MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

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

# NOTICE OF ACCEPTANCE (NOA)

**Tecnoglass, LLC**
**3550 NW 49 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 "FX-3580" Aluminum Window Wall System – L.M.I.**

**APPROVAL DOCUMENT:** Drawing No. **W08-89**, titled "FX3580 Alum. Window Wall System (L.M.I.)", sheets 1 through 8 of 8, dated 11/03/08, with revision B dated 07/24/15, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, 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, 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 **revises and renews NOA# 12-0330.07** and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

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

MIAMI-DADE COUNTY APPROVED

3/8/16

**NOA No. 14-0923.03**
**Expiration Date: March 18, 2019**
**Approval Date: March 17, 2016**

**Tecnoglass, LLC**

## NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

### A. DRAWINGS

1. Manufacturer's die drawings and sections.
   ***(Submitted under NOA No. 09-0128.15)***
2. Drawing No. **W08-89**, titled "FX3580 Alum. Window Wall System (L.M.I.)", sheets 1 through 8 of 8, dated 11/03/08, with revision B dated 07/24/15, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, 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) Drop Load Test, per CPSC 16 CFR 1201 (ANSI Z97.1) (400 foot pounds)
   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 FX3580 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No. **FTL-5507,** dated 05/02/08, signed and sealed by Carlos S. Rionda, P.E.
   ***(Submitted under NOA No. 09-0128.15)***
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 FX3580 aluminum window wall system, prepared by Fenestration Testing Laboratory, Inc., Test Report No.**FTL-5537,** dated 05/12/08, signed and sealed by Carlos S. Rionda, P.E.
   ***(Submitted under NOA No. 09-128.15)***

### C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with **FBC-5th Edition (2014)**, dated 10/27/08 and updated on 06/24/15, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, 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. 14-0923.03**
**Expiration Date: March 18, 2019**
**Approval Date: March 17, 2016**

## NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

### E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **14-0916.11** issued to **Kuraray America, Inc.** for their **"SentryGlas® (Clear and White) Glass Interlayers"** dated 06/25/15, expiring on 07/04/18.

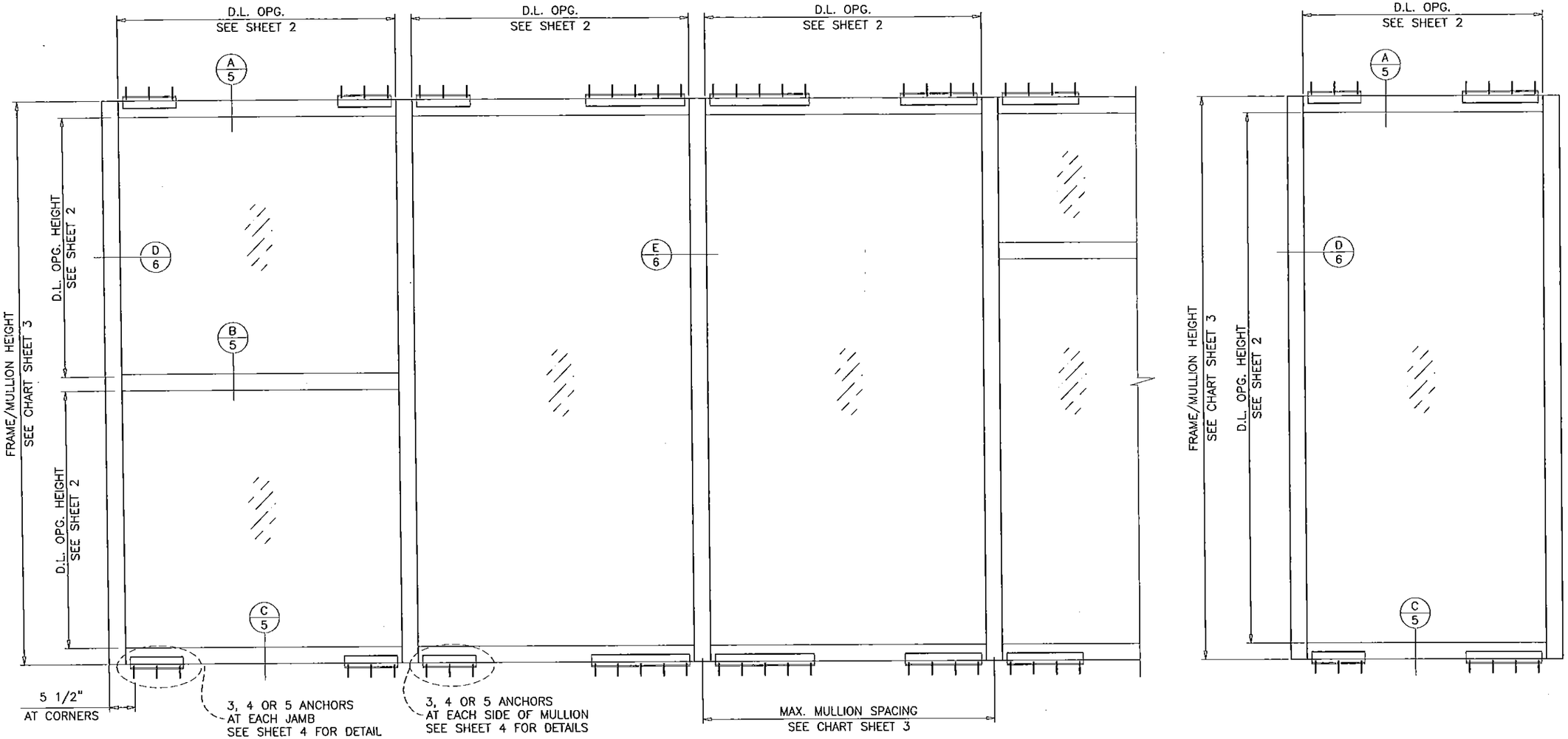
### F. STATEMENTS

1. Statement letter of conformance, complying with **FBC-5th Edition (2014)**, and of no financial interest, dated June 24, 2015, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
2. Asset purchase agreement dated 06/19/14, signed by Mr. Raul Casares, for and on behalf of R.C. Aluminum Industries, Inc. and Mr. José M. Daes, for and on behalf of Tecnoglass, LLC.
3. Statement letter dated 07/15/14, issued by R.C. Aluminum Industries, Inc. of sales of asset and relinquishing of all rights of NOA No. **12-0330.07**, signed by Raul Casares, for and on behalf of R.C. Aluminum Industries, Inc.
4. Department of State Certification of **TECNOGLASS, LLC** as a limited liability company, active and organized under the laws of the State of Florida, dated 03/03/14 and signed by Ken Detzner, Secretary of State.
5. Laboratory compliance letters prepared by Fenestration Testing Laboratory, Inc., for Test Reports No. **FTL-5507** and **FTL-5537,** dated 05/02/08 and 05/12/08 respectively, all signed and sealed by Carlos S. Rionda, P.E.
   ***(Submitted under NOA No. 09-0128.15)***
6. Testing Proposal #07-2806 issued by the Product Control Section, dated September 14, 2007, signed by Manuel Perez, P.E.
   ***(Submitted under NOA No. 09-128.15)***

### G. OTHERS

1. Notice of Acceptance No. **12-0330.07**, issued to R. C. Aluminum Industries, Inc., for their Series "FX-3580" Aluminum Window Wall System – L.M.I., approved on 06/14/12 and expiring on 03/18/14.

