



**BUILDING CODE COMPLIANCE OFFICE (BCCO)  
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 372-6339**

**NOTICE OF ACCEPTANCE (NOA)**

**[www.miamidade.gov/buildingcode](http://www.miamidade.gov/buildingcode)**

**Sol-A-Trol Aluminum Products, Inc.  
4101 N.W. 132<sup>nd</sup> Street  
Miami, FL 33054**

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) 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 Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division 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: Unclipped Aluminum Zero, Custom & Tube Mullion – L.M.I.**

**APPROVAL DOCUMENT:** Drawing No. **M08-04**, titled "Unclipped Alum Zero & Tube Mullion", sheets 1 through 10 of 10, dated 09/05/08, with revision A dated 09/13/10, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, 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 Division.

**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 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.**



**NOA No. 10-0511.05  
Expiration Date: October 13, 2015  
Approval Date: October 13, 2010  
Page 1**

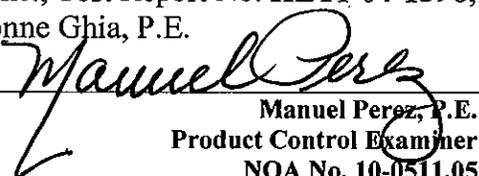
**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Manufacturer's die drawings and sections.
2. Drawing No **W08-04**, Sheets 1 through 10 of 10, titled "Unclipped Alum Zero & Tube Mullion", dated 09/05/08, with revision A dated 09/13/10, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

**B. TESTS**

1. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94 along with marked-up drawings and installation diagram of a S-540M (Arso-52/6/52) muller aluminum project-in window w/louvers, prepared by Hurricane Engineering & Testing, Inc. Test Report No. **HETI-07-4217**, specimen #4, dated 10/08/07, signed and sealed by Candido F. Font, P.E. *(Submitted under previous NOA # 09-1228.06)*
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 a S-540M (Arso-52/6/52) muller aluminum project-in window w/louvers, prepared by Hurricane Engineering & Testing, Inc. Test Report No. **HETI-07-4218**, specimen #4, dated 10/08/07, signed and sealed by Candido F. Font, P.E. *(Submitted under previous NOA # 09-1228.06)*
3. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94 along with marked-up drawings and installation diagram of a S-540M (Arso-52/6/52) muller aluminum project-in window w/louvers, prepared by Hurricane Engineering & Testing, Inc. Test Report No. **HETI-07-4240**, specimen #6, dated 10/08/07, revised on 06/18/09, signed and sealed by Candido F. Font, P.E. *(Submitted under previous NOA # 09-1228.06)*
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 S-540M (Arso-52/6/52) muller aluminum project-in (hopper) window w/louvers, prepared by Hurricane Engineering & Testing, Inc. Test Report No. **HETI-07-4299**, specimen #6, dated 10/08/07, revised on 06/18/09, signed and sealed by Candido F. Font, P.E. *(Submitted under previous NOA # 09-1228.06)*
5. Test reports on: 1) Air Infiltration Test,  
2) Uniform Static Air Pressure Test,  
3) Water Resistance Test,  
4) Forced Entry Test, per SFBC 3603.2 (b) along with marked-up drawings and installation diagram of a muller S-535 single hung and fixed window, glazed with 21/64" and 5/16" HS. glass, prepared by Hurricane Engineering and Testing Laboratory, Inc., Test Report No. **HETI-04-1398**, unit #1, dated 07/22/04, signed and sealed by Ivonne Ghia, P.E. *(Submitted under previous NOA # 06-0911.01)*

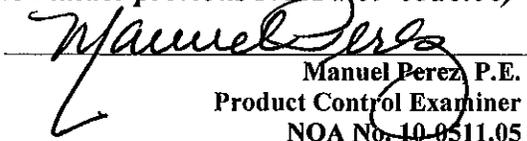
  
Manuel Perez, P.E.  
Product Control Examiner  
NOA No. 10-0511.05

Expiration Date: October 13, 2015  
Approval Date: October 13, 2010

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**B. TESTS (continued)**

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 mulled S-535 single hung and fixed window, glazed with 5/16" and 7/16" HS laminated glass, prepared by Hurricane Engineering and Testing Laboratory, Inc., Test Report No. **HETI-05-1912**, units #2, #3 and #4, dated 12/21/05, signed and sealed by Ivonne Ghia, P.E.  
**(Submitted under previous NOA # 06-0911.01)**
7. Test reports on: 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94  
along with marked-up drawings and installation diagram of two mulled side-by-side S-540-M aluminum double hung windows w/louvers, prepared by Hurricane Engineering & Testing, Inc. Test Report No. **HETI-07-4241**, specimen #5, dated 10/08/07, signed and sealed by Candido F. Font, P.E.
8. 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 two mulled side-by-side S-540-M aluminum double hung windows w/louvers, prepared by Hurricane Engineering & Testing, Inc. Test Report No. **HETI-07-4220**, specimen #5, dated 10/08/07, signed and sealed by Candido F. Font, 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) Forced Entry Test, per FBC, TAS 202-94  
along with marked-up drawings and installation diagram of a S-3000/3062 aluminum project-out window mulled to a fixed window, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-08-2205A**, specimen 11A, dated 11/10/08, signed and sealed by Candido F. Font, P. E. **(Submitted under NOA # 09-0518.06)**
10. 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 S-3000/3062 aluminum project-out window mulled to a fixed window, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-08-2205B**, spec. 11B, dated 11/10/08, signed and sealed by Candido F. Font, P. E. **(Submitted under previous NOA # 09-0518.06)**
11. 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 S-3000/3062 aluminum project-out window mulled to a fixed window, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-08-2206**, spec. 11C, dated 11/10/08, signed and sealed by Candido F. Font, P. E. **(Submitted under previous NOA # 09-0518.06)**

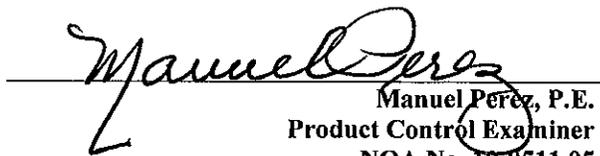
  
Manuel Perez, P.E.  
Product Control Examiner  
NOA No. 10-0511.05

Expiration Date: October 13, 2015  
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**B. TESTS (continued)**

12. 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 S-3000/3062 aluminum project-out window muller to a fixed window, prepared by Hurricane Engineering & Testing, Inc., Test Report No. **HETI-08-2206**, spec. 11D, dated 11/10/08, signed and sealed by Candido F. Font, P. E. *(Submitted under previous NOA # 09-0518.06)*
13. 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 (b) and TAS 202-94  
along with marked-up drawings and installation diagram of series 3062 muller aluminum fixed/casement window of XXO configuration, prepared by Hurricane Engineering & Testing Inc., Test Report No. **HTL-04-1409**, dated 09/28/04, revised on 03/16/05, signed and sealed by Ivonne Ghia, P.E.  
*(Submitted under previous NOA # 05-0414.01)*
14. 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 series 3062 muller aluminum fixed/casement window of XXO configuration, prepared by Hurricane Engineering & Testing Inc., Test Report No. **HTL-04-1918A**, dated 09/28/04, revised on 03/16/05, signed and sealed by Ivonne Ghia, P.E.  
*(Submitted under previous NOA # 05-0414.01)*
15. 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 series 3062 muller aluminum fixed/casement window of XXO configuration, prepared by Hurricane Engineering & Testing Inc., Test Report No. **HTL-04-1918D**, dated 09/28/04, revised on 03/16/05, signed and sealed by Ivonne Ghia, P.E.  
*(Submitted under previous NOA # 05-0414.01)*
16. 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 (b) and TAS 202-94  
along with marked-up drawings and installation diagram of series 3000 muller aluminum fixed/casement window of XXO configuration, prepared by Hurricane Engineering & Testing Inc., Test Report No. **HTL-04-1410**, dated 09/28/04, signed and sealed by Ivonne Ghia, P.E. *(Submitted under previous NOA # 05-0414.01)*

  
Manuel Perez, P.E.  
Product Control Examiner  
NOA No. 10-0511.05

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**Sol-A-Trol Aluminum Products, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

