed by Constantin Bortes, P.E.  
*(Submitted under NOA No. 18-0221.03)*
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) Forced Entry Test, per FBC, and TAS 202-94  
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 an aluminum horizontal sliding window, prepared by Blackwater Testing, Inc., Test Report No. **BT-ESW-16-007**, dated 12/08/16, signed and sealed by Constantin Bortes, P.E.  
*(Submitted under NOA No. 16-0617.04)*

  
Manuel Pérez, P.E.  
Product Control Examiner  
NOA No. 21-0608.03  
Expiration Date: January 19, 2027  
Approval Date: September 02, 2021

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

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

**C. CALCULATIONS**

1. Anchor verification calculations and structural analysis, complying with **FBC 5<sup>th</sup> Edition (2014)**, dated 06/10/15, and updated on 11/09/20 to comply with **FBC 7<sup>th</sup> Edition (2020)**, prepared by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.  
*(Submitted under NOA No. 20-1208.07)*
2. Glazing complies with **ASTM E1300-09**

**D. QUALITY ASSURANCE**

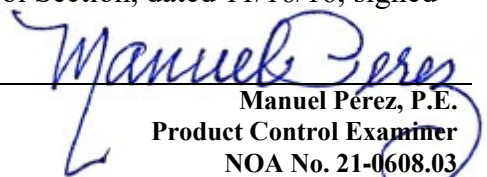
1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**E. MATERIAL CERTIFICATIONS**

1. Notice of Acceptance No. **18-0725.11** issued to **Kuraray America, Inc.** for their "**Kuraray SentryGlas® Xtra™ (SGX™) Clear Glass Interlayer**" dated 05/23/19, expiring on 05/23/24.
2. Notice of Acceptance No. **19-0305.02** issued to **Kuraray America, Inc.** for their "**Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers**" dated 05/09/19, expiring on 07/08/24.
3. Notice of Acceptance No. **20-0622.01** issued to **Eastman Chemical Company (MA)** for their "**Saflex PVB Clear and Color Glass Interlayers**" dated 08/06/20, expiring on 05/21/21.
4. Notice of Acceptance No. **20-0622.03** issued to **Eastman Chemical Company (MA)** for their "**Saflex Storm - Saflex and Saflex HP Composite Glass Interlayers with PET Core**" dated 08/06/20, expiring on 12/11/23.

**F. STATEMENTS**

1. Statement letter of conformance, complying with **FBC 6<sup>th</sup> Edition (2017)**, with **FBC 7<sup>th</sup> Edition (2020)**, and of no financial interest, dated November 9, 2020, issued by Al-Farooq Corporation, signed and sealed by Jalal Farooq, P.E.  
*(Submitted under NOA's No. 20-1208.07)*
2. Testing proposal issued by the Product Control Section, dated 04/15/13, signed by Jaime Gascon, P.E., Product Control Supervisor.  
*(Submitted under NOA's No. 20-1208.07)*
3. Distributor Agreement signed by Carlos Garcia and by Evelyn Daes.  
*(Submitted under NOA No. 16-0617.04)*
4. Laboratory compliance statement for Test Report No. **BT-ESW-16-007**, issued by Blackwater Testing, Inc., dated 12/08/16, signed and sealed by Constantin Bortes, P.E.  
*(Submitted under NOA No. 16-0617.04)*
5. Proposal No. **16-1228** issued by the Product Control Section, dated 11/16/16, signed by Manuel Perez, P.E.  
*(Submitted under NOA No. 16-0617.04)*

  
Manuel Pérez, P.E.  
Product Control Examiner  
NOA No. 21-0608.03  
Expiration Date: January 19, 2027  
Approval Date: September 02, 2021

**E.S. Windows, LLC**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

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

**G. OTHERS**

1. Notice of Acceptance No. **18-0221.03**, issued to E.S. Windows, LLC for their Series "EL200" Aluminum Horizontal Rolling Window – L.M.I., approved on 05/10/18 and expiring on 01/19/22.

**2. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. None.

**B. TESTS**

1. None.

**C. CALCULATIONS**

1. None.

**D. QUALITY ASSURANCE**

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

**F. MATERIAL CERTIFICATIONS**

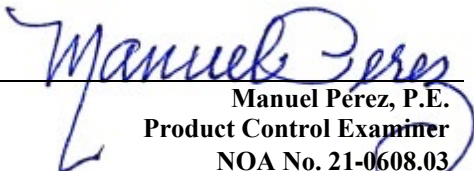
1. Notice of Acceptance No. **20-0915.19** issued to **Kuraray America, Inc.** for their "SentryGlas® (Clear and White) Glass Interlayers" dated 11/19/20, expiring on 07/04/23.
2. Notice of Acceptance No. **20-0915.22** issued to **Kuraray America, Inc.** for their "Trosifol® Ultraclear, Clear and Color PVB Glass Interlayers" dated 11/19/20, expiring on 07/08/24.
3. Notice of Acceptance No. **21-0216.01** issued to **Eastman Chemical Company (MA)** for their "Saflex PVB Interlayers - Clear and Colored for Glass" dated 04/29/21, expiring on 05/21/26.
4. Notice of Acceptance No. **20-0622.03** issued to **Eastman Chemical Company (MA)** for their "Saflex Storm - Saflex and Saflex HP Composite Glass Interlayers with PET Core" dated 08/06/20, expiring on 12/11/23.

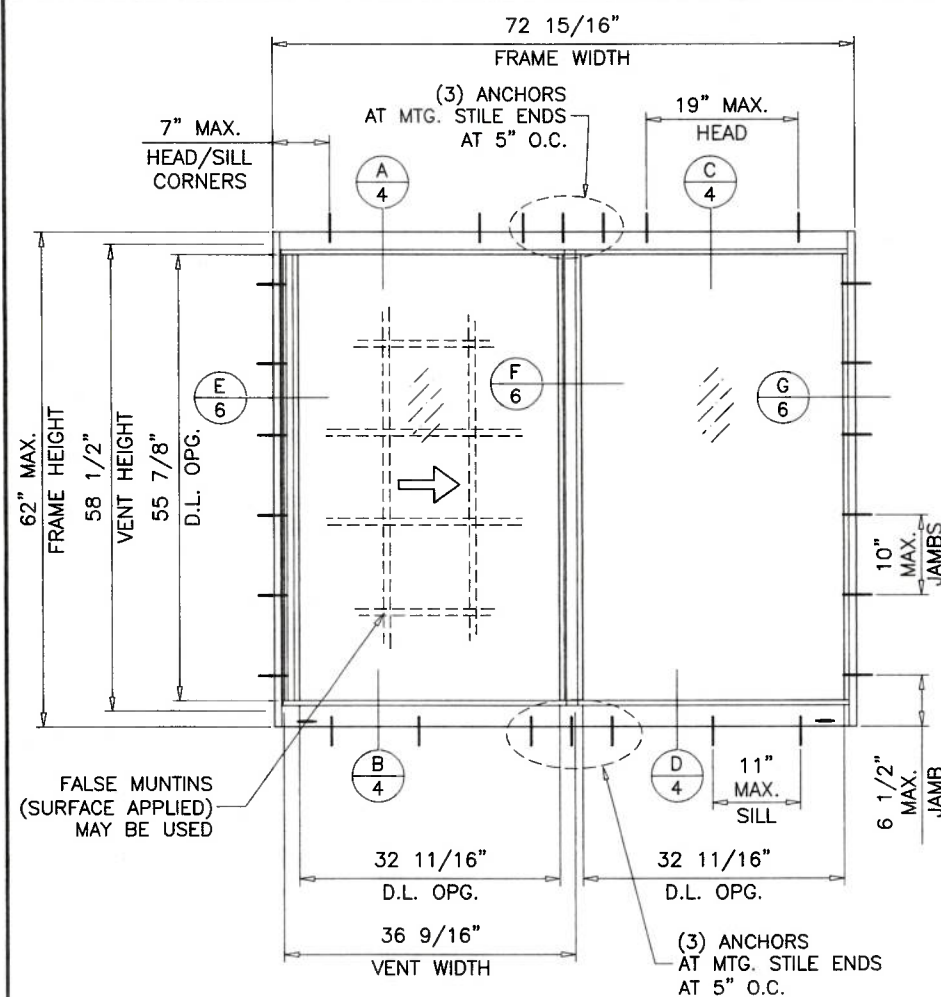
**E. STATEMENTS**

1. None.

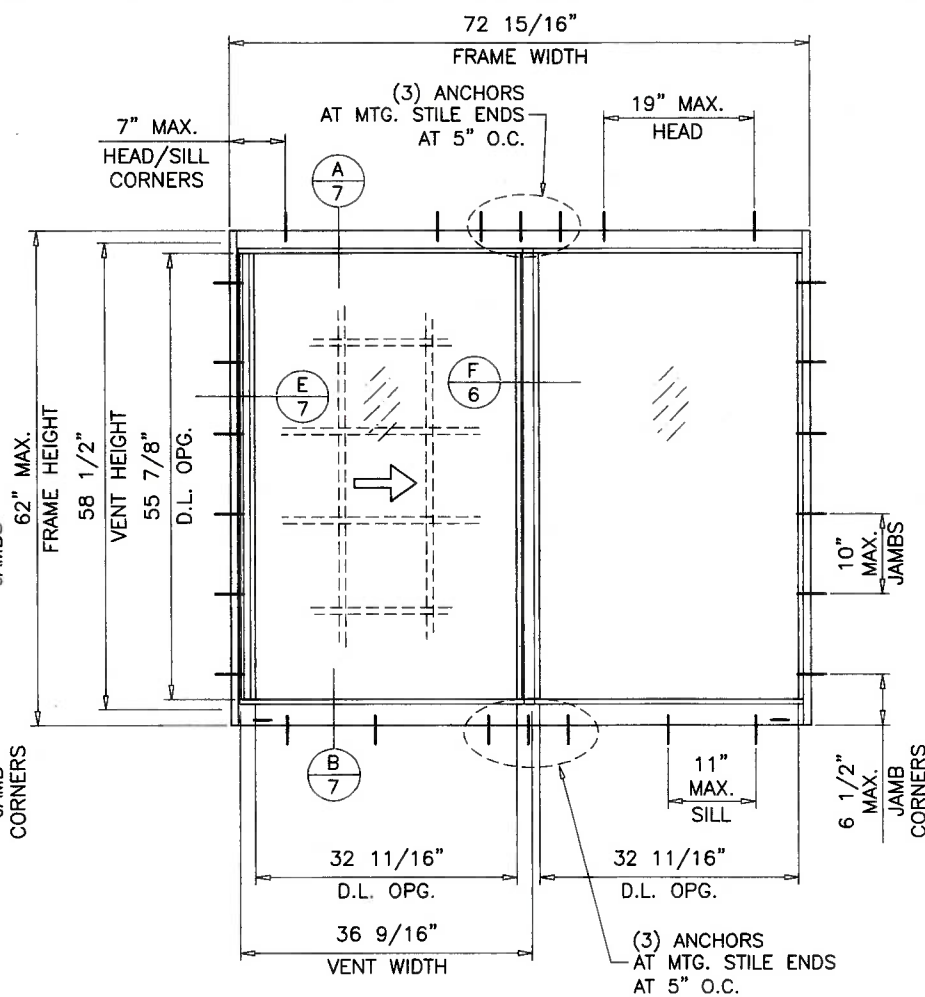
**G. OTHERS**

1. Notice of Acceptance No. **20-1208.07**, issued to E.S. Windows, LLC for their Series "EL200" Aluminum Horizontal Rolling Window – L.M.I., approved on 02/18/21 and expiring on 01/19/22.