**Manuel Perez, P.E.**
**Product Control Examiner**
**NOA No. 14-0923.03**
**Expiration Date: March 18, 2019**
**Approval Date: March 17, 2016**




TYPICAL ELEVATIONS

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

## FX3580 ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH MIAMI-DADE COUNTY APPR'D LARGE MISSILE IMPACT RESISTANT DOORS.
FOR CONNECTION DETAILS TO MULLION SEE SEPARATE DOOR NOA.

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

ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS, ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

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 FLORIDA BUILDING CODE.

## INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

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

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

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

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

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

**STEP 6** FOR MIN. AND MAX. GAP DIMENSIONS AT FRAME JAMBS SEE CHART ON SHEET 6.

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

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

LAMINATED GLASS
LARGE MISSILE IMPACT

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 6538
AUG 21 2015

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 14-0923.03
Expiration Date March 18, 2019
By Manuel Perez
Miami-Dade Product Control


AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978


COMP-ANL\W08-89RC

FX3580 ALUM. WINDOW WALL SYSTEM (L.M.I.)


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


revisions:

| no | date | by | description |
|---|---|---|---|
| A | 03.05.12 | | UPDATED TO 2010 FBC |
| B | 07.24.15 | | UPDATED TO 2014 FBC |

date: 11-03-08
scale: 1/2"=1'-0"
dr. by: HAMID
chk. by:

drawing no.
W08-89

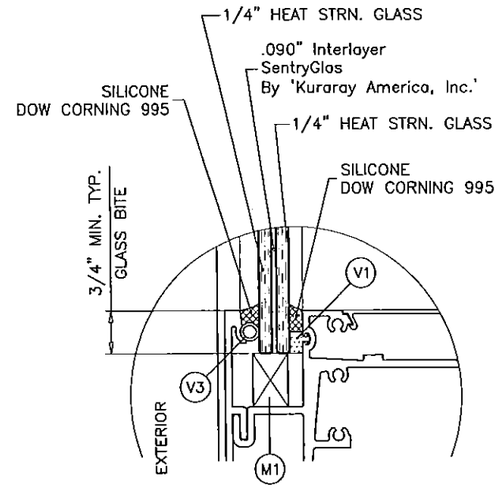
sheet 1 of 8

| GLASS DESIGN LOAD CAPACITY – PSF | | |
|---|---|---|
| NOMINAL DIMS | | 9/16" LAM. GLASS |
| D.L.O. WIDTH | D.L.O. HEIGHT | EXT. (+) INT. (–) |
| 36" | 60" | 160.0 |
| 39" | | 160.0 |
| 42" | | 160.0 |
| 45" | | 160.0 |
| 48" | | 160.0 |
| 51" | | 160.0 |
| 54" | | 160.0 |
| 57" | | 160.0 |
| 60" | | 160.0 |
| 63" | | 160.0 |
| 66" | | 100.0 |
| 69" | | 100.0 |
| 72" | | 100.0 |
| 75" | | 100.0 |
| 78" | | 100.0 |
| 36" | 66" | 160.0 |
| 39" | | 160.0 |
| 42" | | 160.0 |
| 45" | | 160.0 |
| 48" | | 160.0 |
| 51" | | 160.0 |
| 54" | | 160.0 |
| 57" | | 160.0 |
| 60" | | 100.0 |
| 63" | | 100.0 |
| 66" | | 100.0 |
| 69" | | 100.0 |
| 72" | | 100.0 |
| 75" | | 100.0 |
| 78" | | 100.0 |
| 36" | 72" | 160.0 |
| 39" | | 160.0 |
| 42" | | 160.0 |
| 45" | | 160.0 |
| 48" | | 160.0 |
| 51" | | 160.0 |
| 54" | | 160.0 |
| 57" | | 100.0 |
| 60" | | 100.0 |
| 63" | | 100.0 |
| 66" | | 100.0 |
| 69" | | 100.0 |
| 72" | | 100.0 |
| 75" | | 100.0 |
| 78" | | 100.0 |

| GLASS DESIGN LOAD CAPACITY – PSF | | |
|---|---|---|
| NOMINAL DIMS | | 9/16" LAM. GLASS |
| D.L.O. WIDTH | D.L.O. HEIGHT | EXT. (+) INT. (–) |
| 36" | 78" | 160.0 |
| 39" | | 160.0 |
| 42" | | 160.0 |
| 45" | | 160.0 |
| 48" | | 160.0 |
| 51" | | 100.0 |
| 54" | | 100.0 |
| 57" | | 100.0 |
| 60" | | 100.0 |
| 63" | | 100.0 |
| 66" | | 100.0 |
| 69" | | 100.0 |
| 72" | | 100.0 |
| 75" | | 100.0 |
| 78" | | 100.0 |
| 36" | 84" | 160.0 |
| 39" | | 160.0 |
| 42" | | 160.0 |
| 45" | | 159.4 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 54" | | 100.0 |
| 57" | | 100.0 |
| 60" | | 100.0 |
| 63" | | 100.0 |
| 66" | | 100.0 |
| 69" | | 100.0 |
| 72" | | 100.0 |
| 75" | | 100.0 |
| 78" | | 100.0 |
| 36" | 90" | 160.0 |
| 39" | | 160.0 |
| 42" | | 160.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 54" | | 100.0 |
| 57" | | 100.0 |
| 60" | | 100.0 |
| 63" | | 100.0 |
| 66" | | 100.0 |
| 69" | | 100.0 |
| 72" | | 100.0 |

| GLASS DESIGN LOAD CAPACITY – PSF | | |
|---|---|---|
| NOMINAL DIMS | | 9/16" LAM. GLASS |
| D.L.O. WIDTH | D.L.O. HEIGHT | EXT. (+) INT. (–) |
| 36" | 96" | 160.0 |
| 39" | | 160.0 |
| 42" | | 100.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 54" | | 100.0 |
| 57" | | 100.0 |
| 60" | | 100.0 |
| 63" | | 100.0 |
| 66" | | 100.0 |
| 69" | | 100.0 |
| 36" | 102" | 160.0 |
| 39" | | 100.0 |
| 42" | | 100.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 54" | | 100.0 |
| 57" | | 100.0 |
| 60" | | 100.0 |
| 63" | | 100.0 |
| 36" | 108" | 160.0 |
| 39" | | 100.0 |
| 42" | | 100.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 54" | | 100.0 |
| 57" | | 100.0 |
| 60" | | 100.0 |

| GLASS DESIGN LOAD CAPACITY – PSF | | |
|---|---|---|
| NOMINAL DIMS | | 9/16" LAM. GLASS |
| D.L.O. WIDTH | D.L.O. HEIGHT | EXT. (+) INT. (–) |
| 36" | 114" | 100.0 |
| 39" | | 100.0 |
| 42" | | 100.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 54" | | 100.0 |
| 57" | | 97.9 |
| 36" | 120" | 100.0 |
| 39" | | 100.0 |
| 42" | | 100.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 54" | | 98.5 |
| 36" | 126" | 100.0 |
| 39" | | 100.0 |
| 42" | | 100.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 51" | | 100.0 |
| 36" | 132" | 100.0 |
| 39" | | 100.0 |
| 42" | | 100.0 |
| 45" | | 100.0 |
| 48" | | 100.0 |
| 44–1/2" | 87" | 160.0 |
| 56–1/2" | 118" | 100.0 |




GLAZING DETAIL
9/16" OVERALL LAM. GLASS

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

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

AUG 21 2015

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 14-0923.03
Expiration Date March 12, 2019
By Miami Dade Product Control


AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978


COMP-ANL\W08-89RC

FX3580 ALUM. WINDOW WALL SYSTEM (L.M.I.)