- 17. 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 series 3000 mulled aluminum fixed/casement window of XXO configuration, prepared by Hurricane Engineering & Testing Inc., Test Report No. **HTL-04-1918B**, dated 09/28/04, signed and sealed by Ivonne Ghia, P.E.  
*(Submitted under previous NOA # 05-0414.01)*
  - 18. 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 series 3000 mulled aluminum fixed/casement window of XXO configuration, prepared by Hurricane Engineering & Testing Inc., Test Report No. **HTL-04-1918C**, dated 09/28/04, signed and sealed by Ivonne Ghia, P.E.  
*(Submitted under previous NOA # 05-0414.01)*
  - 19. 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 series 3000 mulled aluminum fixed/casement window of XXO configuration, prepared by Hurricane Engineering & Testing Inc., Test Report No. **HTL-04-1918E**, dated 09/28/04, revised on 03/16/05, signed and sealed by Ivonne Ghia, P.E.  
*(Submitted under previous NOA # 05-0414.01)*
- C. CALCULATIONS**
- 1. Anchor verification calculations and structural analysis, complying with FBC-2007, prepared by Al-Farooq Corporation, dated 11/30/09, signed and sealed by Javad Ahmad, P.E.
- D. QUALITY ASSURANCE**
- 1. Miami Dade Building Code Compliance Office (BCCO).
- E. MATERIAL CERTIFICATIONS**
- 1. None.
- F. STATEMENTS**
- 1. Statement letter of conformance and no financial interest, dated February 24, 2010, signed and sealed by Javad Ahmad, P.E.
- G. OTHER**
- 1. None.



Manuel Perez, P.E.  
Product Control Examiner  
NOA No. 10-0511.05

Expiration Date: October 13, 2015  
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**afc**

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

MULLION\M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
 4101 N.W. 132ND STREET  
 MIAMI, FL. 33054  
 TEL. (305) 681-2020 FAX. (305) 681-2035

**UNCLIPPED ALUMINUM MULLION  
 WINDOW FRAME MEMBER INCLUDED IN PROPERTIES**

ZERO MULLION (ARSO-168) TO BE USED WITH SERIES 3000/3062  
 FIXED, CASEMENT AND PROJECTED WINDOWS  
 MULLION (ARSO-6) TO BE USED WITH SERIES 540  
 FIXED, SINGLE HUNG AND PROJECTED WINDOWS.  
 FOR WINDOWS IMPACT AND LOAD RATINGS SEE  
 CORRESPONDING NOA'S.  
 LOWER DESIGN PRESSURE FROM WINDOW APPROVALS  
 OR MULLION CHARTS WILL APPLY TO ENTIRE SYSTEM.

**NOTES:**

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE  
 REQUIREMENTS OF THE FLORIDA BUILDING CODE 2007 EDITION INCLUDING  
 HIGH VELOCITY HURRICANE ZONE (HVHZ).

ALL GLAZING PRODUCTS USED WITH THESE MULLIONS MUST MEET THE  
 APPLICABLE BUILDING CODE REQUIREMENTS I.E: WIND LOAD, WATER  
 INFILTRATION, FORCED ENTRY RESISTANCE, SAFEGUARDS ETC.

WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER  
 LOADS TO THE STRUCTURE.

ANCHORS SHALL BE AS LISTED, SPACEO AS SHOWN ON DETAILS, EMBEDMENT  
 TO BASE MATERIAL SHALL BE BEYOND WALL COVERING (STUCCO, TILE ETC.).

ANCHORING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS  
 ARE NOT PART OF THIS APPROVAL.

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

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO  
 CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS  
 OF 2007 FLORIDA BLDG. CODE SECTION 2003.8.4.

THESE MULLIONS ARE RATED FOR LARGE & SMALL MISSILE IMPACT

| INDEX OF DRAWING |  |
|------------------|--|
| SHEET NO.        | DESCRIPTION  |
| 1                | GENERAL NOTES, INSTRUCTIONS AND INDEX OF DRAWINGS                                      |
| 2                | PARTS DRAWING  |
| 3                | DESIGN LOAD CAPACITY TABLE ARSO-168 ZERO MULLION WITH SERIES 3000/3062 FRAMES          |
| 4                | DESIGN LOAD CAPACITY TABLE 1 X 4 X 1/8" ALUM TUBE MULLION WITH SERIES 3000/3062 FRAMES |
| 5                | DESIGN LOAD CAPACITY TABLE 1 X 4 X 1/8" ALUM TUBE MULLION WITH SERIES 535 FRAMES       |
| 6                | DESIGN LOAD CAPACITY TABLE ARSO-6 CUSTOM MULLION WITH SERIES 535 FRAMES                |
| 7                | DESIGN LOAD CAPACITY TABLE ARSO-6 CUSTOM MULLION WITH SERIES 540 FRAMES                |
| 8                | ANCHORING DETAILS FOR ARSO-168 MULLION AND SERIES 3000/3062 FRAMES                     |
| 9                | ANCHORING DETAILS FOR 1 X 4 X 1/8" TUBE MULLION AND SERIES 535 FRAMES                  |
| 10               | ANCHORING DETAILS FOR ARSO-6 CUSTOM MULLION AND SERIES 540 FRAMES                      |

**INSTRUCTIONS:**

USE CHARTS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN LOAD REQUIRED PER ASCE 7 FOR PARTICULAR OPENING.
- STEP 2** USE CONNECTION OF WINDOWS TO MULLION AS PER PRODUCT APPROVAL.
- STEP 3** USING CHARTS ON SHEETS 3 THRU 7 SELECT MULLION TYPE AND ANCHOR QUANTITIES WITH DESIGN RATING MORE THAN THE DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 4** CAPACITY OF SELECTED SOLATROL'S WINDOWS AND MULLION MUST EQUAL OR EXCEED REQUIRED LOADS.

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

*JA*

SEP 14 2010

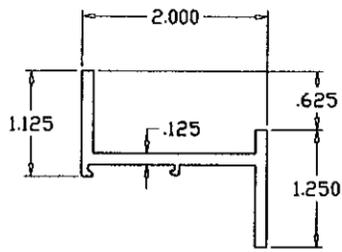
Approved as complying with the  
 Florida Building Code  
 Date: OCT. 13, 2010  
 NOA# 10-0511.05  
 Miami Dade Product Control  
 By: *Muhammad Jirg*

revisions:

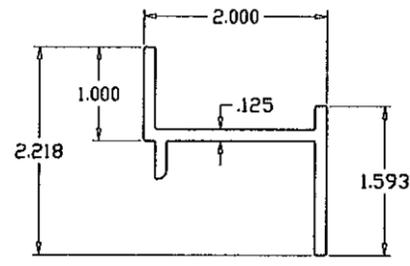
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| A  | 09.13.10 |    | REV. PER BCCO COMMENTS |
|    |          |    |                        |
|    |          |    |                        |

date: 09-05-08  
 scale: 1/2" = 1"  
 dr. by: HAMID  
 chk. by:

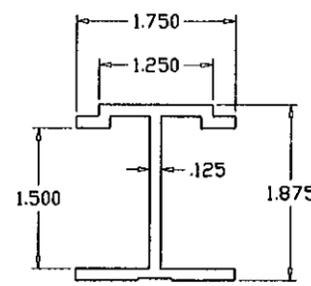
drawing no.  
**M08-04**  
 sheet 1 of 10



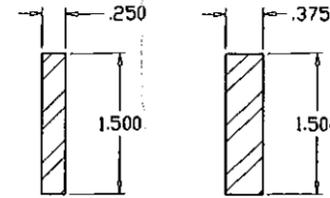
SERIES 3000/3062  
FIX. WDW. FLANGE FRAME  
ARSO-114



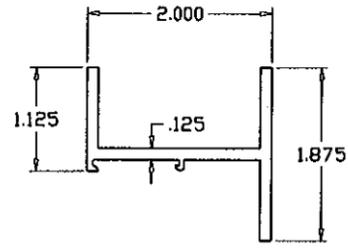
SERIES 3000/3062  
CASEMENT WDW. FLANGE FRAME  
PROJECTED WDW. FLANGE FRAME  
ARSO-127



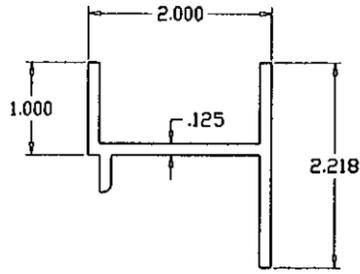
SERIES 3000/3062  
ZERO MULLION  
ARSO-168