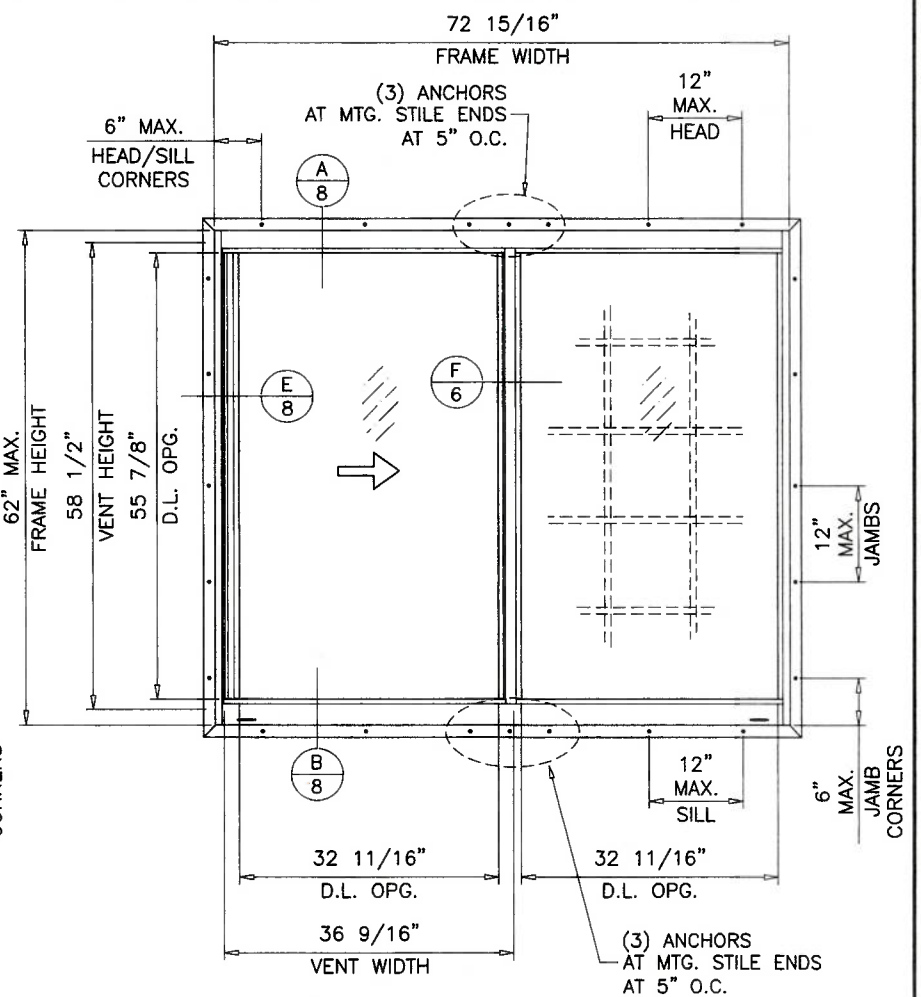
  
Manuel Pérez, P.E.  
Product Control Examiner  
NOA No. 21-0608.03  
Expiration Date: January 19, 2027  
Approval Date: September 02, 2021



**TYPICAL ELEVATION**  
FLANGE FRAMES



**TYPICAL ELEVATION**  
FLANGE FRAMES WITH FLUSH ADAPTER



**TYPICAL ELEVATION**  
FLANGE FRAMES WITH FIN ADAPTER

THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

**ES-EL200**  
**HORIZONTAL ROLLING ALUMINUM WINDOW (L.M.I.)**

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE COMBINATIONS OF H.R./H.R. OR HORIZONTAL ROLLING WITH OTHER WINDOW TYPES IN MODULES OF TWO OR MORE WINDOWS USING MIAMI-DADE COUNTY APPROVED MULLIONS IN BETWEEN. LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION NOA WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2017 (6TH EDITION)/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 2017/2020 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)'.

**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
NOA-No. **21-0608.03**  
Expiration Date: **01/19/2027**  
By *Manuel Perez*  
Miami-Dade Product Control

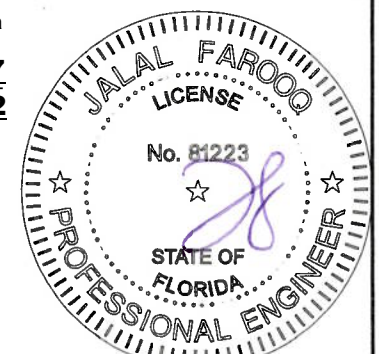
MAXIMUM DESIGN LOAD RATING = + 65.0 PSF  
(FOR SIZES SHOWN ABOVE OR SMALLER) - 65.0 PSF  
MTG. STILES WITHOUT REINFORCING

MAXIMUM DESIGN LOAD RATING = + 80.0 PSF  
(FOR SIZES SHOWN ABOVE OR SMALLER) - 90.0 PSF  
MTG. STILES WITH REINFORCING

OPERATING VENTS CAN BE 1/4 TO 1/3 OF WINDOW WIDTH  
MAX. D.L. OPG. FOR FIXED LITE NOT TO EXCEED 12.7 SQ. FT.  
FOR ALTERNATE SIZE UNITS MAX. FRAME AREA OF WINDOW  
NOT TO EXCEED TESTED FRAME AREA OF 31.46 SQ. FT.

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-1208.07**  
Expiration Date: **01/19/2022**  
By *Manuel Perez*  
Miami-Dade Product Control

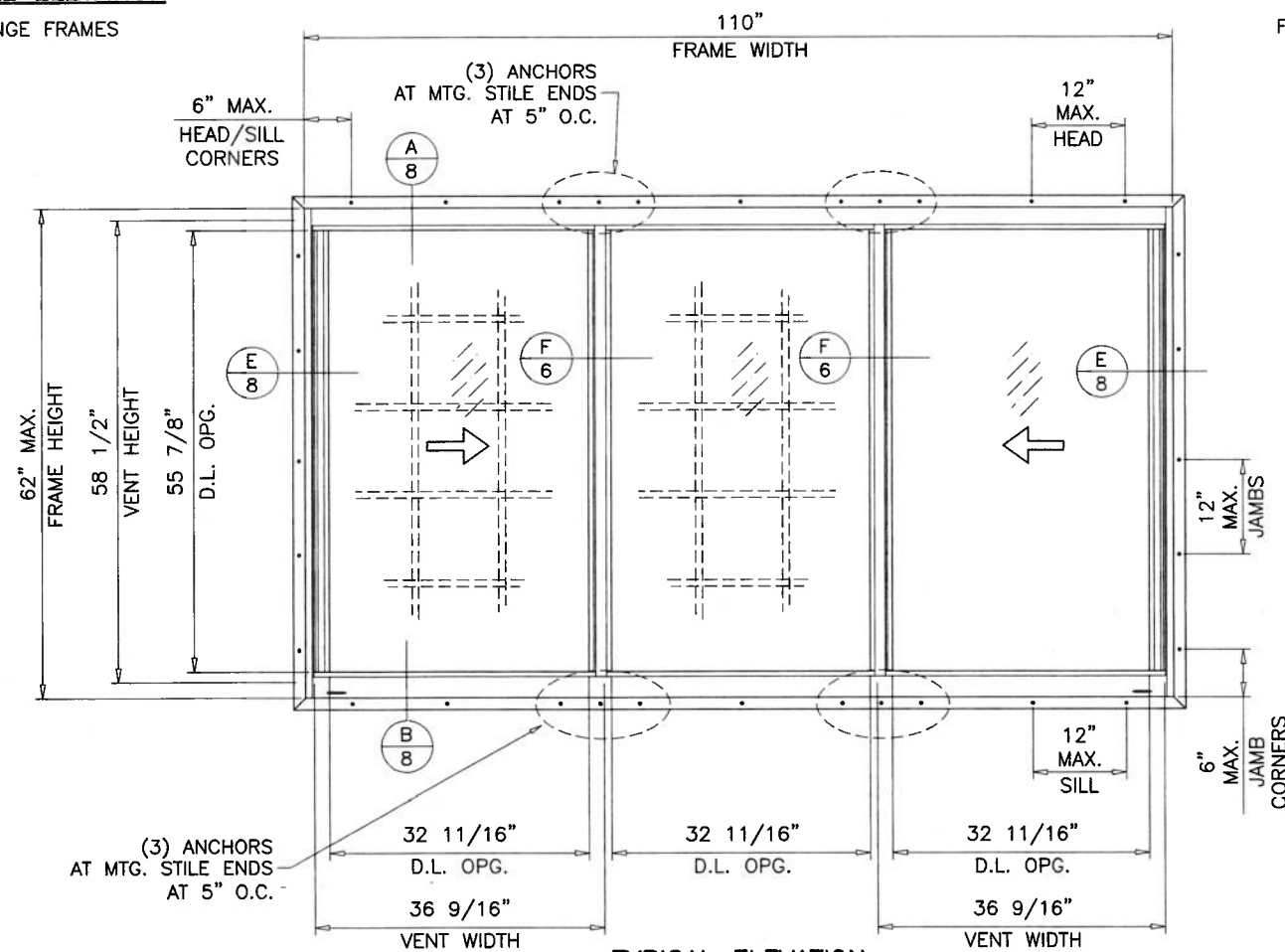
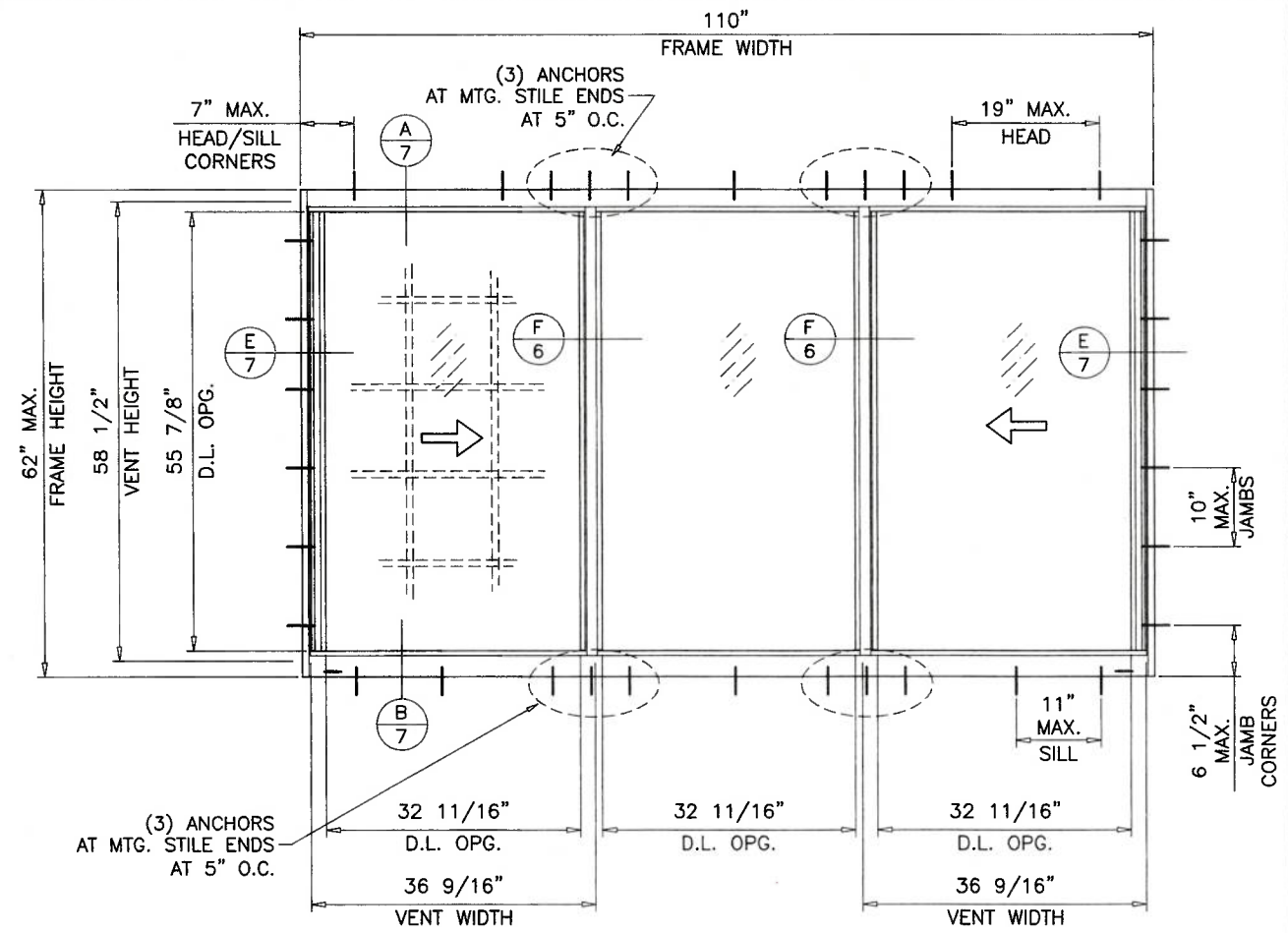
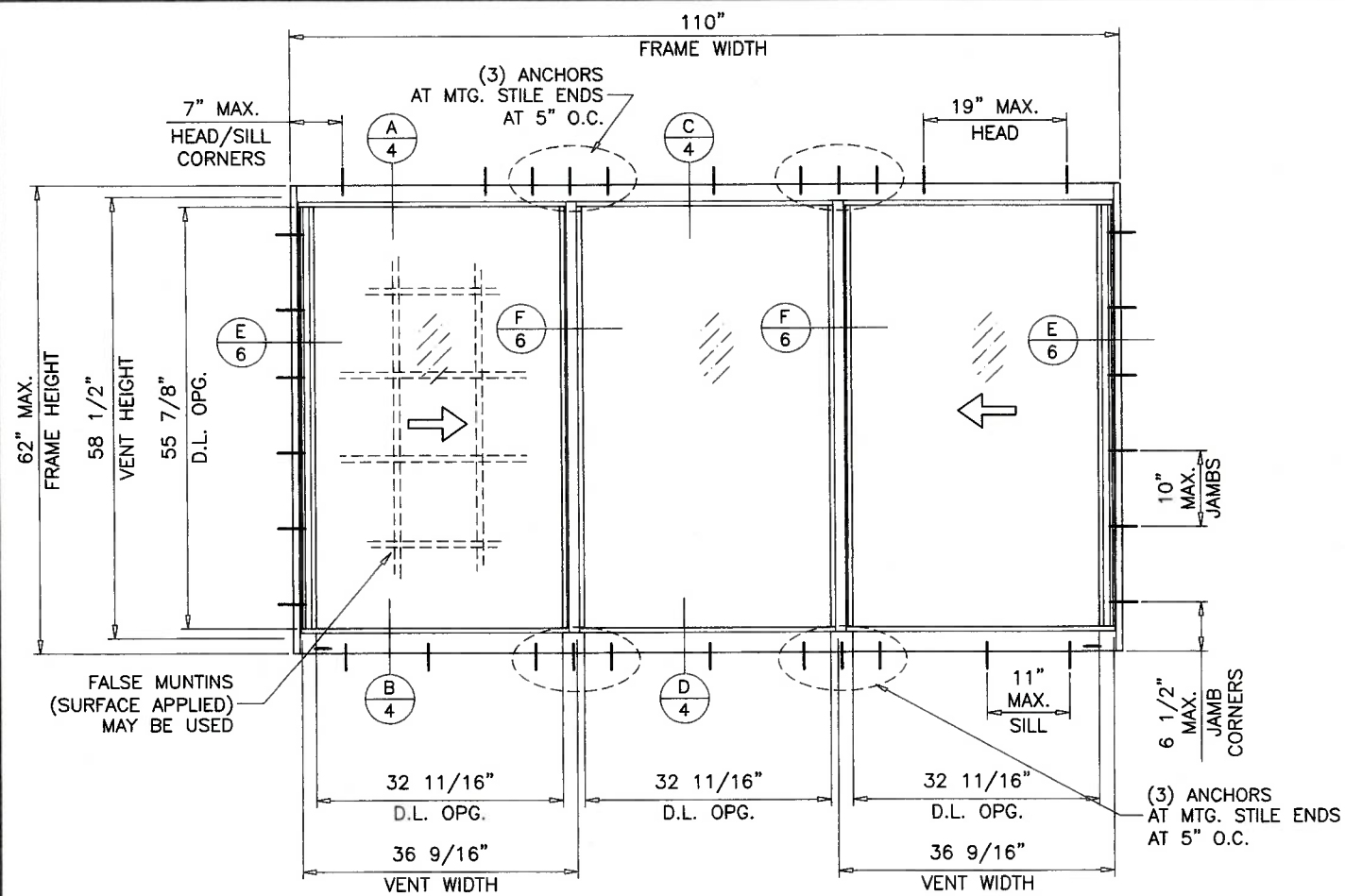
DEC 01 2020