TECNOGLASS, LLC
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| revisions: | | | |
|---|---|---|---|
| no | date | by | description |
| A | 03.05.12 | | UPDATED TO 2010 FBC |
| B | 07.24.15 | | UPDATED TO 2014 FBC |

date: 11-03-08
scale: 3/8" = 1"
dr. by: HAMID
chk. by:

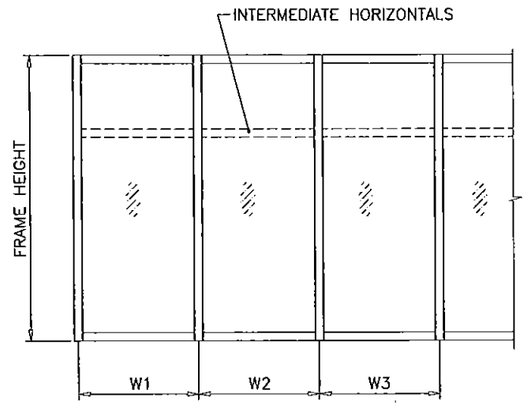
drawing no.
W08-89

sheet 2 of 8

| MULLION/JAMB DESIGN LOAD CAPACITY – PSF | | | |
|---|---|---|---|
| NOMINAL DIMS. | | JAMB MULLION | |
| WIDTH (W) | FRAME HEIGHT | EXT.(+) | INT.(–) |
| 30" | 102" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 160.0 | 160.0 |
| 66" | | 160.0 | 160.0 |
| 72" | | 160.0 | 160.0 |
| 78" | | 160.0 | 160.0 |
| 84" | | 100.0 | 100.0 |
| 30" | 108" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 160.0 | 160.0 |
| 66" | | 160.0 | 160.0 |
| 72" | | 160.0 | 160.0 |
| 78" | | 100.0 | 100.0 |
| 84" | | 100.0 | 100.0 |
| 30" | 114" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 160.0 | 160.0 |
| 66" | | 160.0 | 160.0 |
| 72" | | 160.0 | 160.0 |
| 78" | | 100.0 | 100.0 |
| 84" | | 100.0 | 100.0 |
| 30" | 120" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 160.0 | 160.0 |
| 66" | | 160.0 | 160.0 |
| 72" | | 100.0 | 100.0 |
| 78" | | 100.0 | 100.0 |
| 84" | | 100.0 | 100.0 |

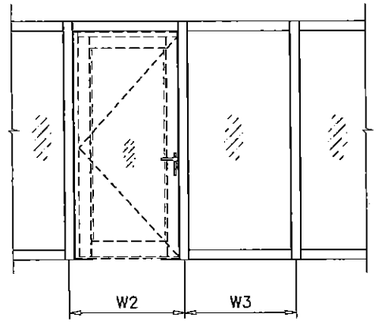
| MULLION/JAMB DESIGN LOAD CAPACITY – PSF | | | |
|---|---|---|---|
| NOMINAL DIMS. | | JAMB MULLION | |
| WIDTH (W) | FRAME HEIGHT | EXT.(+) | INT.(–) |
| 30" | 126" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 160.0 | 160.0 |
| 66" | | 100.0 | 100.0 |
| 72" | | 100.0 | 100.0 |
| 78" | | 100.0 | 100.0 |
| 84" | | 100.0 | 100.0 |
| 30" | 132" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 160.0 | 160.0 |
| 66" | | 100.0 | 100.0 |
| 72" | | 100.0 | 100.0 |
| 78" | | 100.0 | 100.0 |
| 30" | 138" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 100.0 | 100.0 |
| 66" | | 100.0 | 100.0 |
| 72" | | 100.0 | 100.0 |
| 30" | 144" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 100.0 | 100.0 |
| 66" | | 100.0 | 100.0 |
| 72" | | 100.0 | 100.0 |

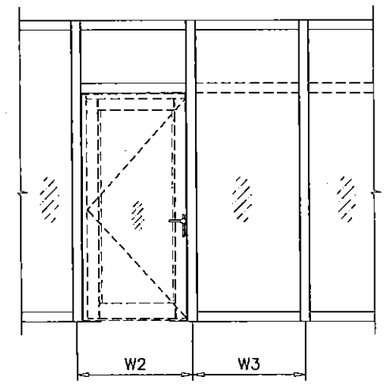
| MULLION/JAMB DESIGN LOAD CAPACITY – PSF | | | |
|---|---|---|---|
| NOMINAL DIMS. | | JAMB MULLION | |
| WIDTH (W) | FRAME HEIGHT | EXT.(+) | INT.(–) |
| 30" | 150" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 160.0 | 160.0 |
| 60" | | 100.0 | 100.0 |
| 66" | | 100.0 | 100.0 |
| 30" | 156" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 100.0 | 100.0 |
| 60" | | 100.0 | 100.0 |
| 66" | | 100.0 | 100.0 |
| 30" | 162" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 100.0 | 100.0 |
| 60" | | 100.0 | 100.0 |
| 30" | 168" | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 |
| 54" | | 100.0 | 100.0 |
| 60" | | 100.0 | 100.0 |
| 30" | 174" | 100.0 | 100.0 |
| 36" | | 100.0 | 100.0 |
| 42" | | 100.0 | 100.0 |
| 45" | | 100.0 | 100.0 |
| 48" | | 100.0 | 100.0 |
| 54" | | 100.0 | 100.0 |
| 60" | | 100.0 | 100.0 |

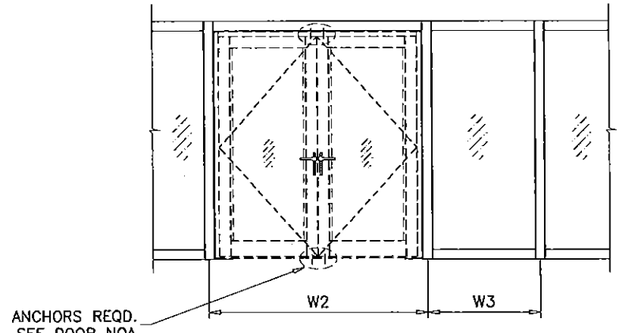



WIDTH (W) = W1
AT FRAME JAMB

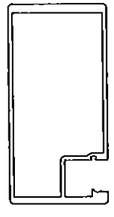
WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION



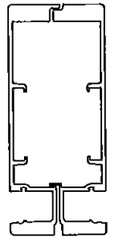




WIDTH (W) = $\frac{W2}{4} + \frac{W3}{2}$
AT FRAME MULLION



JAMB

TOTAL PRPERTIES
Ix = 30.1476 IN\4
Sx = 8.5322 IN\3



MULLION

TOTAL PRPERTIES
Ix = 60.4293 IN\4
Sx = 14.6102 IN\3

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

AUG 21 2015

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Expiration Date March 18, 2019
By Manuel Perez
Miami Dade Product Control


AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
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COMP-ANL\W08-89RC

FX3580 ALUM. WINDOW WALL SYSTEM (L.M.I.)