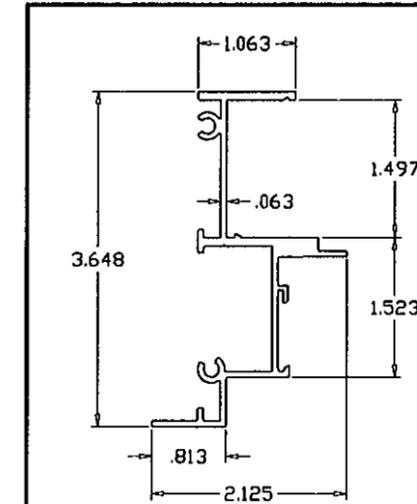
ZERO MULLION REINF.  
STEEL (36 KSI)



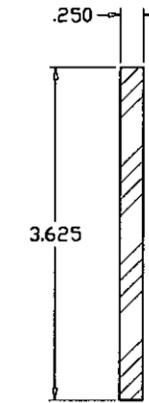
SERIES 3000/3062  
FIX. WDW. EQUAL LEG FRAME  
ARSO-934



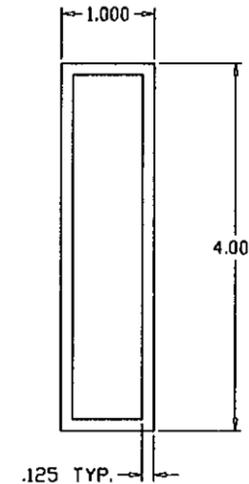
SERIES 3000/3062  
CASEMENT WDW. EQUAL LEG FRAME  
PROJECTED WDW. EQUAL LEG FRAME  
ARSO-142



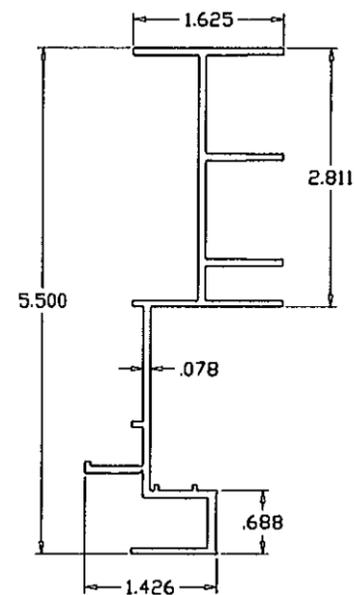
SERIES 535  
SINGLE HUNG FLANGE FRAME  
ARSO-955



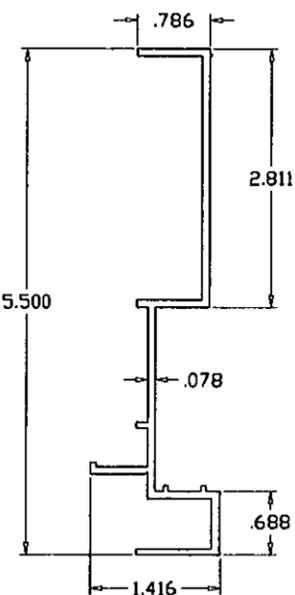
MULLION REINF.  
6063-T6



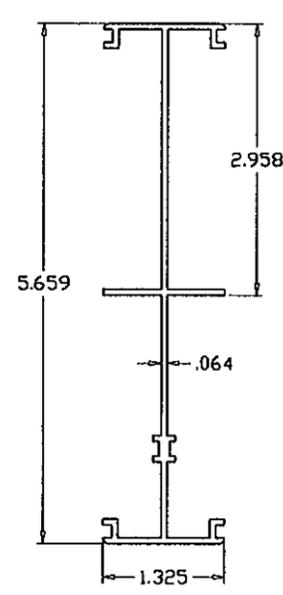
1 X 4 STD. TUBE  
6063-T6



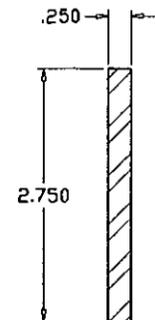
SERIES 540  
SINGLE HUNG EQUAL LEG FRAME  
ARSO-2



SERIES 540  
PROJECTED EQUAL LEG FRAME  
ARSO-52



SERIES 540  
CUSTOM MULLION  
ARSO-6



MULLION REINF.  
STEEL (36 KSI)

ALL FRAMES AND MULLIONS TO BE ALLOY 6063-T6

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

SEP 14 2010

Approved as complying with the  
Florida Building Code  
Date OCT 13 2010  
NOA# 10-0511-05  
Miami Dade Product Control  
Division  
By *Manuel P...*

date: 09-05-08  
scale: 1/2" = 1"  
dr. by: HAMID  
chk. by:

drawing no.  
M08-04

sheet 2 of 10

UNCLIPPED ALUM ZERO & TUBE MULLION

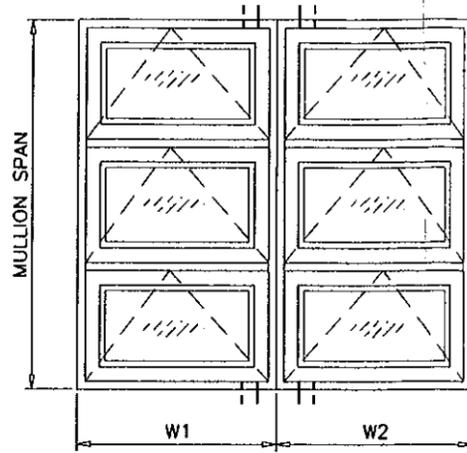
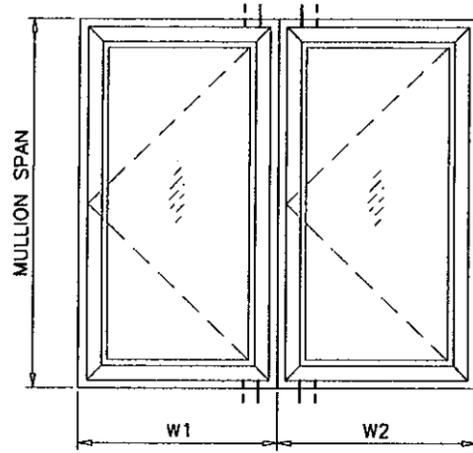
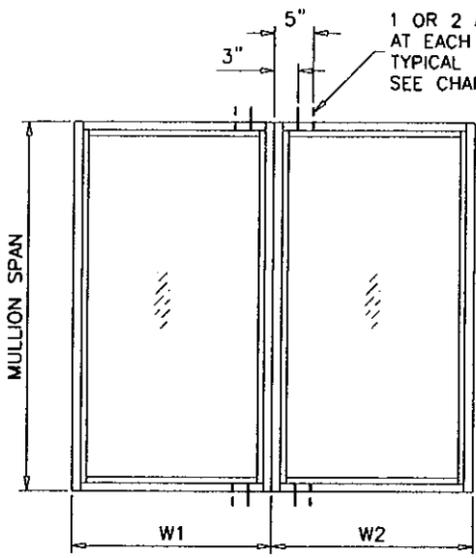
SOL-A-TROL ALUMINUM PRODUCTS  
4101 N.W. 132ND STREET  
MIAMI, FL. 33054  
TEL. (305) 681-2020 FAX. (305) 681-2035

| no | date     | description          |
|----|----------|----------------------|
| A  | 09.13.10 | NO CHANGE THIS SHEET |
|    |          |                      |
|    |          |                      |

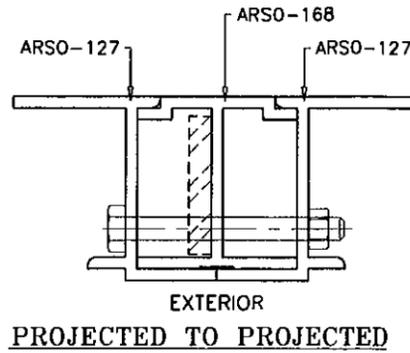
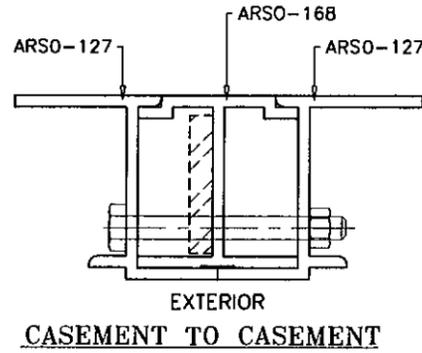
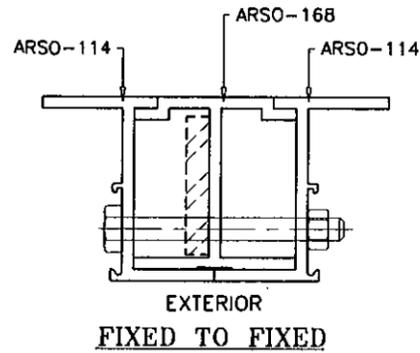
revisions:

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

MULLION\M08-04SAT

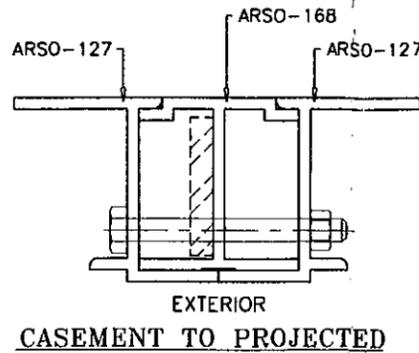
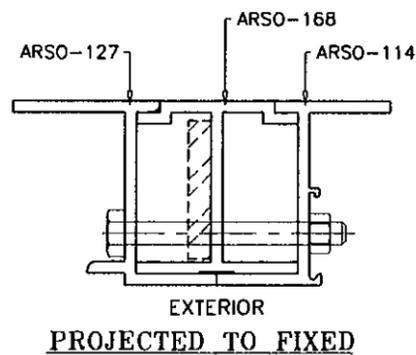
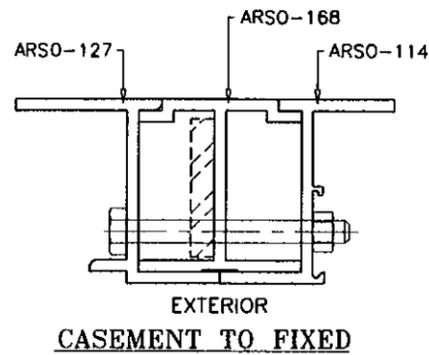
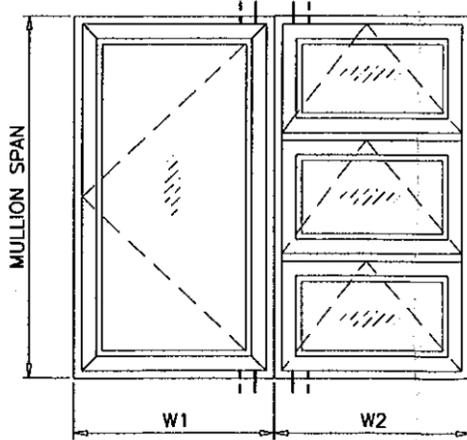
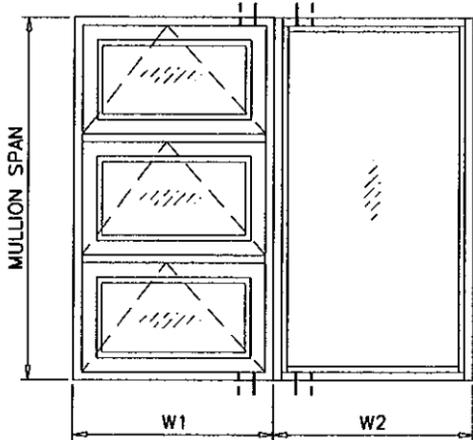
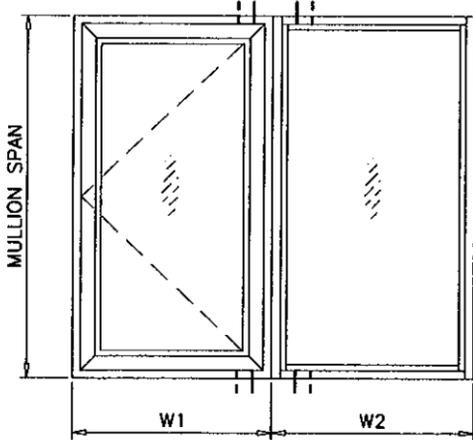


NOTE:  
MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.  
(INTERPOLATION BETWEEN WIDTHS ALLOWED)



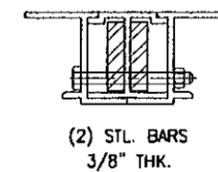
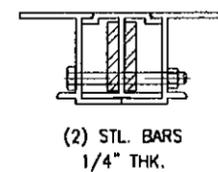
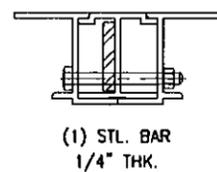
SEE SHEET 8 OF 10 FOR ANCHORING DETAILS

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



DESIGN LOAD CAPACITY - PSF  
ZERO MULLION WITH ANY COMBINATION OF  
SERIES 3000/3062 FIXED, CASEMENT OR PROJECTED WINDOWS

| WINDOW DIMS. |           | 1 ANCHOR AT EACH SIDE OF MULL |                        | 2 ANCHORS AT EACH SIDE OF MULLION |                         |
|--------------|-----------|-------------------------------|------------------------|-----------------------------------|-------------------------|
| WIDTH (W)    | MULL SPAN | (1) STL. BAR 1/4" THK.        | (1) STL. BAR 1/4" THK. | (2) STL. BARS 1/4" THK.           | (2) STL. BARS 3/8" THK. |
| 19-1/8"      | 38-3/8"   | 100.0                         | 100.0                  | 100.0                             | 100.0                   |
| 26-1/2"      |           | 100.0                         | 100.0                  | 100.0                             | 100.0                   |
| 37"          |           | 96.4                          | 100.0                  | 100.0                             | 100.0                   |
| 53-1/8"      |           | 67.1                          | 100.0                  | 100.0                             | 100.0                   |
| 19-1/8"      | 50-5/8"   | 100.0                         | 100.0                  | 100.0                             | 100.0                   |
| 26-1/2"      |           | 100.0                         | 100.0                  | 100.0                             | 100.0                   |
| 37"          |           | 73.1                          | 100.0                  | 100.0                             | 100.0                   |
| 53-1/8"      |           | 50.9                          | 90.2                   | 90.2                              | 90.2                    |
| 19-1/8"      | 63"       | 100.0                         | 100.0                  | 100.0                             | 100.0                   |
| 26-1/2"      |           | 82.0                          | 100.0                  | 100.0                             | 100.0                   |
| 37"          |           | 58.7                          | 80.2                   | 93.7                              | 100.0                   |
| 24"          | 48"       | 100.0                         | 100.0                  | 100.0                             | 100.0                   |
| 30"          |           | 95.0                          | 100.0                  | 100.0                             | 100.0                   |
| 36"          |           | 79.2                          | 100.0                  | 100.0                             | 100.0                   |
| 42"          |           | 67.9                          | 100.0                  | 100.0                             | 100.0                   |
| 48"          |           | 59.4                          | 100.0                  | 100.0                             | 100.0                   |
| 24"          | 54"       | 100.0                         | 100.0                  | 100.0                             | 100.0                   |
| 30"          |           | 84.5                          | 100.0                  | 100.0                             | 100.0                   |
| 36"          |           | 70.4                          | 100.0                  | 100.0                             | 100.0                   |
| 42"          |           | 60.3                          | 100.0                  | 100.0                             | 100.0                   |
| 48"          |           | 52.8                          | 93.6                   | 93.6                              | 93.6                    |
| 24"          | 60"       | 95.0                          | 100.0                  | 100.0                             | 100.0                   |
| 30"          |           | 76.0                          | 100.0                  | 100.0                             | 100.0                   |
| 36"          |           | 63.4                          | 95.4                   | 100.0                             | 100.0                   |
| 42"          |           | 54.3                          | 81.8                   | 95.6                              | 96.3                    |
| 48"          |           | 47.5                          | 71.5                   | 80.0                              | 80.0                    |
| 24"          | 63"       | 90.5                          | 100.0                  | 100.0                             | 100.0                   |
| 30"          |           | 72.4                          | 98.9                   | 100.0                             | 100.0                   |
| 36"          |           | 60.3                          | 82.4                   | 96.3                              | 100.0                   |
| 42"          |           | 51.7                          | 70.6                   | 82.6                              | 91.7                    |
| 48"          |           | 45.3                          | 61.8                   | 72.2                              | 80.0                    |



|                                 | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|---------------------------------|--------------------|--------------------|
| ALUMINUM                        | 1.0033             | 0.9679             |
| STEEL                           | 0.0703             | 0.0937             |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 1.2072             |                    |

|                                 | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|---------------------------------|--------------------|--------------------|
| ALUMINUM                        | 1.0033             | 0.9679             |
| STEEL                           | 0.1406             | 0.1874             |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 1.4110             |                    |

|                                 | Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
|---------------------------------|--------------------|--------------------|
| ALUMINUM                        | 1.0033             | 0.9679             |
| STEEL                           | 0.2110             | 0.2814             |
| TOTAL<br>Ix ALUM + Ix STL X 2.9 | 1.6152             |                    |