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978  
COMP-ANL W16-86ES

ES-EL200 HORIZONTAL ROLLING ALUM. WDW. (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
	A	01.11.17		NO CHANGE THIS SHEET
	B	09.27.17		UPDATED TO 2017 FBC
	C	01.12.18		INTERLAYERS ON SHEET 3 ADDED
	D	06.22.20		GENERAL REVISION
date:	12-19-16			
scale:	1/2"=1'-0"			
dr. by:	TARIQ			
chk. by:				
drawing no.	W16-86			
sheet	1 of 11			

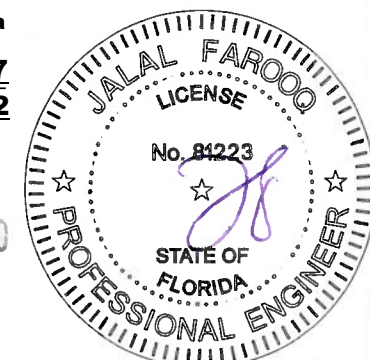


MAXIMUM DESIGN LOAD RATING = + 65.0 PSF  
(FOR SIZES SHOWN ABOVE OR SMALLER) - 65.0 PSF  
MTG. STILES WITHOUT REINFORCING

MAXIMUM DESIGN LOAD RATING = + 80.0 PSF  
(FOR SIZES SHOWN ABOVE OR SMALLER) - 90.0 PSF  
MTG. STILES WITH REINFORCING

OPERATING VENTS CAN BE 1/4 TO 1/3 OF WINDOW WIDTH  
MAX. D.L. OPG. FOR FIXED LITE NOT TO EXCEED 12.7 SQ. FT.  
FOR ALTERNATE SIZE UNITS MAX. FRAME AREA OF WINDOW  
NOT TO EXCEED TESTED FRAME AREA OF 47.36 SQ. FT.

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. 20-1208.07  
Expiration Date: 01/19/2022  
By: Manuel Perez  
Miami-Dade Product Control



**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
(C.A.N. 3538)  
TEL. (305) 264-8100 FAX. (305) 262-8978

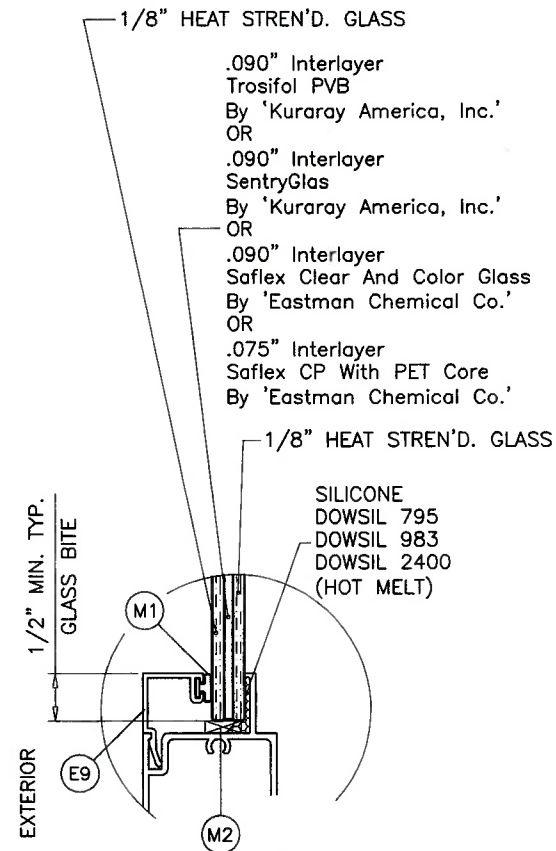
ES-EL200 HORIZONTAL ROLLING ALUM. WDW. (L.M.I.)

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

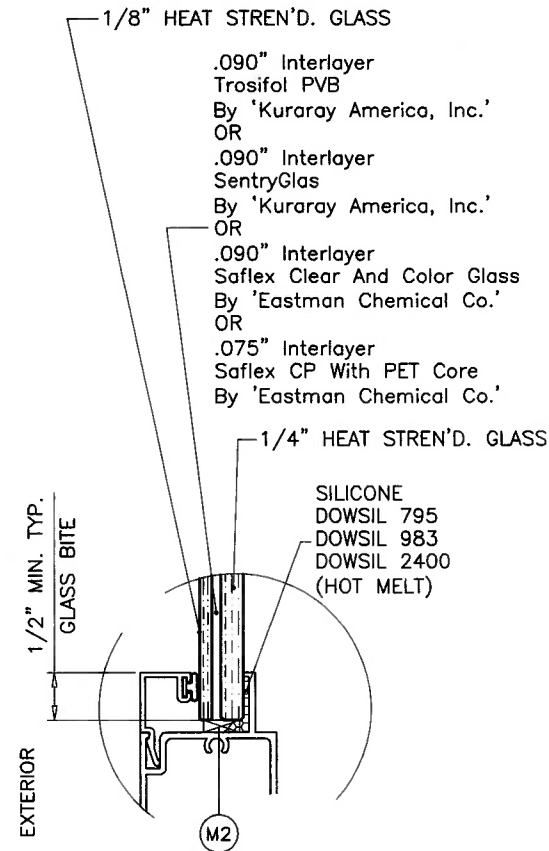
date: 12-19-16	revisions:			
scale: 1/2"=1'-0"	no	date	by	description
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	B	09.27.17		NO CHANGE THIS SHEET
	C	01.12.18		NO CHANGE THIS SHEET
dr. by: TARIQ	D	06.22.20		GENERAL REVISION
chk. by:				

drawing no.  
W16-86

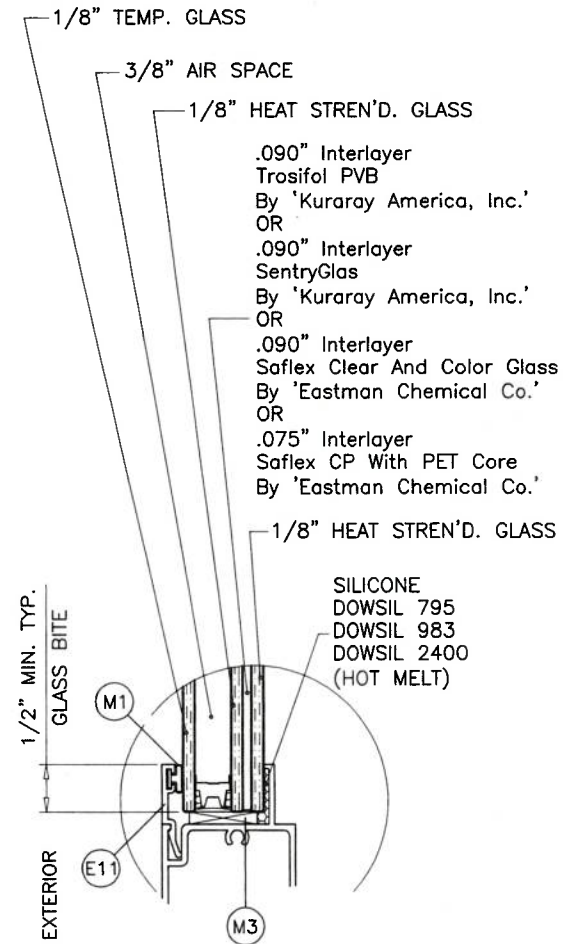
sheet 2 of 11



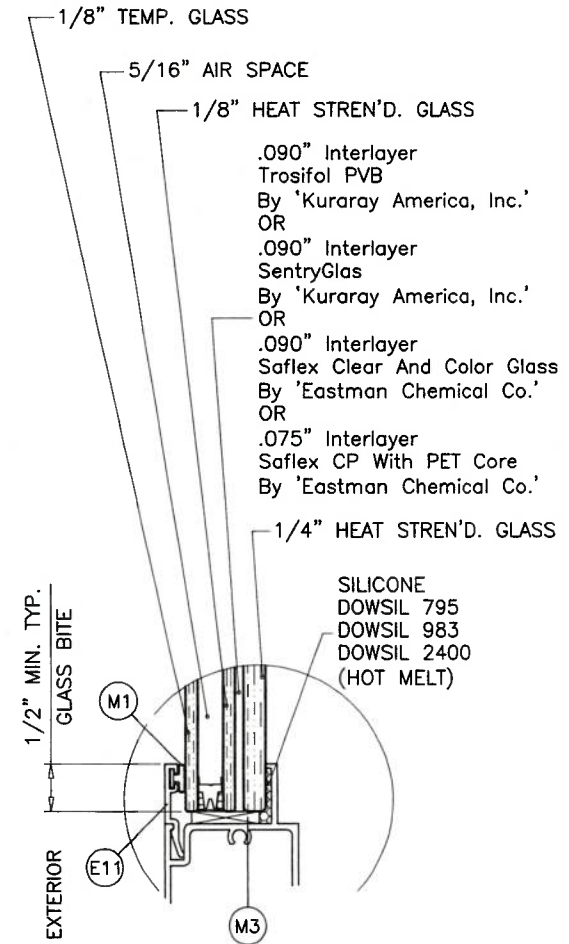
**GLASS TYPE '1'**  
5/16" OVERALL LAM. GLASS



**GLASS TYPE '2'**  
7/16" OVERALL LAM. GLASS



**GLASS TYPE '1i'**  
7/8" OVERALL INSUL. LAM. GLASS



**GLASS TYPE '2i'**  
7/8" OVERALL INSUL. LAM. GLASS

### GLAZING OPTIONS

NOTE:  
GLASS CAPACITIES ARE  
BASED ON ASTM E1300-09 (3 SEC. GUSTS)  
AND FLORIDA BUILDING COMMISSION  
DECLARATORY STATEMENT DCA05-DEC-219

5/16" & 3/8" AIR SPACE CONSISTING OF:  
SPACER:  
'HELIMA' LOW PROFILE ALUMINUM SPACER  
BY 'LINGERMANN GMBH'  
AROUND THE PERIMETER OF THE GLASS.  
PERIMETER SEALANT:  
SILICONE  
DOWSIL 791  
GE 2000

**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
NOA-No. **21-0608.03**  
Expiration Date: **01/19/2027**

By *Manuel Perez*  
Miami-Dade Product Control

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-1208.07**  
Expiration Date: **01/19/2022**

By *Manuel Perez*  
Miami-Dade Product Control

DEC 01 2020



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

COMP-ANL\W16-86ES

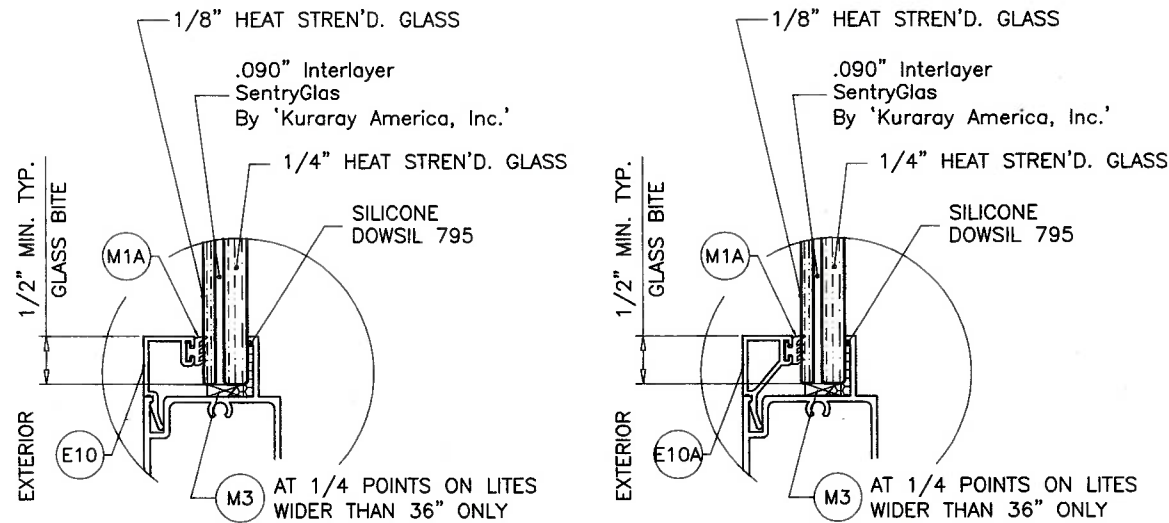
ES-EL200 HORIZONTAL ROLLING ALUM. WDW. (L.M.I.)