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

| revisions: | | | |
|---|---|---|---|
| no | date | by | description |
| A | 03.05.12 | | NO CHANGE THIS SHEET |
| B | 07.24.15 | | UPDATED TO 2014 FBC |

date: 11-03-08
scale: –
dr. by: HAMID
chk. by:

drawing no.
W08-89

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

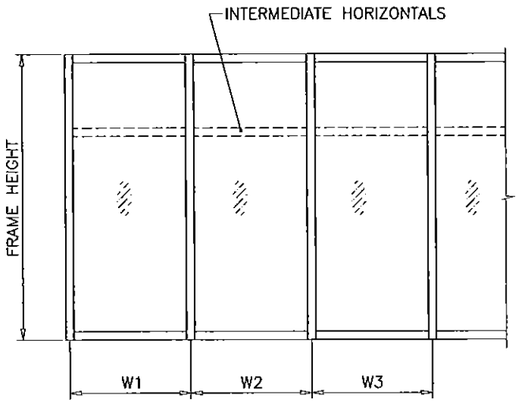
| NOMINAL DIMS. | | ANCHORS TYPES | | |
|---|---|---|---|---|
| WIDTH (W) | FRAME HEIGHT | 'A' | 'B' | 'C' |
| 30" | 102" | 160.0 | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 | 160.0 |
| 39" | | 160.0 | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 | 160.0 |
| 48" | | 160.0 | 160.0 | 160.0 |
| 54" | | 146.4 | 160.0 | 160.0 |
| 60" | | 131.8 | 160.0 | 160.0 |
| 66" | | 119.8 | 160.0 | 160.0 |
| 72" | | 109.8 | 149.0 | 160.0 |
| 78" | | 101.4 | 137.6 | 160.0 |
| 84" | | 94.1 | 127.7 | 160.0 |
| 30" | 108" | 160.0 | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 | 160.0 |
| 39" | | 160.0 | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 | 160.0 |
| 45" | | 160.0 | 160.0 | 160.0 |
| 48" | | 155.6 | 160.0 | 160.0 |
| 54" | | 138.3 | 160.0 | 160.0 |
| 60" | | 124.4 | 160.0 | 160.0 |
| 66" | | 113.1 | 153.5 | 160.0 |
| 72" | | 103.7 | 140.7 | 160.0 |
| 78" | | 95.7 | 129.9 | 160.0 |
| 84" | | 88.9 | 120.6 | 152.4 |
| 30" | 114" | 160.0 | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 | 160.0 |
| 39" | | 160.0 | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 | 160.0 |
| 45" | | 157.2 | 160.0 | 160.0 |
| 48" | | 147.4 | 160.0 | 160.0 |
| 54" | | 131.0 | 160.0 | 160.0 |
| 60" | | 117.9 | 160.0 | 160.0 |
| 66" | | 107.2 | 145.5 | 160.0 |
| 72" | | 98.2 | 133.3 | 160.0 |
| 78" | | 90.7 | 123.1 | 155.5 |
| 84" | | 84.2 | 114.3 | 144.4 |
| 30" | 120" | 160.0 | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 | 160.0 |
| 39" | | 160.0 | 160.0 | 160.0 |
| 42" | | 160.0 | 160.0 | 160.0 |
| 45" | | 149.3 | 160.0 | 160.0 |
| 48" | | 140.0 | 160.0 | 160.0 |
| 54" | | 124.4 | 160.0 | 160.0 |
| 60" | | 112.0 | 152.0 | 160.0 |
| 66" | | 101.8 | 138.2 | 160.0 |
| 72" | | 93.3 | 126.7 | 160.0 |
| 78" | | 86.2 | 116.9 | 147.7 |
| 84" | | 80.0 | 108.6 | 137.1 |

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

| NOMINAL DIMS. | | ANCHORS TYPES | | |
|---|---|---|---|---|
| WIDTH (W) | FRAME HEIGHT | 'A' | 'B' | 'C' |
| 30" | 126" | 160.0 | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 | 160.0 |
| 39" | | 160.0 | 160.0 | 160.0 |
| 42" | | 152.4 | 160.0 | 160.0 |
| 45" | | 142.2 | 160.0 | 160.0 |
| 48" | | 133.3 | 160.0 | 160.0 |
| 54" | | 118.5 | 160.0 | 160.0 |
| 60" | | 106.7 | 144.8 | 160.0 |
| 66" | | 97.0 | 131.6 | 160.0 |
| 72" | | 88.9 | 120.6 | 152.4 |
| 78" | | 82.1 | 111.4 | 140.7 |
| 84" | | 76.2 | 103.4 | 130.6 |
| 30" | 132" | 160.0 | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 | 160.0 |
| 39" | | 156.6 | 160.0 | 160.0 |
| 42" | | 145.5 | 160.0 | 160.0 |
| 45" | | 135.8 | 160.0 | 160.0 |
| 48" | | 127.3 | 160.0 | 160.0 |
| 54" | | 113.1 | 153.5 | 160.0 |
| 60" | | 101.8 | 138.2 | 160.0 |
| 66" | | 92.6 | 125.6 | 158.7 |
| 72" | | 84.8 | 115.2 | 145.5 |
| 78" | | 78.3 | 106.3 | 134.3 |
| 30" | 138" | 160.0 | 160.0 | 160.0 |
| 36" | | 160.0 | 160.0 | 160.0 |
| 39" | | 149.8 | 160.0 | 160.0 |
| 42" | | 139.1 | 160.0 | 160.0 |
| 45" | | 129.9 | 160.0 | 160.0 |
| 48" | | 121.7 | 160.0 | 160.0 |
| 54" | | 108.2 | 146.9 | 160.0 |
| 60" | | 97.4 | 132.2 | 160.0 |
| 66" | | 88.5 | 120.2 | 151.8 |
| 72" | | 81.2 | 110.1 | 139.1 |
| 30" | 144" | 160.0 | 160.0 | 160.0 |
| 36" | | 155.6 | 160.0 | 160.0 |
| 39" | | 143.6 | 160.0 | 160.0 |
| 42" | | 133.3 | 160.0 | 160.0 |
| 45" | | 124.4 | 160.0 | 160.0 |
| 48" | | 116.7 | 158.3 | 160.0 |
| 54" | | 103.7 | 140.7 | 160.0 |
| 60" | | 93.3 | 126.7 | 160.0 |
| 66" | | 84.8 | 115.2 | 145.5 |
| 72" | | 77.8 | 105.6 | 133.3 |
| 30" | 150" | 160.0 | 160.0 | 160.0 |
| 36" | | 149.3 | 160.0 | 160.0 |
| 39" | | 137.8 | 160.0 | 160.0 |
| 42" | | 128.0 | 160.0 | 160.0 |
| 45" | | 119.5 | 160.0 | 160.0 |
| 48" | | 112.0 | 152.0 | 160.0 |
| 54" | | 99.6 | 135.1 | 160.0 |
| 60" | | 89.6 | 121.6 | 153.6 |
| 66" | | 81.5 | 110.5 | 139.6 |

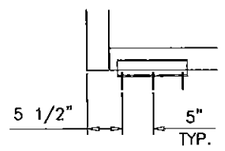
## ANCHOR LOAD CAPACITY – PSF
EXT.(+) & INT.(–)