ZERO MULLION  
SERIES 3000/3062 FRAMES

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

Approved as complying with the  
Florida Building Code  
Date **OCT. 13 2010**  
NOAB **10-0511.05**  
Miami Code Product Control  
Division  
By *Manuel Perez*

*JA*  
SEP 14 2010

**afC**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
1235 S.W. 87 AVE  
MIAMI, FLORIDA 33174  
TEL. (305) 264-8100 FAX. (305) 262-6978  
MULLION M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
4101 N.W. 132ND STREET  
MIAMI, FL. 33054  
TEL. (305) 681-2020 FAX. (305) 681-2035

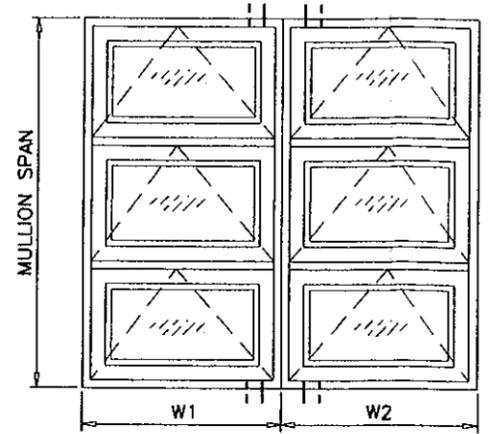
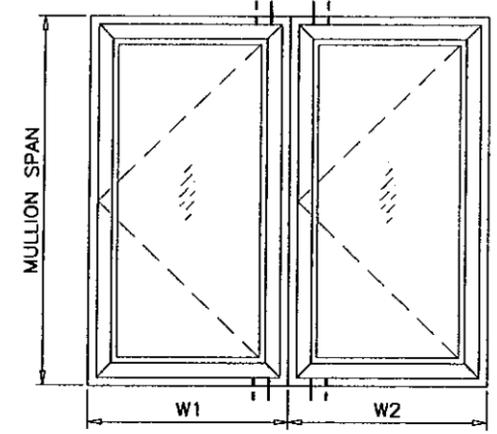
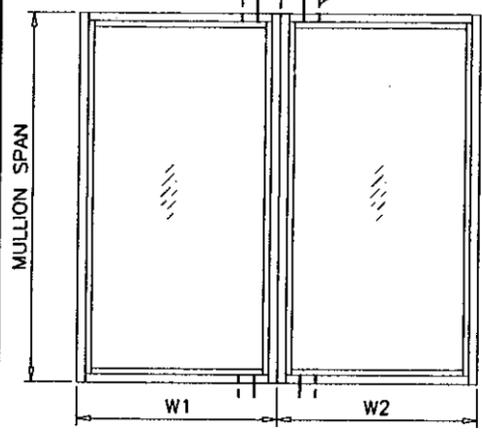
revisions:

| no | date     | description             |
|----|----------|-------------------------|
| A  | 09.13.10 | REV. PER. BCCO COMMENTS |

date: 09-05-08  
scale: 1/2" = 1"  
dr. by: HAMID  
chk. by:

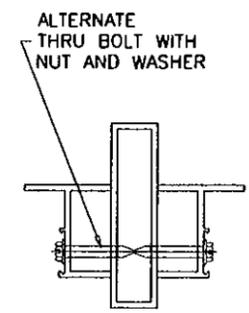
drawing no.  
**M08-04**  
sheet 3 of 10

1 OR 2 ANCHORS  
AT EACH SIDE OF MULLION  
TYPICAL  
SEE CHART FOR CAPACITY

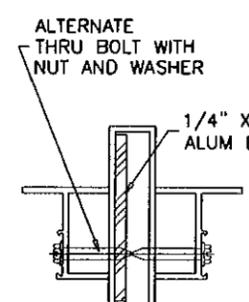


DESIGN LOAD CAPACITY - PSF  
TUBE MULLION WITH ANY COMBINATION OF  
S-3000/3062 FIXED, CASEMENT OR PROJECTED WDW.

| WINDOW DIMS. |           | 1 ANCHOR AT EACH SIDE OF MULL |                    | 2 ANCHORS AT EACH SIDE OF MULLION |                   |
|--------------|-----------|-------------------------------|--------------------|-----------------------------------|-------------------|
| WIDTH (W)    | MULL SPAN | MULLION W/O REINF.            | MULLION W/O REINF. | MULLION W/ REINF.                 | MULLION W/ REINF. |
| 19-1/8"      | 38-3/8"   | 95.0                          | 95.0               | 95.0                              |                   |
| 26-1/2"      |           | 95.0                          | 95.0               | 95.0                              |                   |
| 37"          |           | 95.0                          | 95.0               | 95.0                              |                   |
| 53-1/8"      |           | 67.1                          | 95.0               | 95.0                              |                   |
| 19-1/8"      | 50-5/8"   | 95.0                          | 95.0               | 95.0                              |                   |
| 26-1/2"      |           | 95.0                          | 95.0               | 95.0                              |                   |
| 37"          |           | 73.1                          | 95.0               | 95.0                              |                   |
| 53-1/8"      |           | 50.9                          | 95.0               | 95.0                              |                   |
| 19-1/8"      | 63"       | 95.0                          | 95.0               | 95.0                              |                   |
| 26-1/2"      |           | 82.0                          | 95.0               | 95.0                              |                   |
| 37"          |           | 58.7                          | 95.0               | 95.0                              |                   |
| 53-1/8"      |           | 95.0                          | 95.0               | 95.0                              |                   |
| 19-1/8"      | 74-1/4"   | 95.0                          | 95.0               | 95.0                              |                   |
| 26-1/2"      |           | 69.6                          | 95.0               | 95.0                              |                   |
| 37"          |           | 49.8                          | 94.4               | 94.4                              |                   |
| 53-1/8"      |           | 95.0                          | 95.0               | 95.0                              |                   |
| 24"          | 54"       | 95.0                          | 95.0               | 95.0                              |                   |
| 30"          |           | 84.5                          | 95.0               | 95.0                              |                   |
| 36"          |           | 70.4                          | 95.0               | 95.0                              |                   |
| 42"          |           | 60.3                          | 95.0               | 95.0                              |                   |
| 48"          |           | 52.8                          | 95.0               | 95.0                              |                   |
| 54"          | 46.9      | 93.9                          | 93.9               |                                   |                   |
| 24"          | 60"       | 95.0                          | 95.0               | 95.0                              |                   |
| 30"          |           | 76.0                          | 95.0               | 95.0                              |                   |
| 36"          |           | 63.4                          | 95.0               | 95.0                              |                   |
| 42"          |           | 54.3                          | 95.0               | 95.0                              |                   |
| 48"          |           | 47.5                          | 95.0               | 95.0                              |                   |
| 24"          | 66"       | 86.4                          | 95.0               | 95.0                              |                   |
| 30"          |           | 69.1                          | 95.0               | 95.0                              |                   |
| 36"          |           | 57.6                          | 95.0               | 95.0                              |                   |
| 42"          |           | 49.4                          | 95.0               | 95.0                              |                   |
| 48"          |           | 47.5                          | 95.0               | 95.0                              |                   |
| 24"          | 72"       | 79.2                          | 95.0               | 95.0                              |                   |
| 30"          |           | 63.4                          | 95.0               | 95.0                              |                   |
| 36"          |           | 52.8                          | 95.0               | 95.0                              |                   |
| 42"          |           | 45.3                          | 88.8               | 90.5                              |                   |
| 24"          | 78"       | 73.1                          | 95.0               | 95.0                              |                   |
| 30"          |           | 58.5                          | 95.0               | 95.0                              |                   |
| 36"          |           | 48.7                          | 86.6               | 95.0                              |                   |
| 24"          | 84"       | 67.9                          | 95.0               | 95.0                              |                   |
| 30"          |           | 54.3                          | 83.2               | 95.0                              |                   |
| 36"          |           | 45.3                          | 69.3               | 90.5                              |                   |