**E.S. WINDOWS, LLC**  
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MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

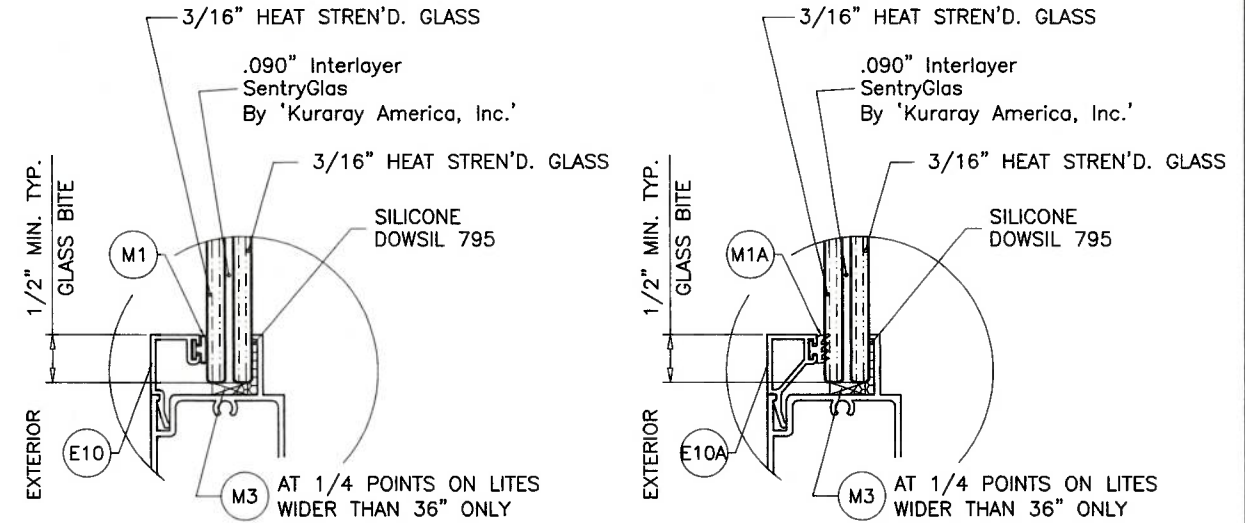
revisions:	no	date	by	description
A	01.11.17	REV. PER PER COMMENTS		
B	09.27.17	UPDATED TO 2017 FBC		
C	01.12.18	INTERLAYER OPTIONS ADDED		
D	06.22.20	GENERAL REVISION		

date: 12-19-16  
scale: 1/2" = 1"  
dr. by: TARIQ  
chk. by:

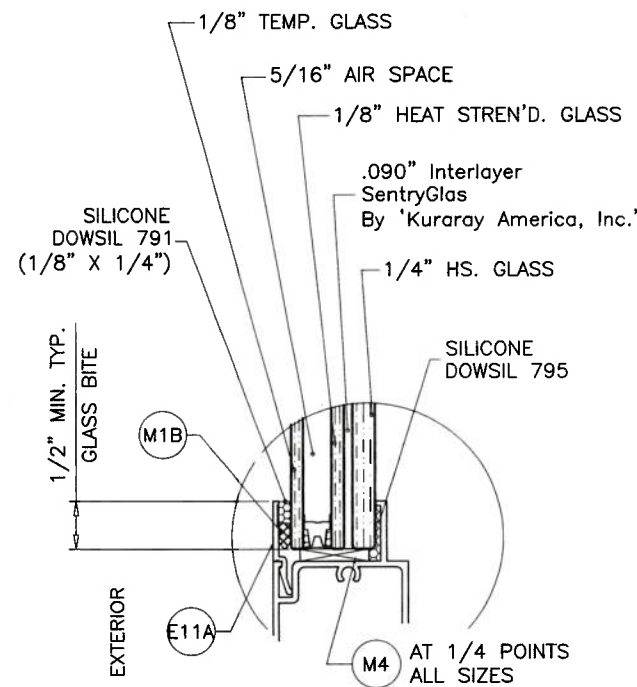
drawing no.  
**W16-86**  
sheet 3 of 11



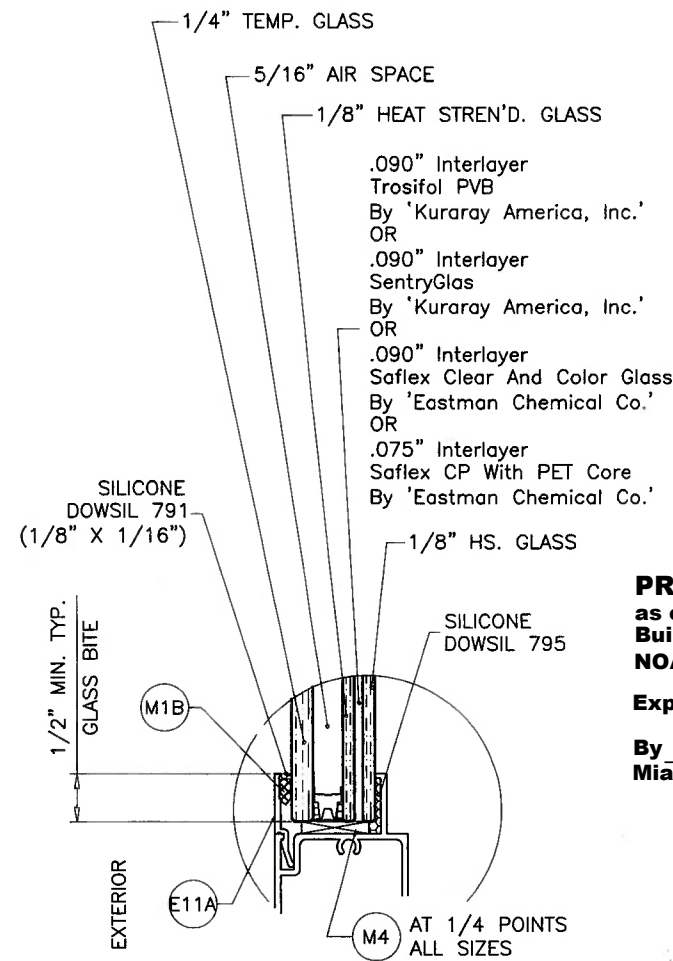
**GLASS TYPE '2A'**  
7/16" OVERALL LAM. GLASS



**GLASS TYPE '3'**  
7/16" OVERALL LAM. GLASS



**GLASS TYPE '2Ai'**  
7/8" OVERALL INSUL. LAM. GLASS

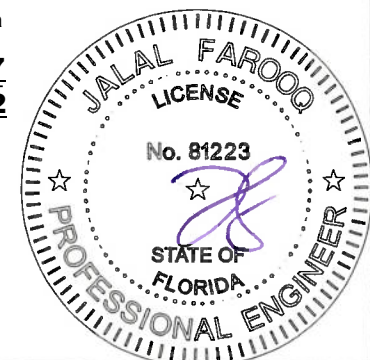


**GLASS TYPE '4i'**  
7/8" OVERALL INSUL. LAM. GLASS  
MAXIMUM DESIGN LOADS FOR GLASS TYPE '4i'  
NOT TO EXCEED ±80.0 PSF

**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
NOA-No. **21-0608.03**  
Expiration Date: **01/19/2027**  
By: *Manuel Perez*  
Miami-Dade Product Control

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-1208.07**  
Expiration Date: **01/19/2022**  
By: *Manuel Perez*  
Miami-Dade Product Control

5/16" AIR SPACE CONSISTING OF:  
SPACER:  
'HELIMA' LOW PROFILE ALUMINUM SPACER  
BY 'LINGERMANN GMBH'  
AROUND THE PERIMETER OF THE GLASS.  
PERIMETER SEALANT:  
SILICONE  
DOWSIL 791  
GE 2000