| NOMINAL DIMS. | | ANCHORS TYPES | | |
|---|---|---|---|---|
| WIDTH (W) | FRAME HEIGHT | 'A' | 'B' | 'C' |
| 30" | 156" | 160.0 | 160.0 | 160.0 |
| 36" | | 143.6 | 160.0 | 160.0 |
| 39" | | 132.5 | 160.0 | 160.0 |
| 42" | | 123.1 | 160.0 | 160.0 |
| 45" | | 114.9 | 155.9 | 160.0 |
| 48" | | 107.7 | 146.2 | 160.0 |
| 54" | | 95.7 | 129.9 | 160.0 |
| 60" | | 86.2 | 116.9 | 147.7 |
| 66" | | 78.3 | 106.3 | 134.3 |
| 30" | 162" | 160.0 | 160.0 | 160.0 |
| 36" | | 138.3 | 160.0 | 160.0 |
| 39" | | 127.6 | 160.0 | 160.0 |
| 42" | | 118.5 | 160.0 | 160.0 |
| 45" | | 110.6 | 150.1 | 160.0 |
| 48" | | 103.7 | 140.7 | 160.0 |
| 54" | | 92.2 | 125.1 | 158.0 |
| 60" | | 83.0 | 112.6 | 142.2 |
| 30" | 168" | 160.0 | 160.0 | 160.0 |
| 36" | | 133.3 | 160.0 | 160.0 |
| 39" | | 123.1 | 160.0 | 160.0 |
| 42" | | 114.3 | 155.1 | 160.0 |
| 45" | | 106.7 | 144.8 | 160.0 |
| 48" | | 100.0 | 135.7 | 160.0 |
| 54" | | 88.9 | 120.6 | 152.4 |
| 60" | | 80.0 | 108.6 | 137.1 |
| 30" | 174" | 154.5 | 160.0 | 160.0 |
| 36" | | 128.7 | 160.0 | 160.0 |
| 39" | | 118.8 | 160.0 | 160.0 |
| 42" | | 110.3 | 149.8 | 160.0 |
| 45" | | 103.0 | 139.8 | 160.0 |
| 48" | | 96.6 | 131.0 | 160.0 |
| 54" | | 85.8 | 116.5 | 147.1 |
| 60" | | 77.2 | 104.8 | 132.4 |

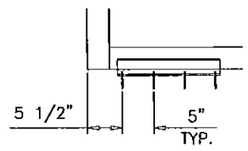



WIDTH (W) = W1
AT FRAME JAMB

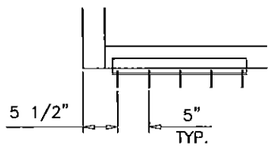
WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION



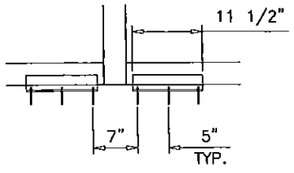

ANCHORS TYPE 'A'
(3) ANCHORS PER TUBE

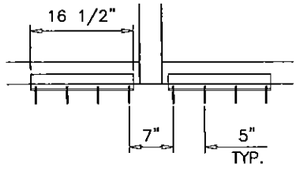


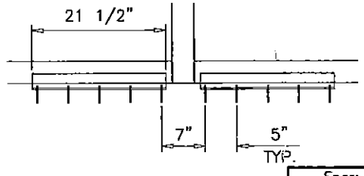

ANCHORS TYPE 'B'
(4) ANCHORS PER TUBE




ANCHORS TYPE 'C'
(5) ANCHORS PER TUBE




PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 14-0923.03
Expiration Date March 18, 2019
By Manuel Perez
Miami Dade Product Control

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

AUG 21 2015


AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978


COMP-ANL\W08-89RC

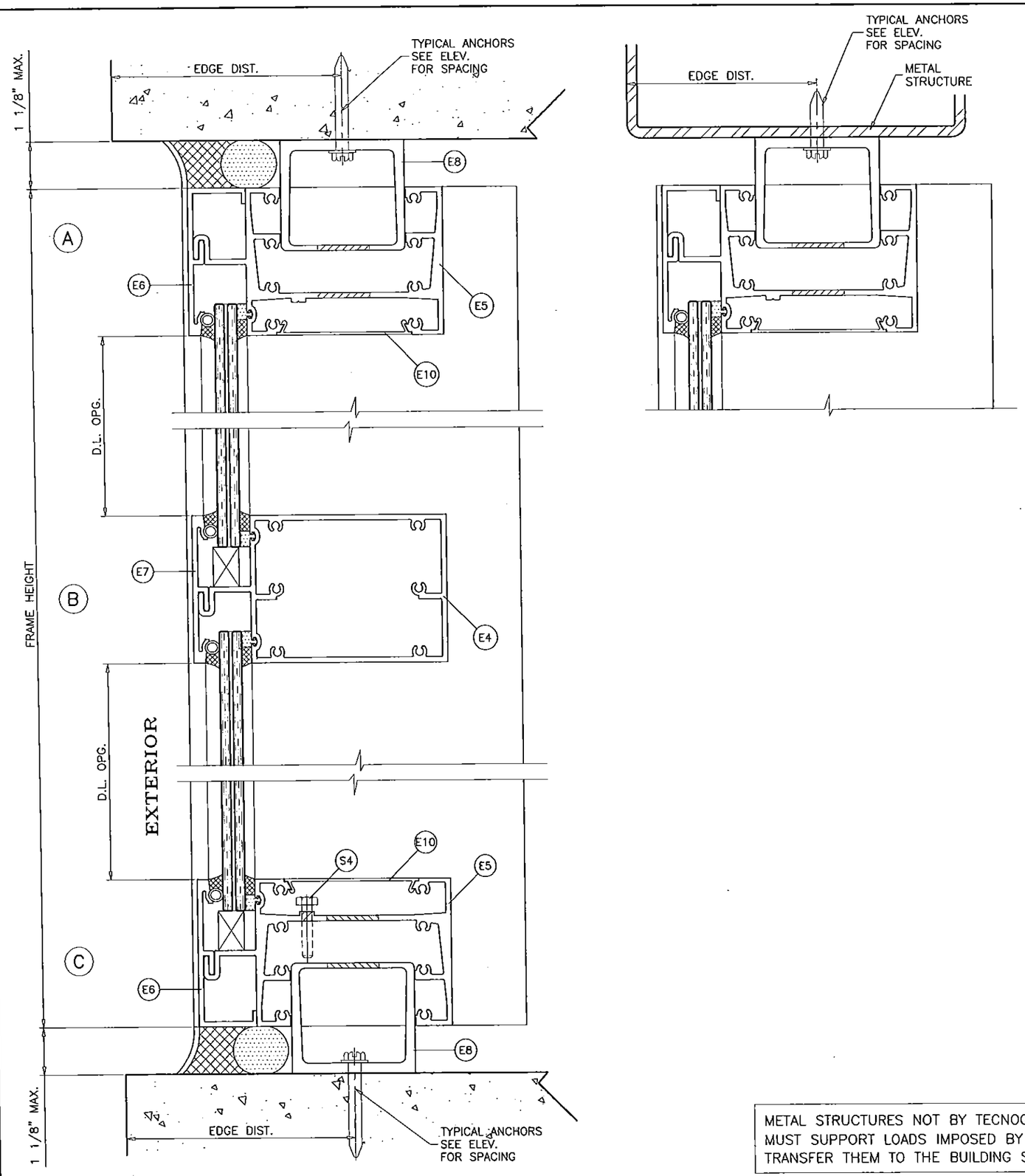
FX3580 ALUM. WINDOW WALL SYSTEM (L.M.I.)

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

| revisions: | | | |
|---|---|---|---|
| no | date | by | description |
| B | 07.24.15 | | UPDATED TO 2014 FBC |

date: 11-03-08
scale: –
dr. by: HAMID
chk. by:

drawing no.
W08-89







TYPICAL ANCHORS: SEE ELEV. FOR SPACING

5/16" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)

DIRECTLY INTO CONCRETE
2" MIN. EMBED INTO CONCRETE (HEAD/SILL)

5/16" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)

INTO METAL STRUCTURES
STEEL : 3/16" THK. MIN. (Fy = 36 KSI MIN.)
ALUMINUM : 3/16" THK. MIN. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

INTO CONCRETE = 3-1/8" MIN.
INTO METAL STRUCTURE = 3/4" MIN.