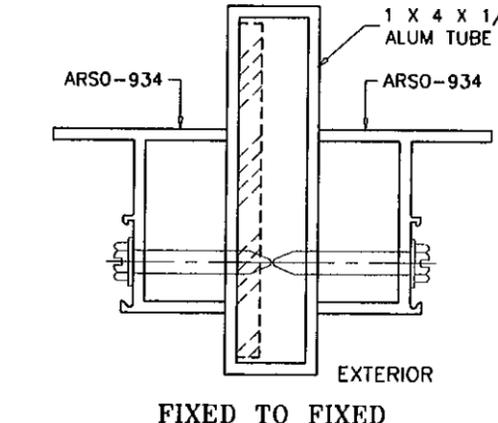
MULLION W/O REINF.  
Ix IN<sup>4</sup> Sx IN<sup>3</sup>  
2.7772 1.3886



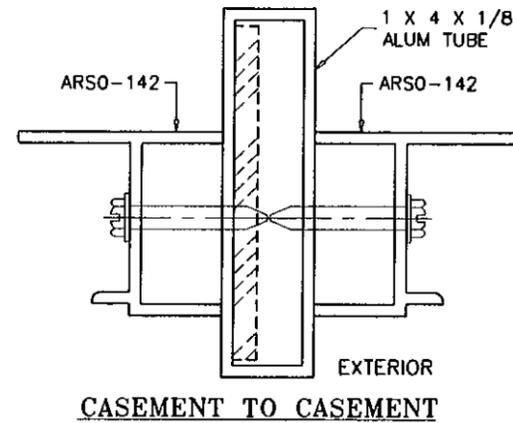
MULLION W/ REINF.  
Ix IN<sup>4</sup> Sx IN<sup>3</sup>  
3.3995 1.6998

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

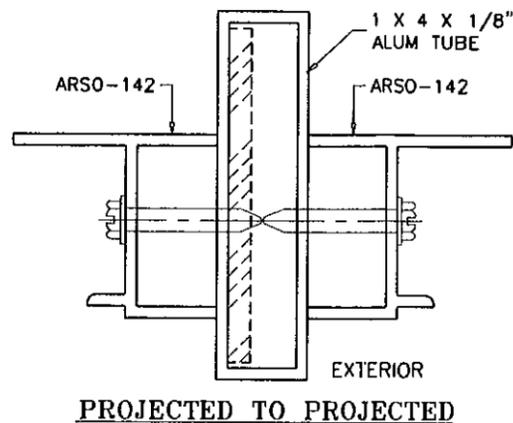
NOTE: MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY. (INTERPOLATION BETWEEN WIDTHS ALLOWED)



FIXED TO FIXED

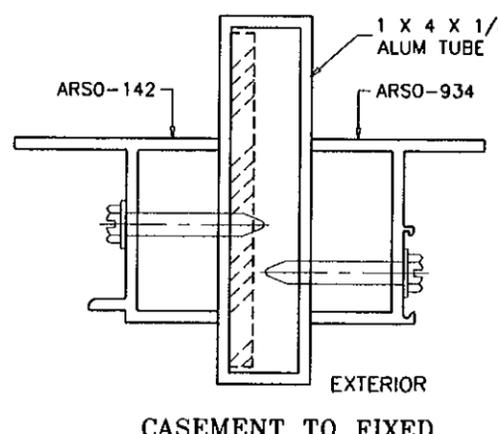
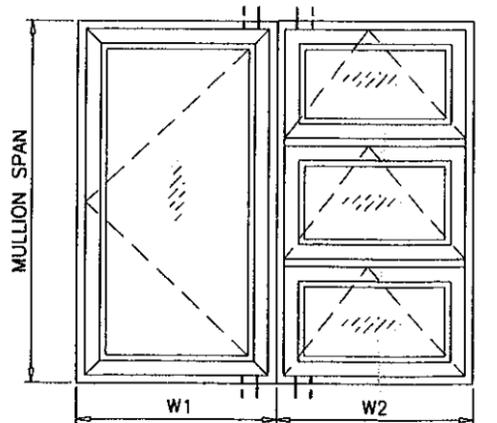
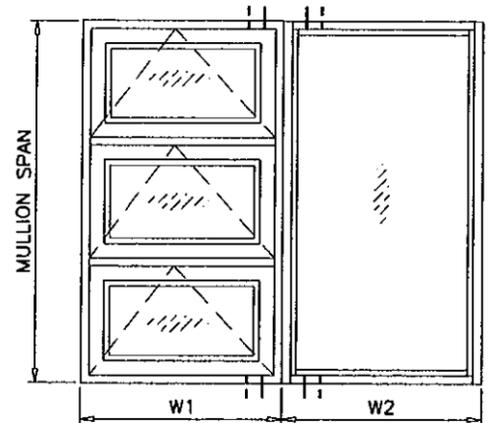
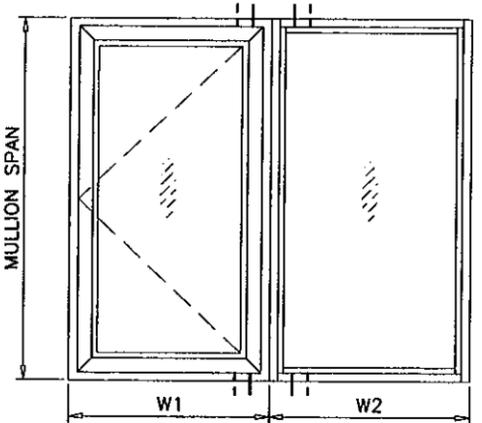


CASEMENT TO CASEMENT

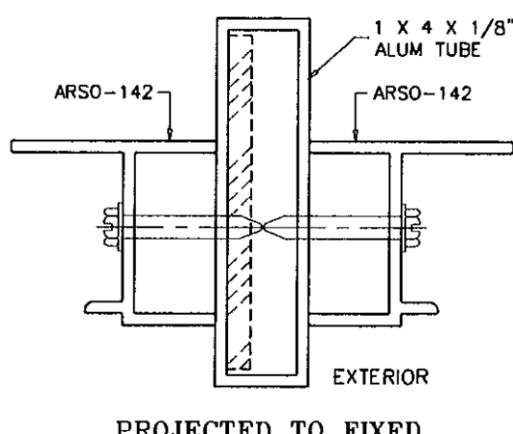


PROJECTED TO PROJECTED

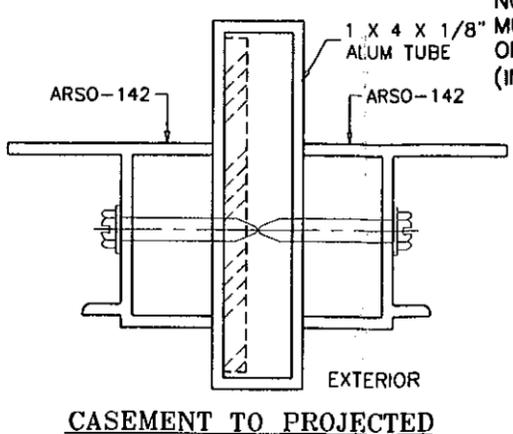
SEE SHEET 9 OF 10 FOR ANCHORING DETAILS



CASEMENT TO FIXED



PROJECTED TO FIXED



CASEMENT TO PROJECTED

TUBE MULLION  
SERIES 3000/3062 FRAMES

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

SEP 14 2010

Approved as complying with the  
Florida Building Code  
Date: OCT. 13, 2010  
NOA# 10-0511-05  
Miami Made Product Control  
By: Manuel Perez

**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
1295 S.W. 87 AVE  
MIAMI, FLORIDA 33174  
TEL. (305) 264-8100 FAX. (305) 262-6978  
MULLION\M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
4101 N.W. 132ND STREET  
MIAMI, FL. 33054  
TEL. (305) 681-2020 FAX. (305) 681-2035

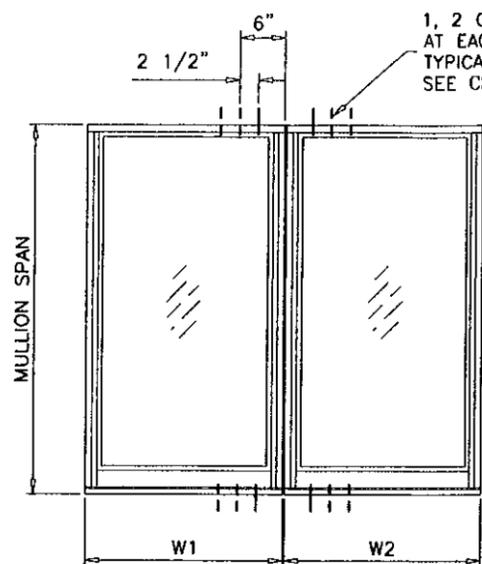
| no | date     | by | description            |
|----|----------|----|------------------------|
| A  | 09.13.10 |    | REV. PER BCCO COMMENTS |

date: 09-05-08  
scale: 1/2" = 1"  
dr. by: HAMID  
chk. by:

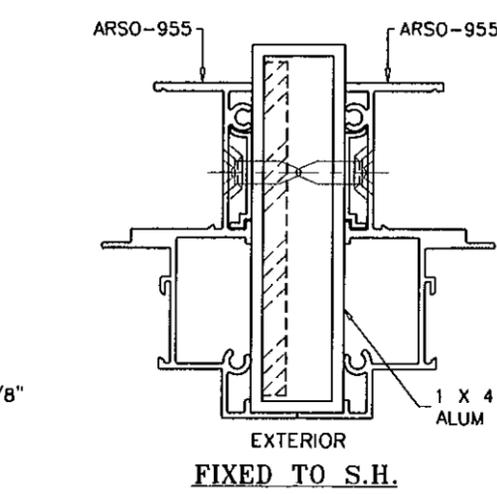
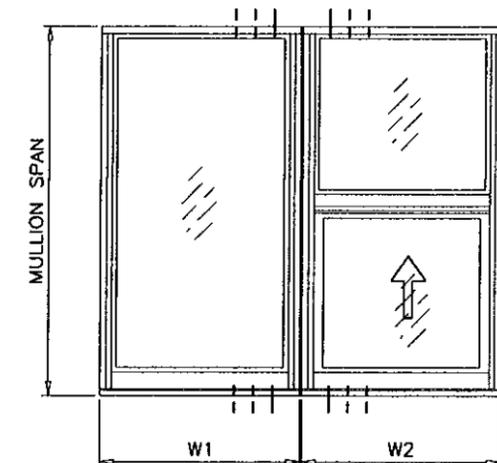
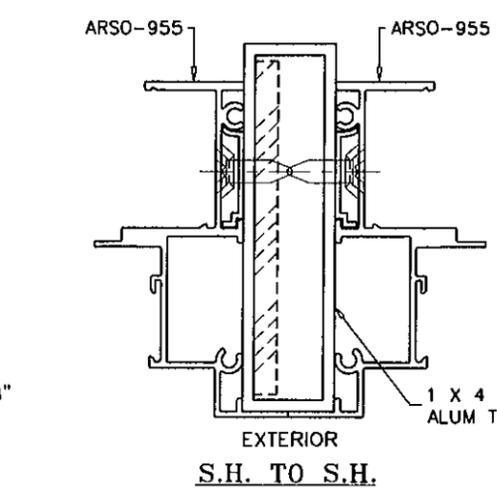
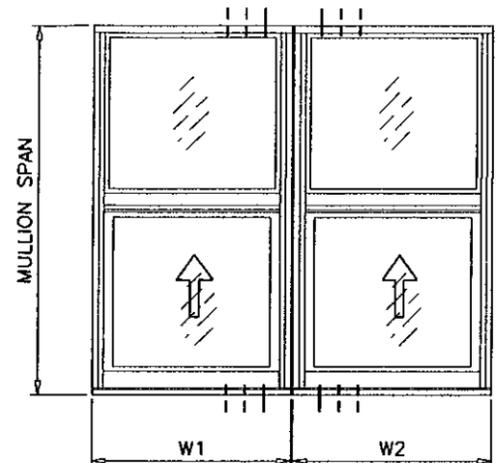
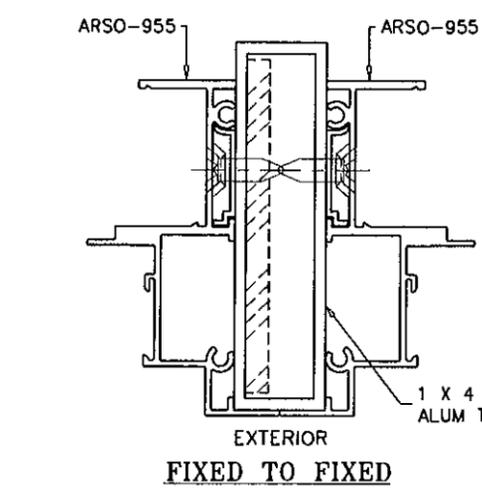
drawing no.  
**M08-04**  
sheet 4 of 10

DESIGN LOAD CAPACITY - PSF  
TUBE MULLION WITH ANY COMBINATION OF  
SERIES 535 FIXED AND SINGLE HUNG WINDOWS

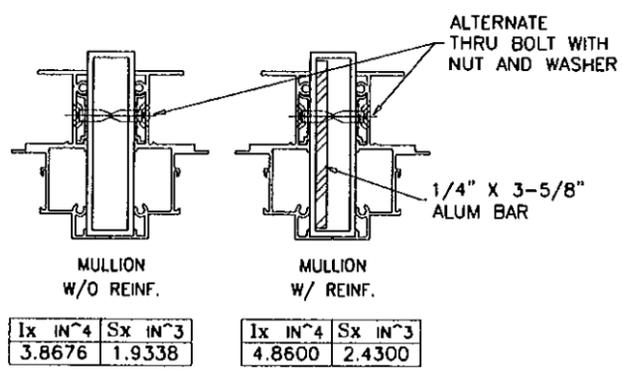
| WINDOW DIMS. |           | 1 ANCHOR AT EACH SIDE OF MULL | 2 ANCHORS AT EACH SIDE OF MULLION |                   | 3 ANCHORS AT EACH SIDE OF MULLION |                   |
|--------------|-----------|-------------------------------|-----------------------------------|-------------------|-----------------------------------|-------------------|
| WIDTH (W)    | MULL SPAN | MULLION W/O REINF.            | MULLION W/O REINF.                | MULLION W/ REINF. | MULLION W/O REINF.                | MULLION W/ REINF. |
| 19-1/8"      | 50-5/8"   | 100.0                         | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 26-1/2"      |           | 100.0                         | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 37"          |           | 73.1                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 53-1/8"      |           | 50.9                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 19-1/8"      | 63"       | 100.0                         | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 26-1/2"      |           | 82.0                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 37"          |           | 58.7                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 53-1/8"      | 74-1/4"   | 40.9                          | 81.8                              | 81.8              | 100.0                             | 100.0             |
| 19-1/8"      |           | 96.4                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 26-1/2"      |           | 69.6                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 37"          | 74-1/4"   | 49.8                          | 99.6                              | 99.6              | 100.0                             | 100.0             |
| 53-1/8"      |           | 34.7                          | 69.4                              | 69.4              | 95.5                              | 100.0             |
| 24"          |           | 66"                           | 86.4                              | 100.0             | 100.0                             | 100.0             |
| 30"          | 69.1      |                               | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 36"          | 57.6      |                               | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 42"          | 49.4      |                               | 98.7                              | 98.7              | 100.0                             | 100.0             |
| 48"          | 43.2      |                               | 86.4                              | 86.4              | 100.0                             | 100.0             |
| 53-1/8"      | 39.0      |                               | 78.1                              | 78.1              | 100.0                             | 100.0             |
| 54"          | 38.4      |                               | 76.8                              | 76.8              | 100.0                             | 100.0             |
| 60"          | 34.6      | 69.1                          | 69.1                              | 100.0             | 100.0                             |                   |
| 24"          | 72"       | 79.2                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 30"          |           | 63.4                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 36"          |           | 52.8                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 42"          |           | 45.3                          | 90.5                              | 90.5              | 100.0                             | 100.0             |
| 48"          |           | 39.6                          | 79.2                              | 79.2              | 100.0                             | 100.0             |
| 53-1/8"      |           | 35.8                          | 71.6                              | 71.6              | 100.0                             | 100.0             |
| 54"          | 35.2      | 70.4                          | 70.4                              | 100.0             | 100.0                             |                   |
| 24"          | 78"       | 73.1                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 30"          |           | 58.5                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 36"          |           | 48.7                          | 97.5                              | 97.5              | 100.0                             | 100.0             |
| 42"          |           | 41.8                          | 83.6                              | 83.6              | 100.0                             | 100.0             |
| 48"          |           | 36.6                          | 73.1                              | 73.1              | 91.2                              | 100.0             |
| 53-1/8"      | 33.0      | 66.1                          | 66.1                              | 82.4              | 99.1                              |                   |
| 54"          | 32.5      | 65.0                          | 65.0                              | 81.0              | 97.5                              |                   |
| 24"          | 80"       | 71.3                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 30"          |           | 57.0                          | 100.0                             | 100.0             | 100.0                             | 100.0             |
| 36"          |           | 47.5                          | 95.0                              | 95.0              | 100.0                             | 100.0             |
| 42"          |           | 40.7                          | 81.5                              | 81.5              | 96.6                              | 100.0             |
| 48"          |           | 35.6                          | 71.3                              | 71.3              | 84.5                              | 100.0             |
| 53-1/8"      | 32.2      | 64.4                          | 64.4                              | 76.4              | 96.6                              |                   |