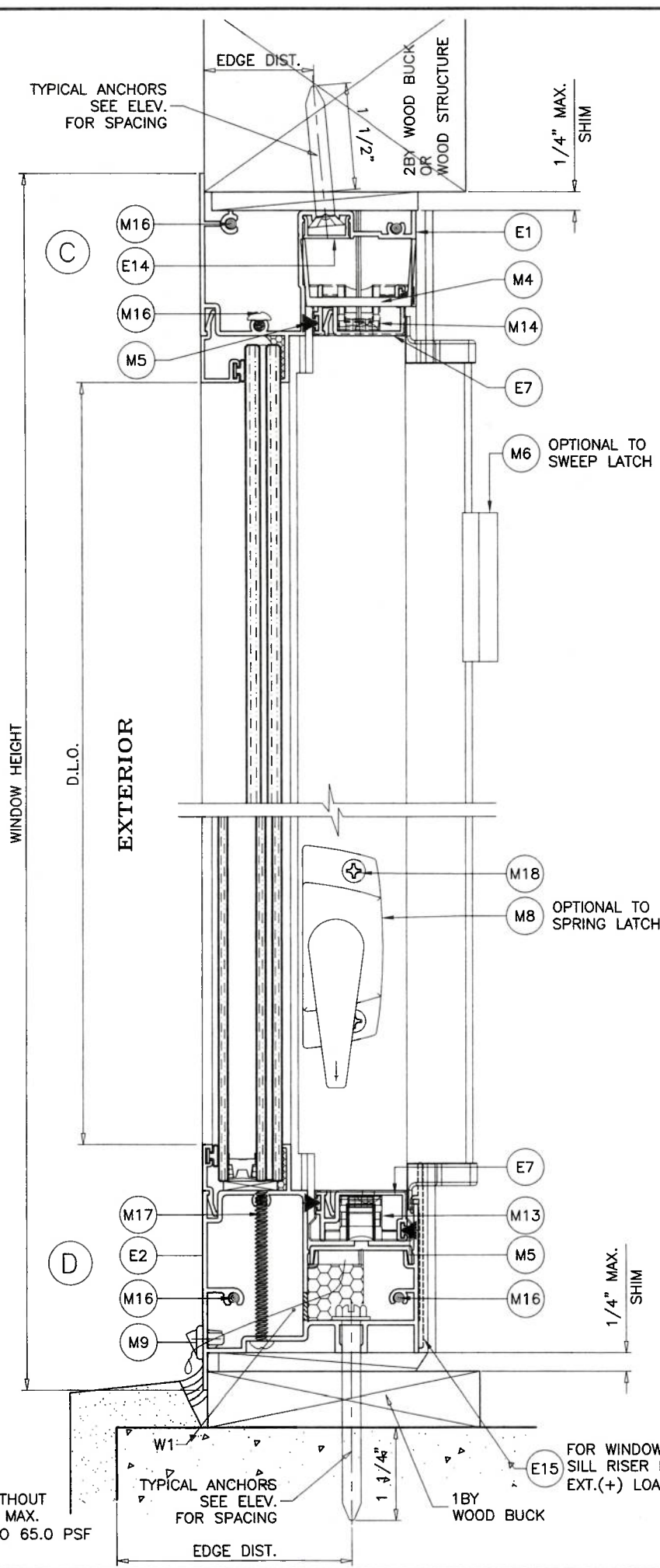
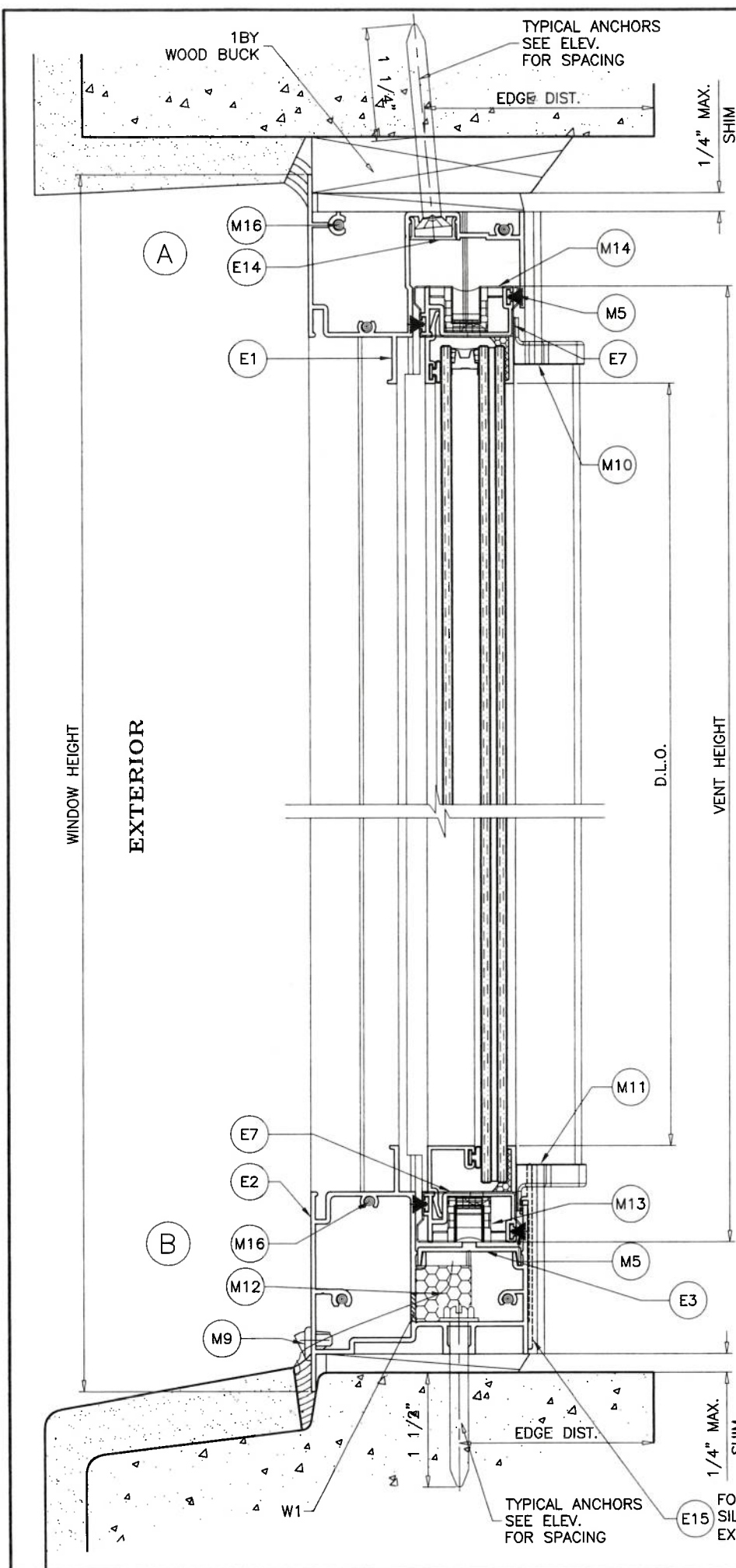
ES-EL200 HORIZONTAL ROLLING ALUM. WDW. (L.M.I.)

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

revisions:		no date by description	
date:	12-19-16	scale:	1/2" = 1"
dr. by:	TARIQ	chk. by:	
drawing no.	W16-86		
sheet	3.1 of 11		

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

COMP-ANL\W16-86ES

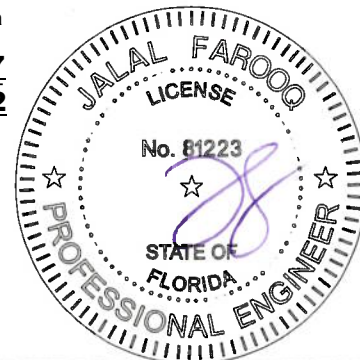


**PRODUCT RENEWED**  
 as complying with the Florida  
 Building Code  
 NOA-No. **21-0608.03**  
 Expiration Date: **01/19/2027**  
 By: *Manuel Perez*  
 Miami-Dade Product Control

**WEEPHOLES:**  
 W1 = 1-1/2" X 5/16" WEEPHOLES AT 5-1/2" FROM  
 EACH END

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 Miami-Dade Product Control

DEC 01 2020



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COMP-ANL\W16-86ES

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	C	01.12.18		NO CHANGE THIS SHEET
	D	06.22.20		GENERAL REVISION

date: 12-19-16  
 scale: 1/2" = 1"  
 dr. by: TARIQ  
 chk. by:

drawing no.  
**W16-86**  
 sheet 4 of 11

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

**TYPICAL ANCHORS:** SEE ELEV. FOR SPACING

**1/4" DIA. ULTRACON+ BY 'DEWALT'** ( $F_u=164$  KSI,  $F_y=148$  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)

DIRECTLY INTO CONCRETE OR BLOCKS  
1-1/2" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

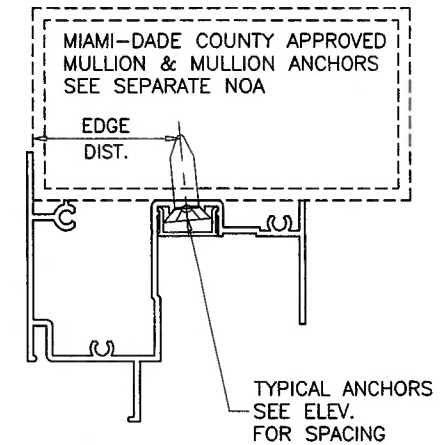
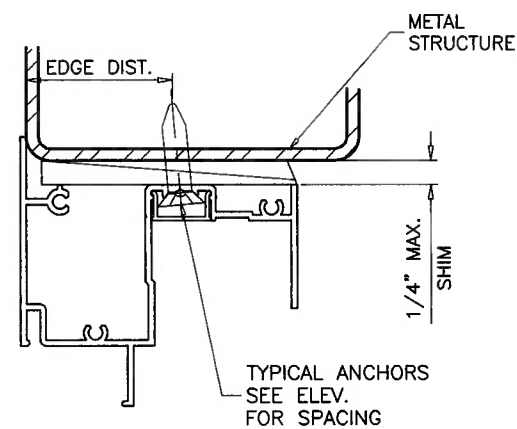
**1/4" DIA. TEKS OR SELF DRILLING SCREWS** (GRADE 5 CRS)

INTO MIAMI-DADE COUNTY APPROVED MULLIONS  
OR  
INTO METAL STRUCTURES (HEAD/SILL/JAMBS)  
(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE  
ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)  
STEEL: 1/8" THK. MIN. ( $F_y = 36$  KSI MIN.)  
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

**TYPICAL EDGE DISTANCE**

INTO CONCRETE AND MASONRY = 2-1/2" MIN.  
INTO WOOD STRUCTURE = 1" MIN.  
INTO METAL STRUCTURE = 3/4" MIN.

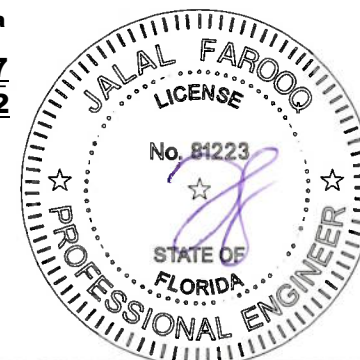
WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.  
CONCRETE AT HEAD, SILL OR JAMBS  $f'_c = 3000$  PSI MIN.  
C-90 HOLLOW/FILLED BLOCK AT JAMBS  $f'_m = 2000$  PSI MIN.



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				chk. by:	

drawing no.  
**W16-86**  
sheet 5 of 11

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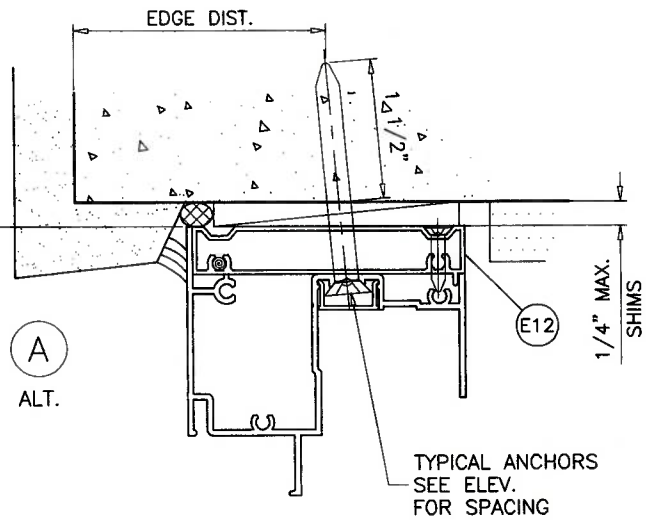
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COMP-ANL W16-86ES

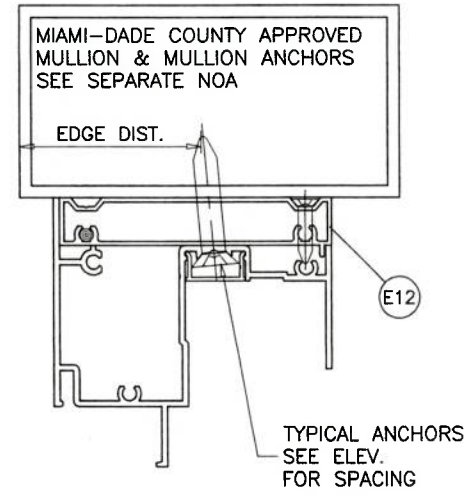
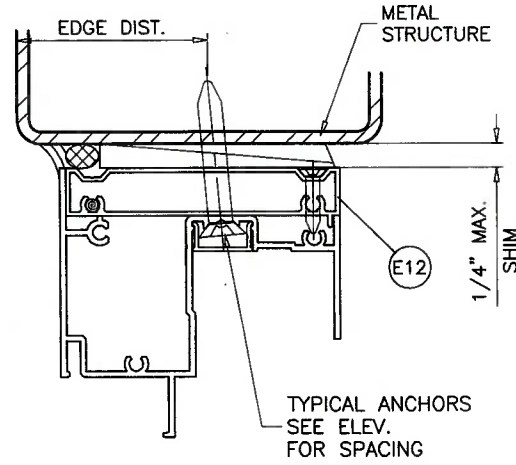


WINDOW HEIGHT

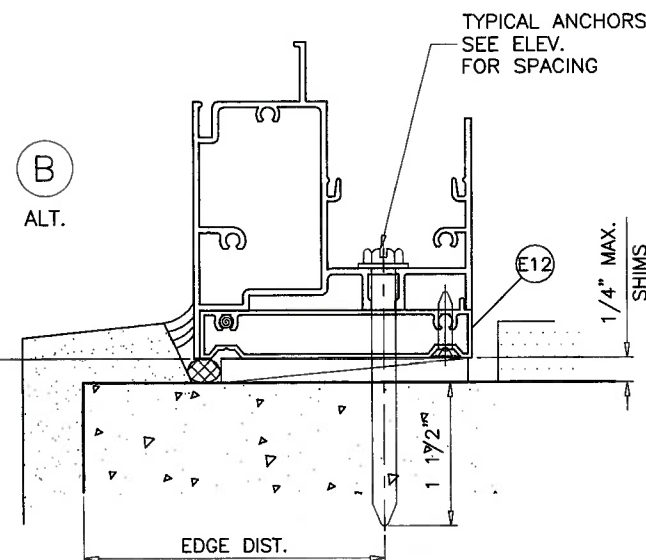
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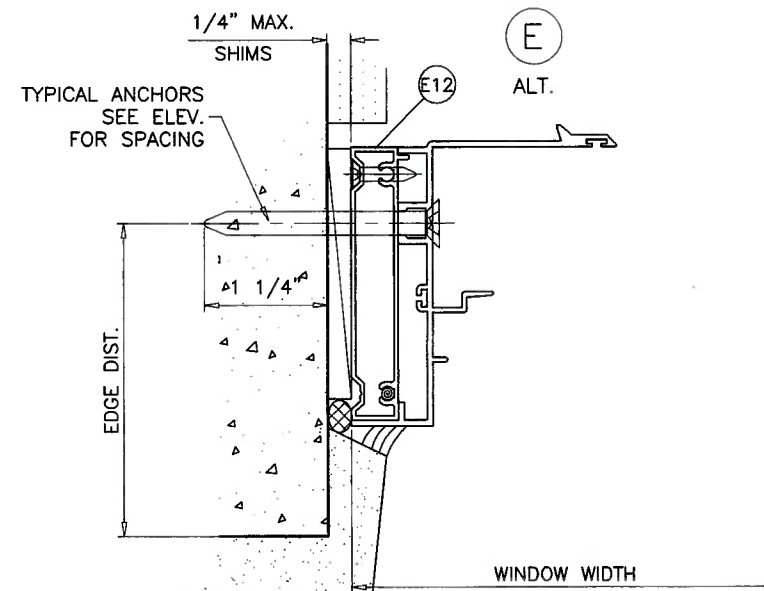
A  
ALT.