**CONCRETE AT HEAD OR SILL f'c = 4000 PSI MIN.**

SEALANTS:

ALL FRAME CORNERS AND MULLION SEAMS SEALED WITH SILICONE.

METAL STRUCTURES NOT BY TECNOGLASS
MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

AUG 20 2015

PRODUCT REVISED
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Expiration Date March 8, 2019
By Miami-Dade Product Control


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ENGINEERS & PRODUCT DEVELOPMENT
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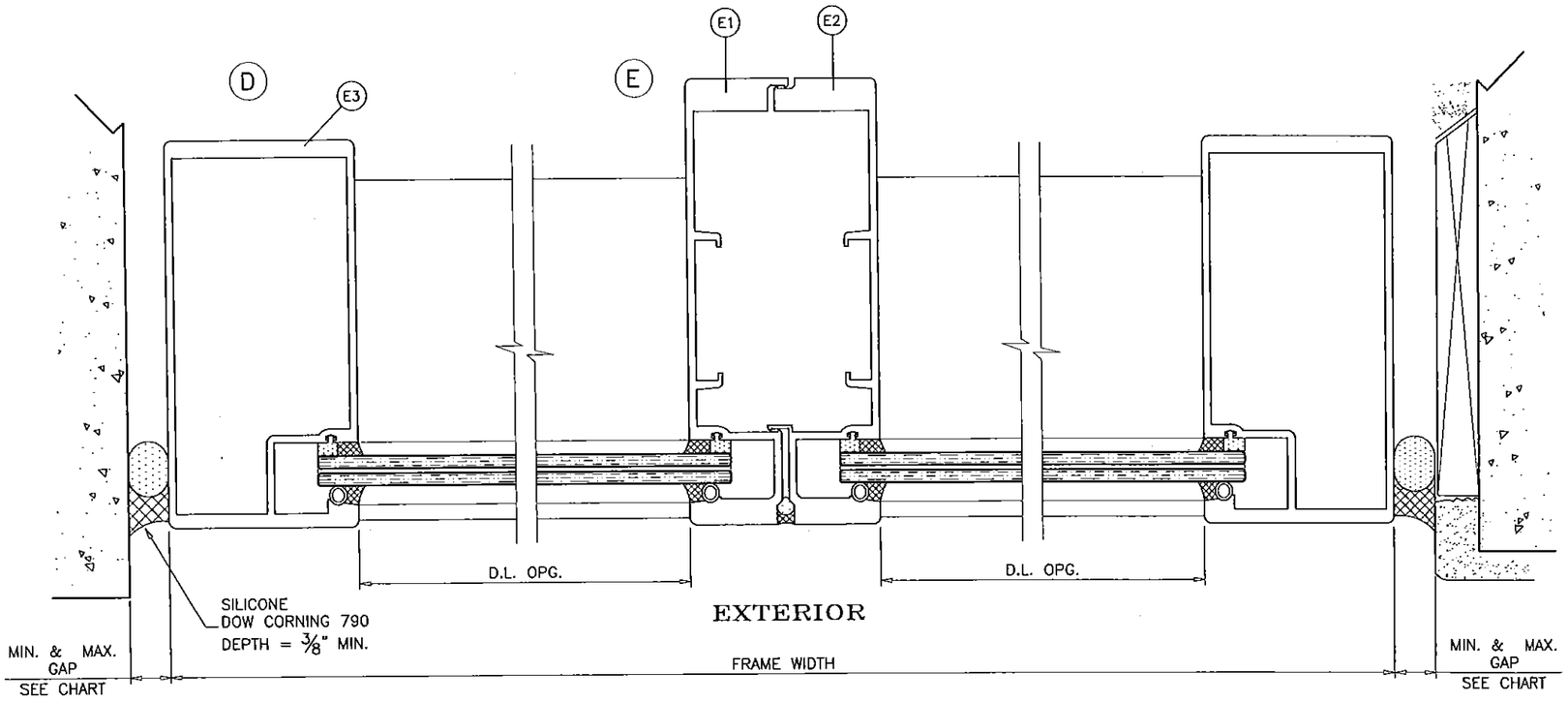
| revisions: | | | |
|---|---|---|---|
| no | date | by | description |
| A | 03.05.12 | | NO CHANGE THIS SHEET |
| B | 07.24.15 | | UPDATED TO 2014 FBC |

date: 11-03-08
scale: 3/8" = 1"
dr. by: HAMID
chk. by:

drawing no. W08-89

sheet 5 of 8

| ITEM NO. | PART NUMBER | QUANTITY | DESCRIPTION | MATERIAL | MANF./SUPPLIER/REMARKS |
|---|---|---|---|---|---|
| E1 | FX3580--001 | AS REQD. | FEMALE MULLION | 6005-T5 | -- |
| E2 | FX3580--002 | AS REQD. | MALE MULLION | 6005--T5 | -- |
| E3 | FX3580-003 | AS REQD. | FRAME JAMB | 6063-T6 | -- |
| E4 | FX3580-004 | AS REQD. | INTERMEDIATE HORIZONTAL | 6063-T6 | -- |
| E5 | FX3580--005 | AS REQD. | FRAME HEAD/SILL | 6063--T6 | -- |
| E6 | FX3580-006 | AS REQD. | GLAZING RETAINER (HEAD/SILL) | 6063-T6 | -- |
| E7 | FX3580-007 | AS REQD. | GLAZING RETAINER (HORIZONTAL) | 6063-T6 | -- |
| E8 | -- | AS REQD. | ANCHOR TUBE | 6063-T6 | LENGTH VARIES SEE SHEET 4 |
| E9 | FX3580-009 | AS REQD. | VERTICAL SNAP COVER | 6063-T6 | -- |
| E10 | HP3060-011 | AS REQD. | SNAP COVER | 6063-T6 | -- |
| -- | -- | -- | -- | -- | -- |
| V1 | V-038 | AS REQD. | GLAZING GASKET | TPE | MELTPOINT, DUROMETER 75±5 SHORE A |
| V3 | -- | -- | 1/2" BACKER ROD | FOAM | -- |
| -- | -- | -- | -- | -- | -- |
| S2 | -- | AS REQD. | FRAME ASSEMBLY SCREWS | -- | #12 X 1-1/4" PH SMS ST/ST |
| S4 | -- | 2/ TUBE | LEVELING SCREWS | -- | 1/4-20 X 1-1/4" HH MS ST/ST |
| -- | -- | -- | -- | -- | -- |
| M1 | -- | 2/ LITE | SETTING BLOCK (5/8" X 7/8" X 4" LONG) | EPDM | LOWE, DUROMETER 80±5 SHORE A |




EXTERIOR

| MAX. FRAME HEIGHT | GAP | |
|---|---|---|
| | MIN. | MAX. |
| UPTO 120" | 3/8" | 3/4" |
| 156" | 1/2" | 3/4" |
| 174" | 5/8" | 3/4" |

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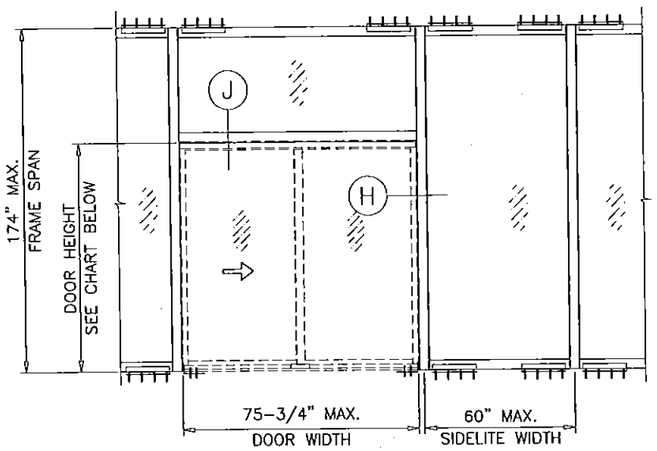
revisions:

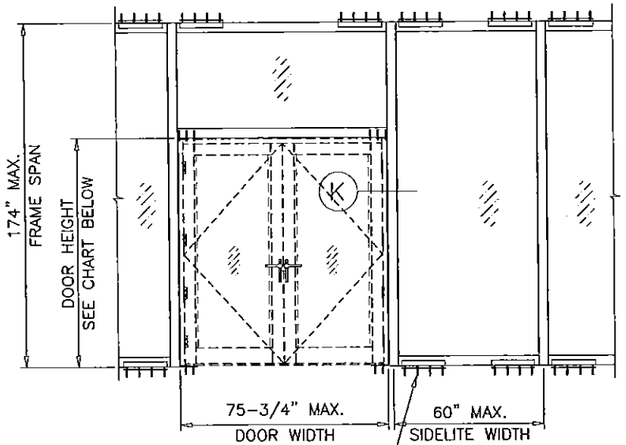
| no | date | by | description |
|---|---|---|---|
| A | 03.05.12 | | NO CHANGE THIS SHEET |
| B | 07.24.15 | | UPDATED TO 2014 FBC |

date: 11-03-08
scale: 3/8" = 1"
dr. by: HAMID
chk. by:

drawing no.
W08-89

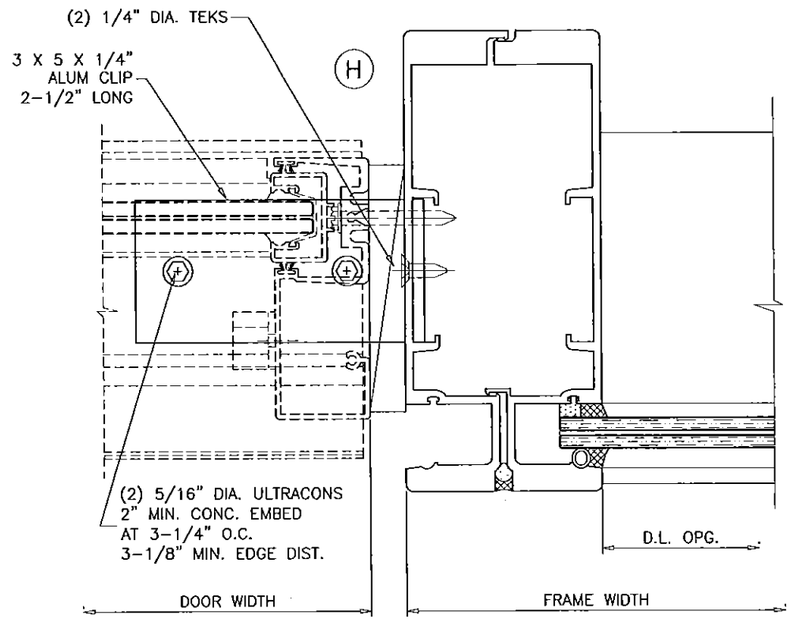
sheet 6 of 8

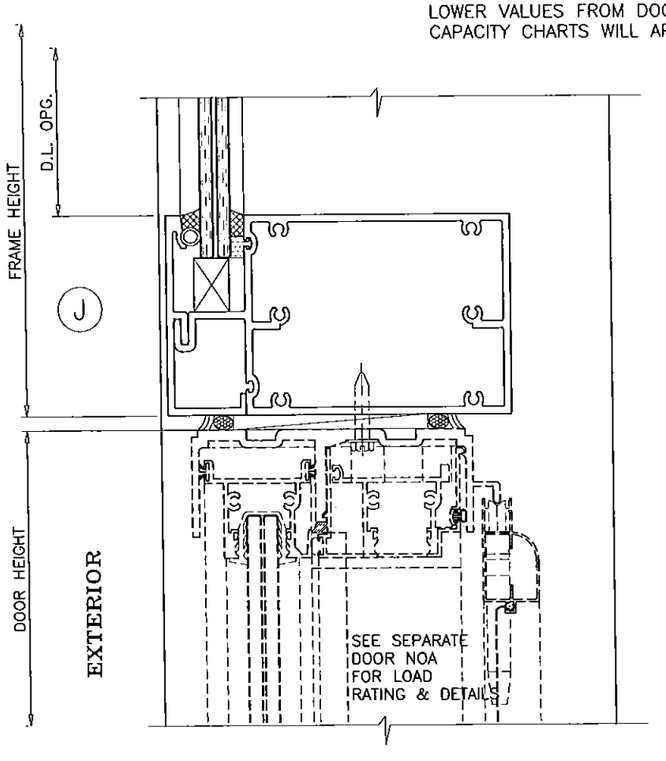


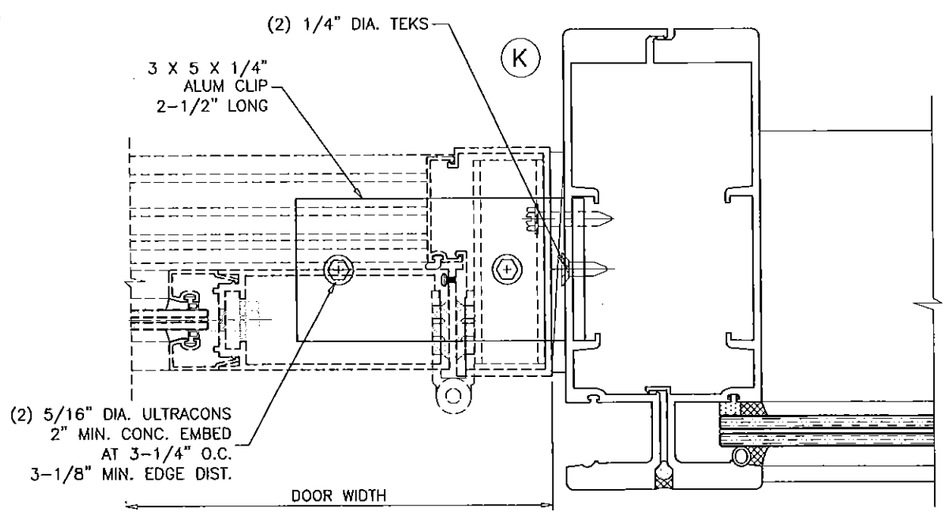




| MAX. DESIGN LOAD RATING | |
|---|---|
| DOOR HEIGHT | EXT. (+) INT. (−) |
| 84" | 90.0 |
| 96" | 91.0 |
| 108" | 94.0 |
| 121-3/4" | 100.0 |

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.




DOOR MULLION INSTALLATION AT SILL

Engr: JAVAD AHMAD
CIVIL
FLA. PE # 70592
C.A.N. 3538

AUG 31 2015

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 14-0923.03
Expiration Date March 18, 2019
By Manuel Perez
Miami-Dade Product Control


AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978


COMP-ANL\W08-89RC

FX3580 ALUM. WINDOW WALL SYSTEM (L.M.I.)