MIAMI-DADE COUNTY APPROVED  
MULLION & MULLION ANCHORS  
SEE SEPARATE NOA



B  
ALT.



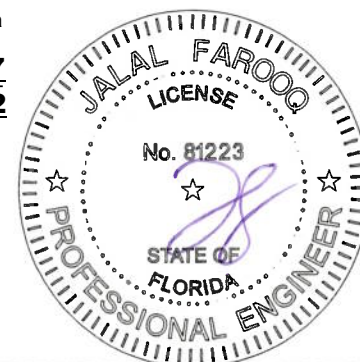
E  
ALT.

INSTALLATION DETAILS WITH FLUSH FRAME ADAPTER  
SEE SHEETS 4 & 6 FOR WINDOW DETAILS

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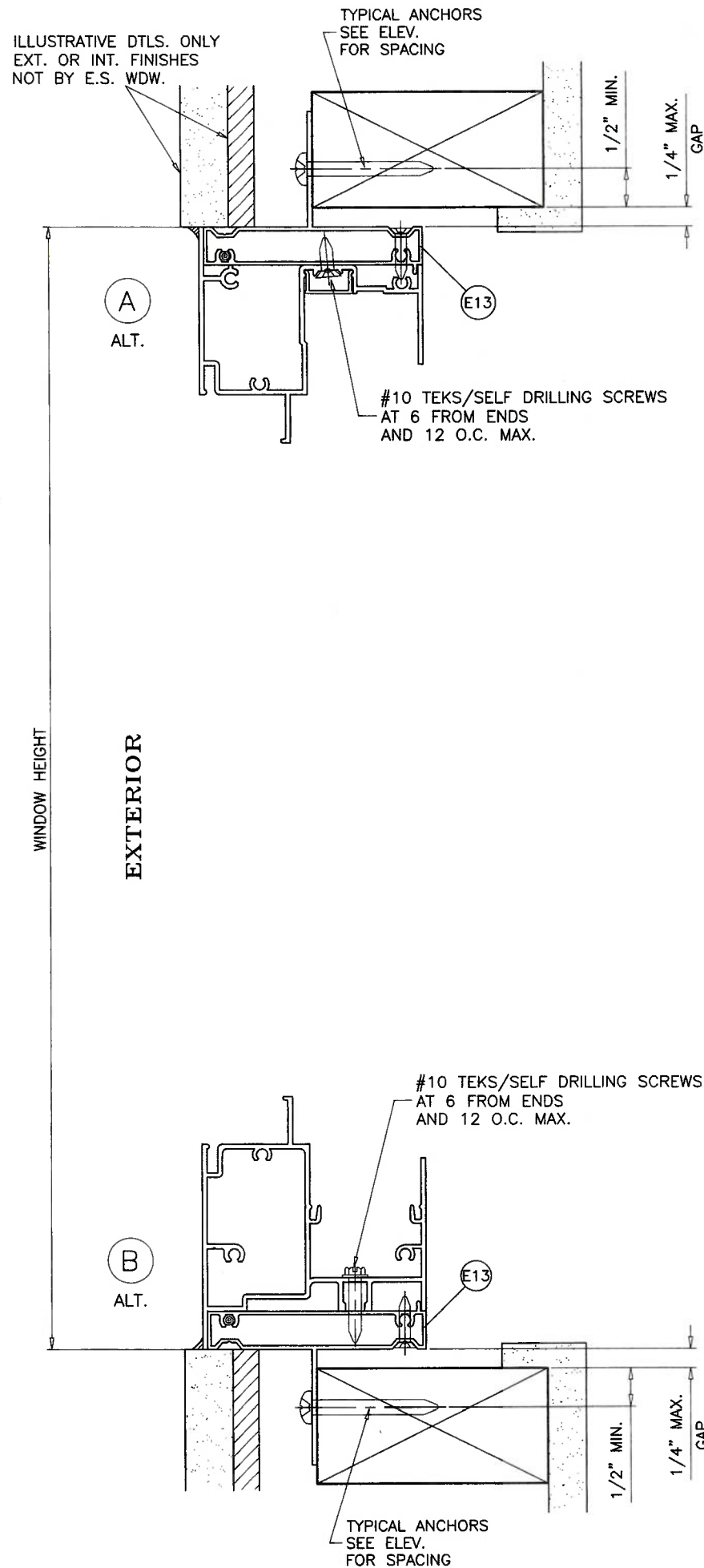
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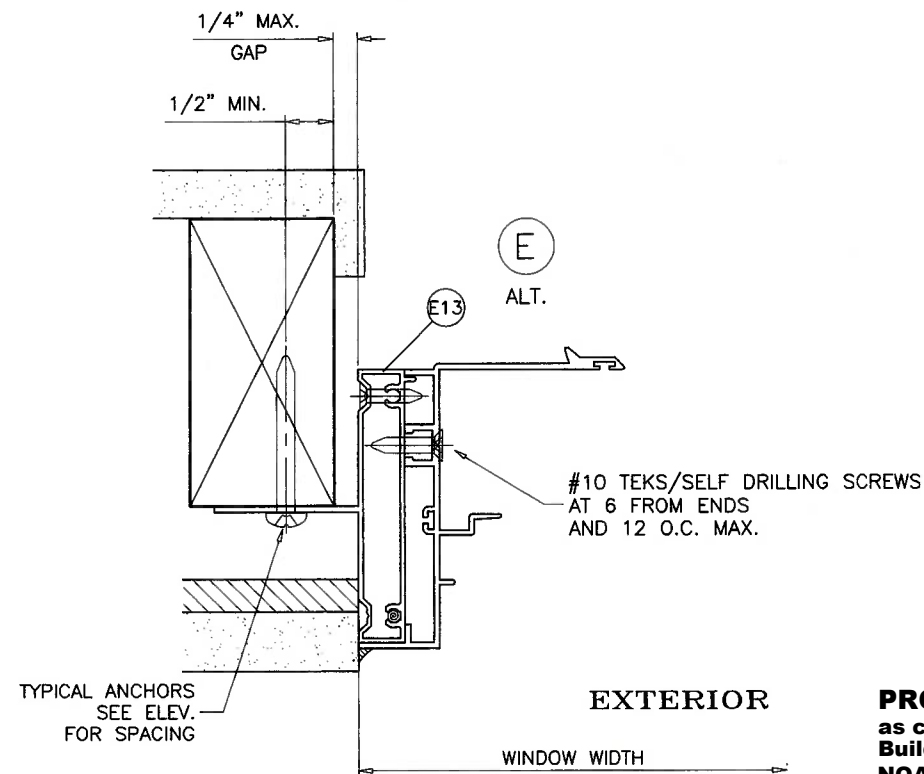
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chk. by:		drawing no.	W16-86	sheet	7 of 11



**TYPICAL ANCHORS:** SEE ELEV. FOR SPACING

**#10 WOOD SCREWS** (GRADE 2 CRS)  
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES  
1-1/2" MIN. PENETRATION INTO WOOD



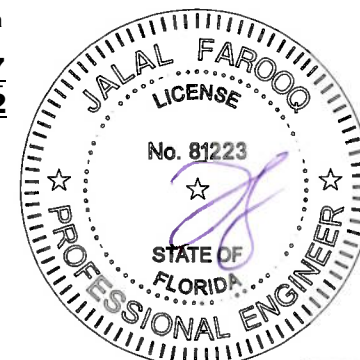
**INSTALLATION DETAILS WITH FIN FRAME ADAPTER**  
SEE SHEETS 4 & 6 FOR WINDOW DETAILS

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Miami-Dade Product Control

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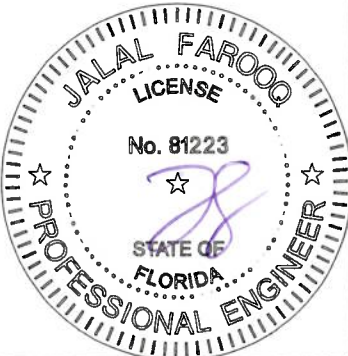
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drawing no.	W16-86				
sheet	8 of 11				

ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E1	ES-EL104	1	FRAME HEAD	6063-T6	-
E2	ES-EL201	1	FRAME SILL	6063-T6	-
E3	ES-EL202	1	SILL TRACK	6063-T6	-
E4	ES-EL102	2	FRAME JAMB (OPERATING)	6063-T6	-
E4.1	ES-EL101A	2	FRAME JAMB (FIXED)	6063-T6	-
E5	ES-EL105	1	INTERLOCK STILE	6063-T6	-
E6	ES-EL106	1	JAMB STILE	6063-T6	-
E7	ES-EL107	2	VENT TOP & BOTTOM RAIL	6063-T6	-
E8	ES-EL108A	1	FIXED MTG. STILE	6063-T6	-
E9	ES-EL109	AS RQD.	GLAZING BEAD (5/16" LAM. GLASS)	6063-T6	-
E10	ES-EL110	AS RQD.	GLAZING BEAD (7/16" LAM. GLASS)	6063-T6	-
E10A	ES-EL123	AS RQD.	GLAZING BEAD (7/16" LAM. GLASS)	6063-T6	-
E11	ES-EL111	AS RQD.	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T6	-
E11A	ES-EL116	AS RQD.	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T6	-
E12	ES-EL112	AS REQD.	FLUSH FRAME ADAPTER	6063-T6	-
E13	ES-EL115	AS REQD.	FLUSH FRAME ADAPTER WITH FIN	6063-T5	-
E14	ES-EL114	AS REQD.	HEAD SCREW COVER	6063-T6	-
E15	ES-2011	AS REQD.	SILL RISER	6063-T6	-
E16	ES-EL220	AS REQD.	INTERLOCK STILE STIFFENER	6005-T5	-
E17	ES-EL221	AS REQD.	FIX. MTG. STILE STIFFENER	6005-T5	-
E18	ES-EL113A	AS REQD.	JAMB SCREW COVER	6063-T6	-
M1	ES-5008A	AS REQD.	GLAZING BEAD BULB	SILICONE	DUROMETER 60±5 SHORE A
M1A	EL100-G02	AS REQD.	EXTERIOR LEAF GASKET	SILICONE	DUROMETER 60±5 SHORE A
M1B	ES-H-340-G05	AS REQD.	EXTERIOR WEDGE GASKET	SILICONE	DUROMETER 65±5 SHORE A
M2	80-372A	2/ LITE	SETTING BLOCK AT 1/4 POINTS (LAM. GLASS)	SILICONE	DUROMETER 80±5 SHORE A
M3	EL100-B01	2/ LITE	SETTING BLOCK AT 1/4 POINTS (INSUL. LAM. GLASS)	SILICONE	DUROMETER 80±5 SHORE A
M4	EL100-301	AS REQD.	VENT STOP	RIGID PVC	-
M5	W23211NG	AS REQD.	PILE W'STRIPPING WITH PLASTIC FIN	POLYPROPYLENE	-
M6	SK08-4010	2/ VENT	SPRING LOADED LATCH	6063-T6	ALTERNATE TO SWEEP LATCH
M7	ES-1012	2/ LATCH	LATCH SPRING	ST. STEEL	-
M8	SL302-XX	2/ VENT	SWEEP LATCH	DIE CAST ALUM	-
M9	WA2L	2	WEEP HOLE COVER	RIGID PVC	-
M10	ES-1000-P1L	-	LEFT NOTCH CAP	NYLON	-
M11	ES-1000-P1R	-	RIGHT NOTCH CAP	NYLON	-
M12	WPSA-N1	2	3/4" X 3/4" RETIC FOAM PAD	FOAM	-
M13	TAR-16019P-A	2	ROLLER	POLYAMIDE & ACETAL	-
M14	TAR-16019P	2	ROLLER HOUSING	POLYAMIDE	-
M15	#8 X 1"	-	FLUSH FRAME ADAPTER ASSEMBLY FASTENERS	ST. STEEL	FH SMS
M16	#8 X 1"	-	FRAME AND VENT ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M17	#8 X 3"	-	FRAME SILL ASSEMBLY FASTENERS	ST. STEEL	PH SMS
M18	#8 X 3/4"	-	SWEEP LATCH FASTENERS	ST. STEEL	FH SMS
M20	#14 X 3/4"	-	ASSEMBLY FASTENERS FOR FLUSH ADAPTER	ST. STEEL	PH SMS

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DEC 01 2023



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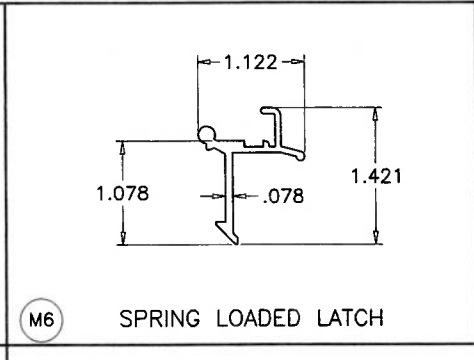
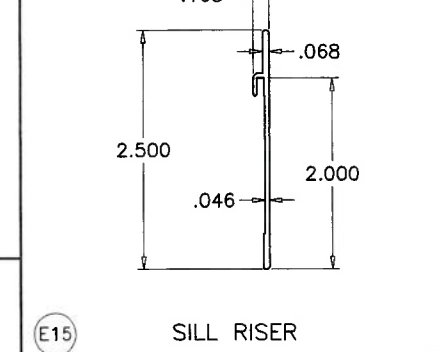
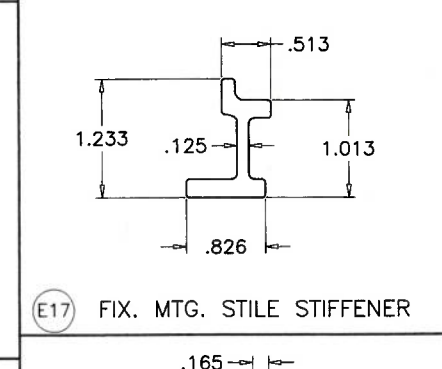
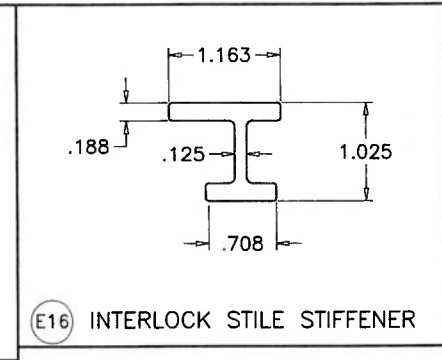
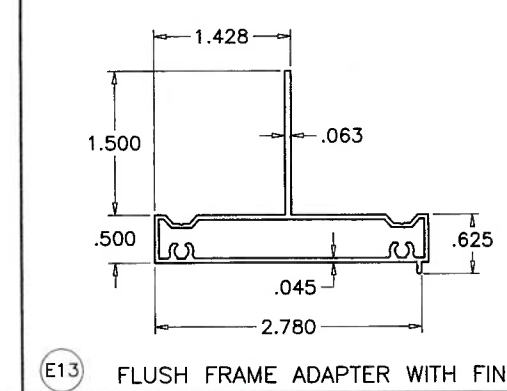
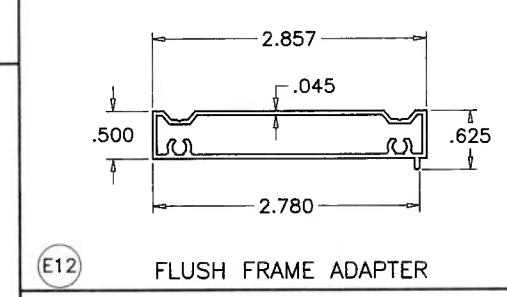
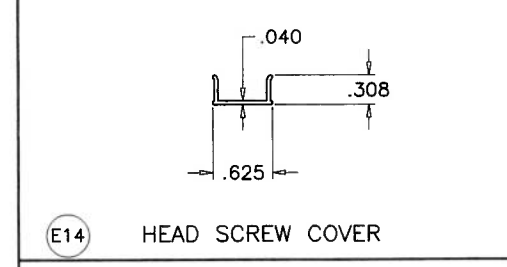
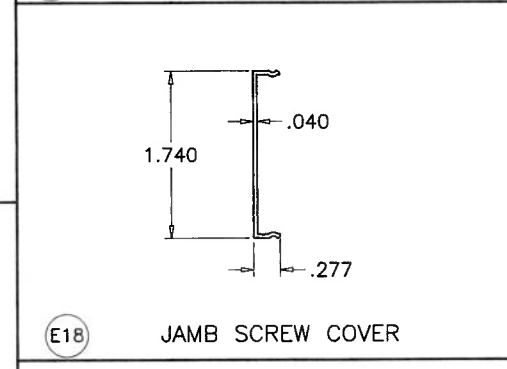
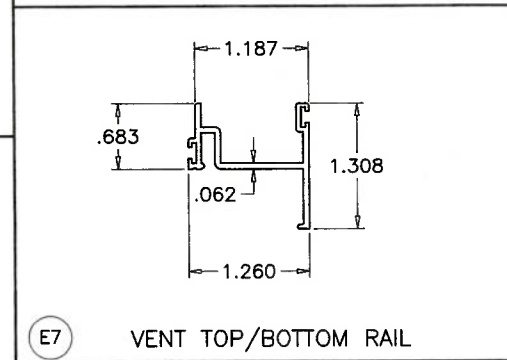
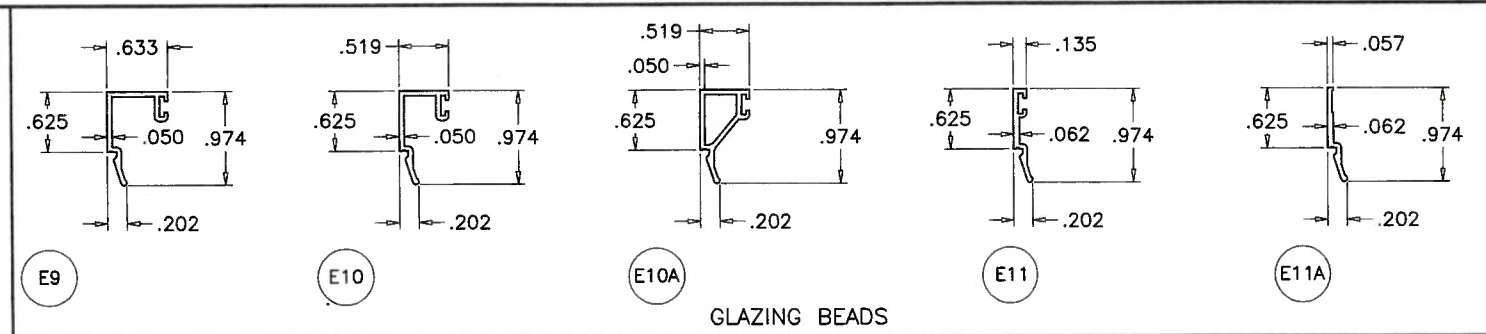
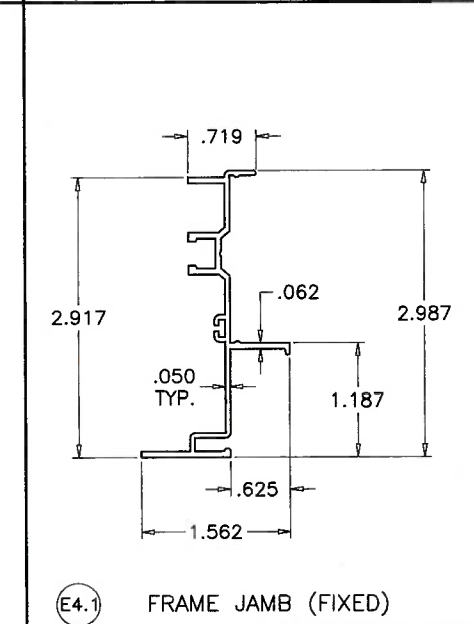
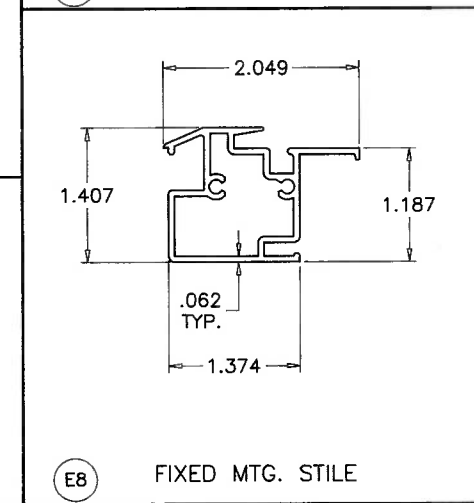
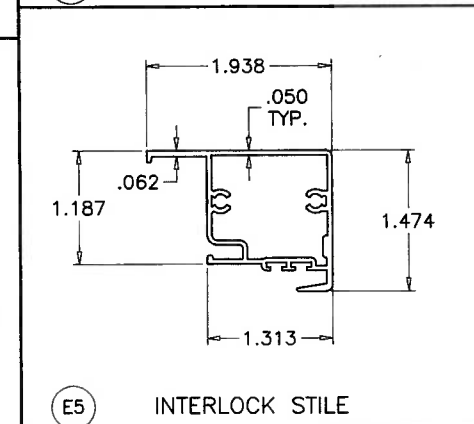
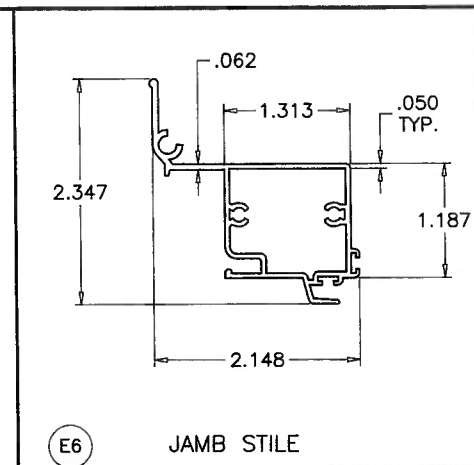
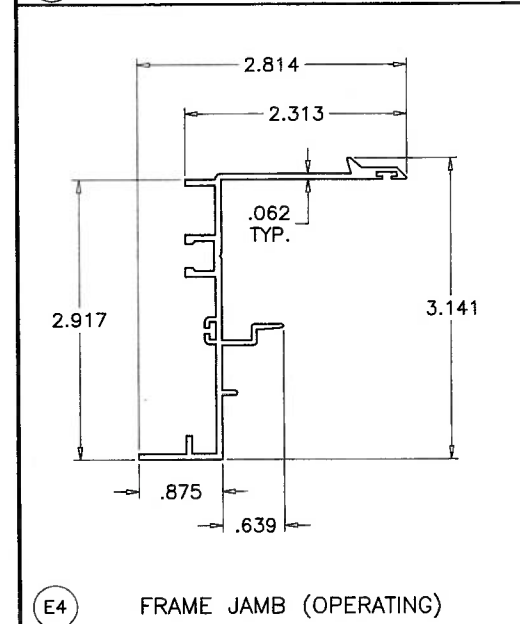
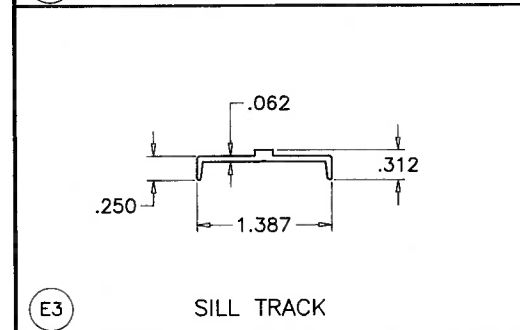
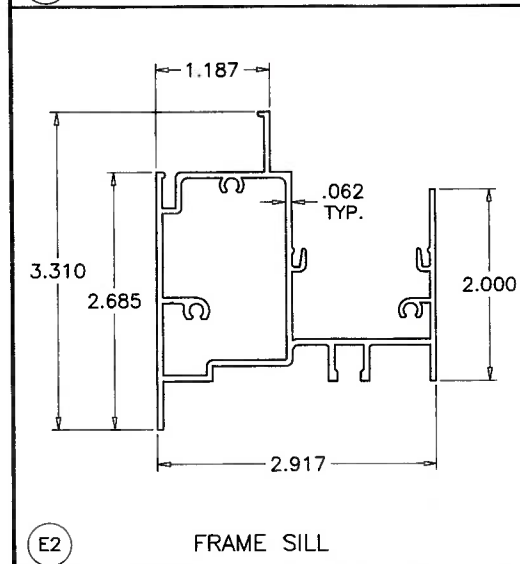
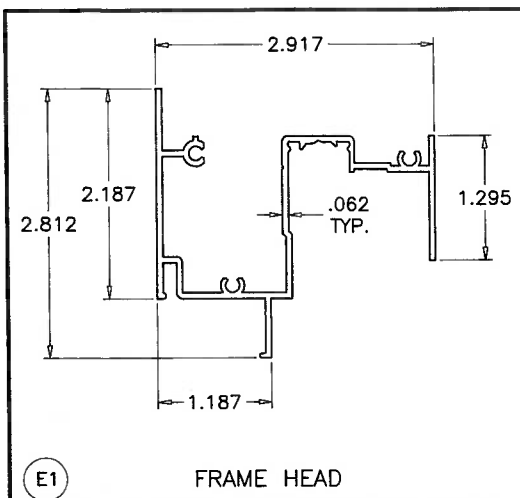
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sheet 9 of 11