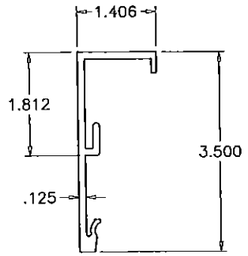
TECNOGLASS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

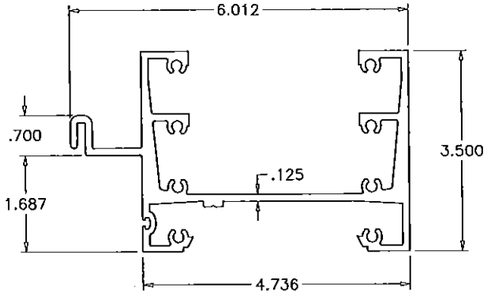
| no | date | by | description |
|---|---|---|---|
| A | 03.05.12 | | NO CHANGE THIS SHEET |
| B | 07.24.15 | | UPDATED TO 2014 FBC |

date: 11-03-08
scale: 3/8" = 1"
dr. by: HAMID
chk. by:

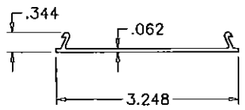
drawing no.
W08-89



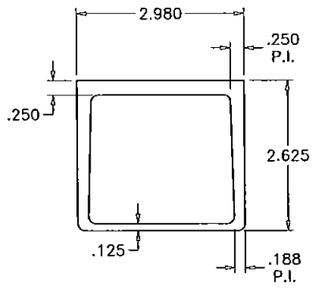

E6 GLAZING RETAINER HEAD/SILL



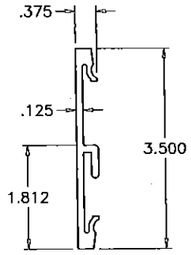

E5 FRAME HEAD/SILL



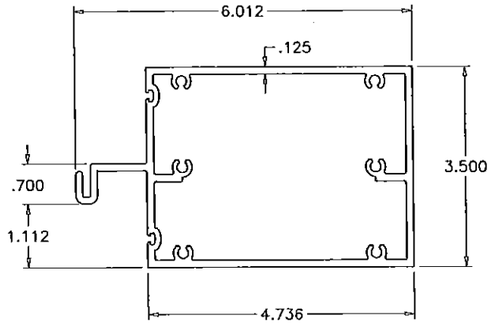

E10 COVER HEAD/SILL



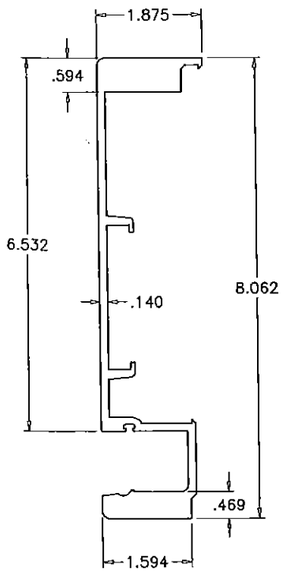

E8 ANCHOR TUBE



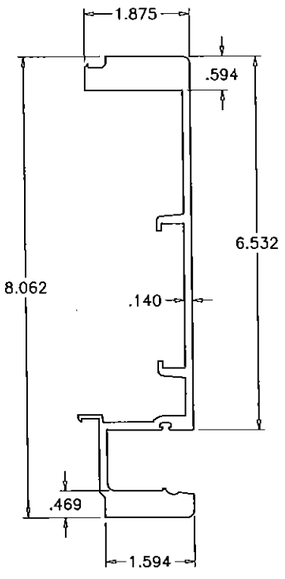

E7 GLAZING RETAINER HORIZONTAL



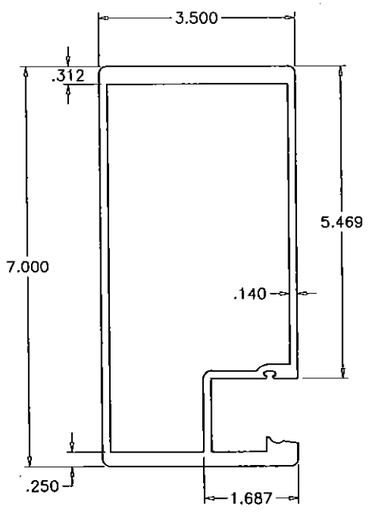

E4 HORIZONTAL



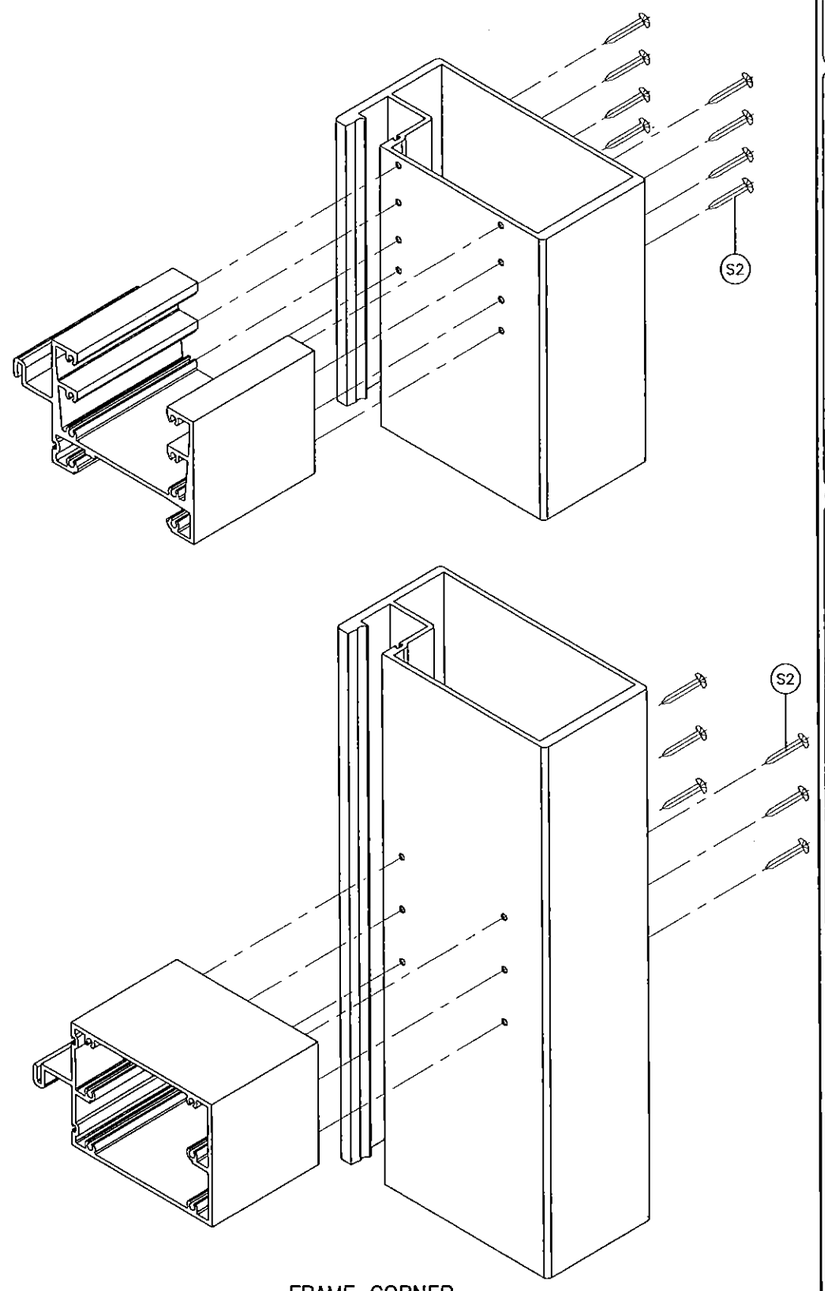

E1 FEMALE MULLION




E2 MALE MULLION




E3 FRAME JAMB




FRAME CORNER

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sheet 8 of 8