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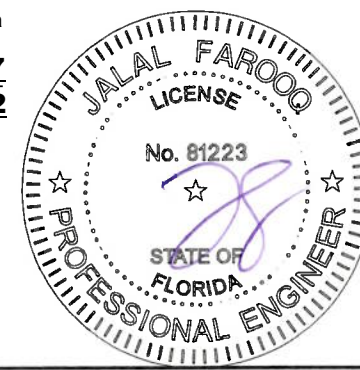
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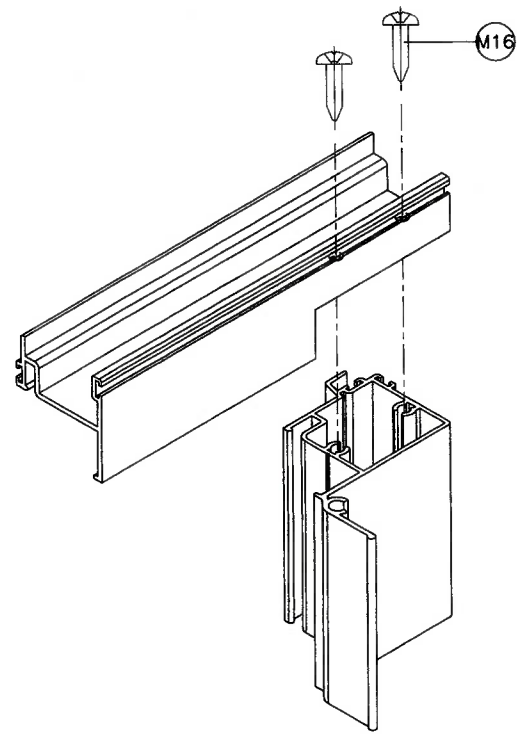
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COMP-ANL\W16-86ES

ES-EL200 HORIZONTAL ROLLING ALUM. WDW. (L.M.I.)  
**E.S. WINDOWS, LLC**  
3550 N.W. 49 STREET  
MIAMI, FL. 33142  
TEL. (305) 638-5151 FAX. (305) 638-5158

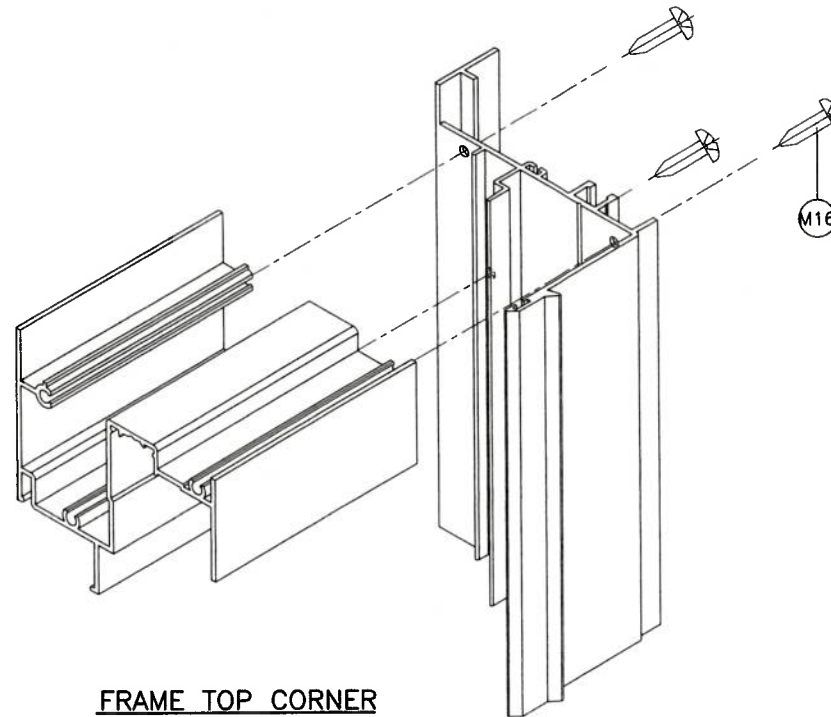
revisions:	no	date	by	description
	A	01.11.17		NO CHANGE THIS SHEET
	B	09.27.17		NO CHANGE THIS SHEET
	C	01.12.18		NO CHANGE THIS SHEET
	D	06.22.20		GENERAL REVISION

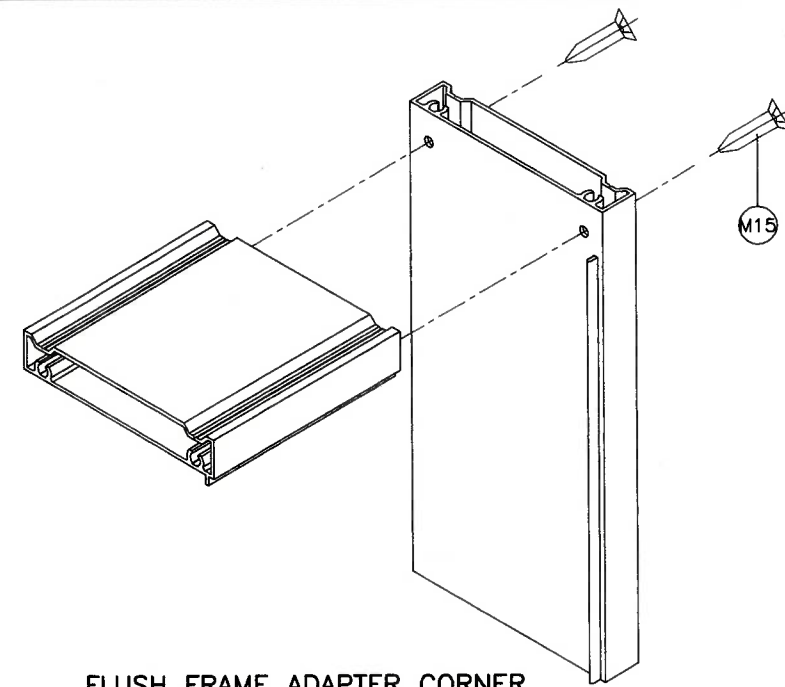
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drawing no. <b>W16-86</b>			
sheet 10 of 11			



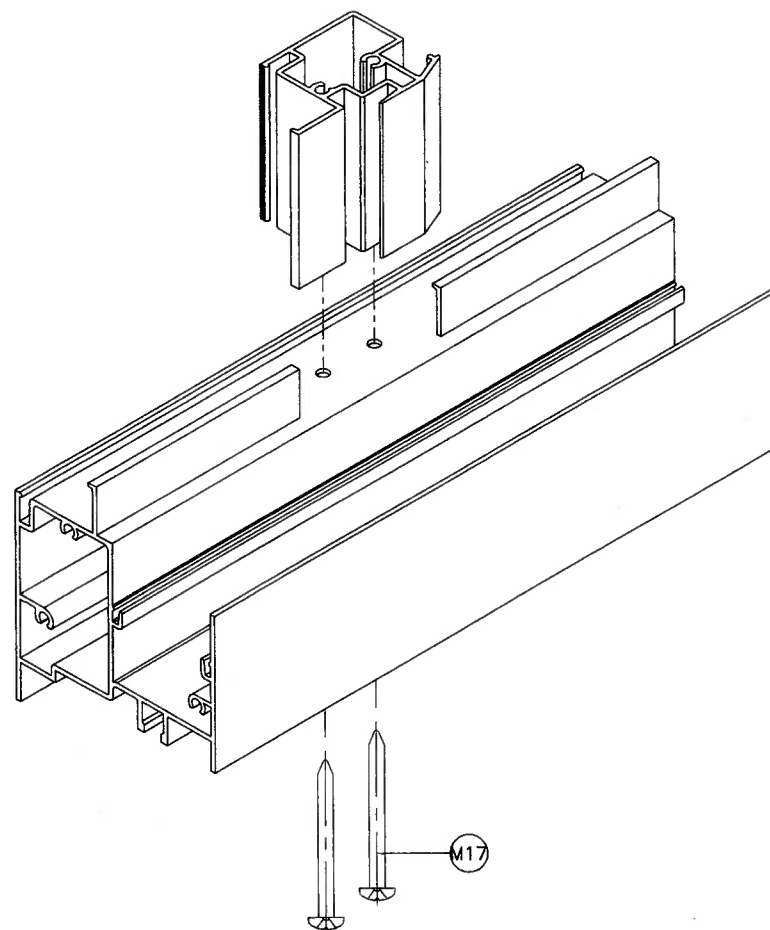
VENT TOP & BOTTOM CORNER



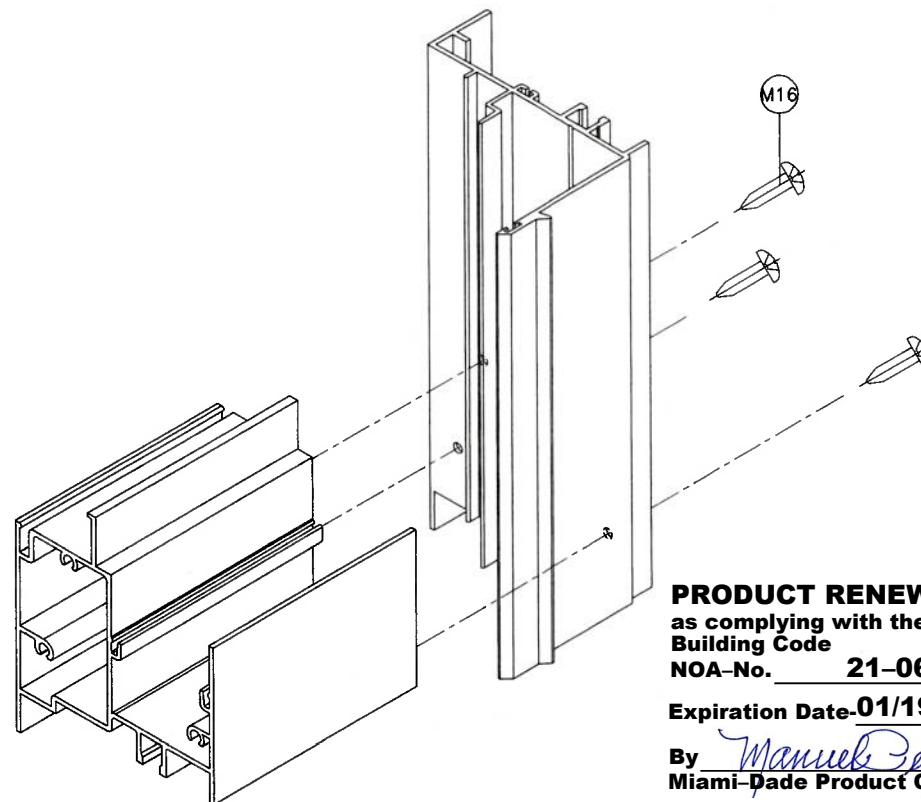
FRAME TOP CORNER



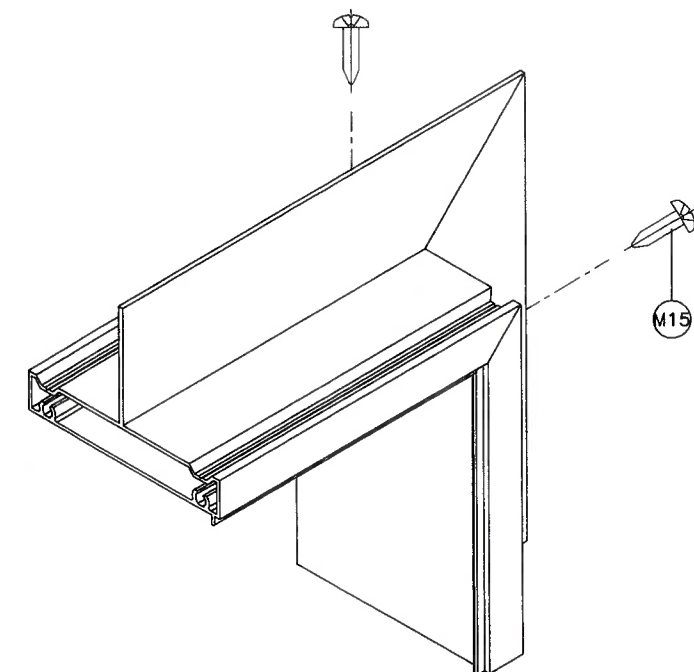
FLUSH FRAME ADAPTER CORNER



FIX. MTG. RAIL CORNER



FRAME BOTTOM CORNER



FIN FRAME ADAPTER CORNER

**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
NOA-No. **21-0608.03**  
Expiration Date: **01/19/2027**  
By: *Manuel Perez*  
Miami-Dade Product Control

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-1208.07**  
Expiration Date: **01/19/2022**  
By: *Manuel Perez*  
Miami-Dade Product Control

DEC 0 1 2020



**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
9360 SUNSET DRIVE, SUITE 220  
MIAMI, FLORIDA 33173  
TEL. (305) 264-8100 FAX. (305) 262-6978  
COMP-ANL W16-86ES

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drawing no.	W16-86	chk. by:			
sheet 11 of 11					