1, 2 OR 3 ANCHORS AT EACH SIDE OF MULLION TYPICAL SEE CHART FOR CAPACITY



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



|         |         |
|---------|---------|
| 1x IN~4 | Sx IN~3 |
| 3.8676  | 1.9338  |

|         |         |
|---------|---------|
| 1x IN~4 | Sx IN~3 |
| 4.8600  | 2.4300  |

SEE SHEET 9 OF 10 FOR ANCHORING DETAILS

TUBE MULLION  
SERIES 535 FRAMES

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

Approved as complying with the  
Florida Building Code  
Date OCT. 13, 2010  
NOA# 10-0511.05  
Attn: Date Product Control  
By: *[Signature]*

*[Signature]*  
SEP 14 2010

NOTE:  
MULLIONS RATED IN THESE CHARTS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY.  
(INTERPOLATION BETWEEN WIDTHS ALLOWED)

**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
1235 S.W. 87 AVE  
MIAMI, FLORIDA 33174  
TEL. (305) 264-8100 FAX. (305) 262-6978  
MULLION M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
4101 N.W. 132ND STREET  
MIAMI, FL. 33054  
TEL. (305) 681-2020 FAX. (305) 681-2035

| no. | date     | description            |
|-----|----------|------------------------|
| A   | 09.13.10 | REV. PER BCCO COMMENTS |
|     |          |                        |
|     |          |                        |

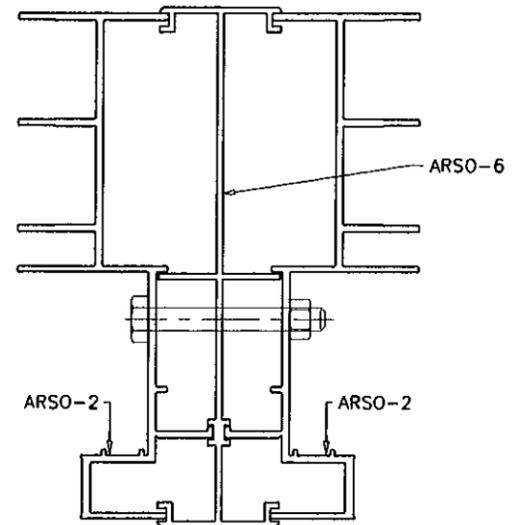
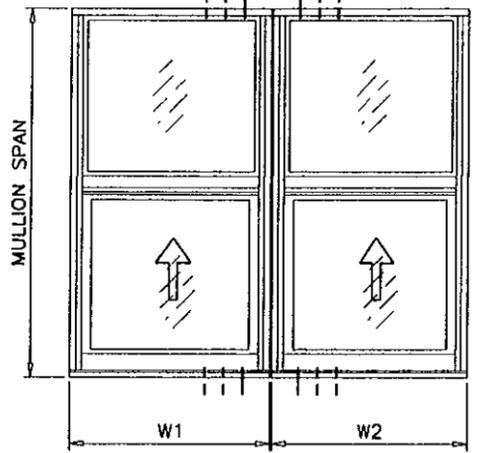
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scale: 1/2" = 1"  
dr. by: HAMID  
chk. by:

drawing no.  
**M08-04**  
sheet 5 of 10

DESIGN LOAD CAPACITY - PSF  
CUSTOM MULLION W/O REINF.  
SERIES 540 S.H. WINDOWS

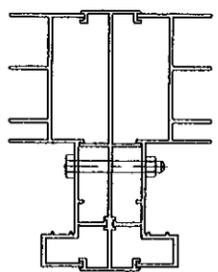
| WINDOW DIMS. |           | 1 ANCHOR<br>AT EACH SIDE<br>OF MULLION | 2 ANCHORS<br>AT EACH SIDE<br>OF MULLION | 3 ANCHORS<br>AT EACH SIDE<br>OF MULLION |
|--------------|-----------|--|---|---|
| WIDTH (W)    | MULL SPAN |  |   |   |
| 19-1/8"      | 50-5/8"   | 75.0                                   | 75.0                                    | 75.0                                    |
| 26-1/2"      |           | 75.0                                   | 75.0                                    | 75.0                                    |
| 37"          |           | 73.1                                   | 75.0                                    | 75.0                                    |
| 53-1/8"      |           | 50.9                                   | 75.0                                    | 75.0                                    |
| 19-1/8"      | 63"       | 75.0                                   | 75.0                                    | 75.0                                    |
| 26-1/2"      |           | 75.0                                   | 75.0                                    | 75.0                                    |
| 37"          |           | 58.7                                   | 75.0                                    | 75.0                                    |
| 53-1/8"      |           | 40.9                                   | 75.0                                    | 75.0                                    |
| 19-1/8"      | 74-1/4"   | 75.0                                   | 75.0                                    | 75.0                                    |
| 26-1/2"      |           | 69.6                                   | 75.0                                    | 75.0                                    |
| 37"          |           | 49.8                                   | 75.0                                    | 75.0                                    |
| 53-1/8"      |           | 34.7                                   | 69.4                                    | 75.0                                    |
| 24"          | 76"       | 75.0                                   | 75.0                                    | 75.0                                    |
| 30"          |           | 60.0                                   | 75.0                                    | 75.0                                    |
| 36"          |           | 50.0                                   | 75.0                                    | 75.0                                    |
| 42"          |           | 42.9                                   | 75.0                                    | 75.0                                    |
| 48"          |           | 37.5                                   | 75.0                                    | 75.0                                    |
| 54"          |           | 33.3                                   | 66.7                                    | 75.0                                    |
| 60"          |           | 30.0                                   | 60.0                                    | 75.0                                    |
| 24"          | 84"       | 67.9                                   | 75.0                                    | 75.0                                    |
| 30"          |           | 54.3                                   | 75.0                                    | 75.0                                    |
| 36"          |           | 45.3                                   | 75.0                                    | 75.0                                    |
| 42"          |           | 38.8                                   | 75.0                                    | 75.0                                    |
| 48"          |           | 33.9                                   | 67.9                                    | 75.0                                    |
| 54"          |           | 30.2                                   | 60.3                                    | 75.0                                    |
| 24"          | 90"       | 63.4                                   | 75.0                                    | 75.0                                    |
| 30"          |           | 50.7                                   | 75.0                                    | 75.0                                    |
| 36"          |           | 42.2                                   | 75.0                                    | 75.0                                    |
| 42"          |           | 36.2                                   | 72.4                                    | 75.0                                    |
| 48"          |           | 31.7                                   | 63.4                                    | 75.0                                    |
| 24"          | 96"       | 59.4                                   | 75.0                                    | 75.0                                    |
| 30"          |           | 47.5                                   | 75.0                                    | 75.0                                    |
| 36"          |           | 39.6                                   | 75.0                                    | 75.0                                    |
| 42"          |           | 33.9                                   | 67.9                                    | 75.0                                    |
| 48"          |           | 29.7                                   | 59.4                                    | 75.0                                    |

1, 2 OR 3 ANCHORS  
AT EACH SIDE OF MULLION  
TYPICAL  
SEE CHART FOR CAPACITY



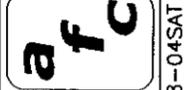
EXTERIOR  
S.H. TO S.H.

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



MULLION  
S.H. WDW.

|                    |                    |
|--------------------|--------------------|
| Ix IN <sup>4</sup> | Sx IN <sup>3</sup> |
| 8.8317             | 3.0129             |



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

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
4101 N.W. 132ND STREET  
MIAMI, FL. 33054  
TEL. (305) 681-2020 FAX. (305) 681-2035

| no | date     | description            |
|----|----------|------------------------|
| A  | 09.13.10 | REV. PER BCCO COMMENTS |
|    |          |                        |
|    |          |                        |

CUSTOM MULLION  
SERIES 540 FRAMES

Engr: JAVAD AHMAD  
CIVIL  
FLA. PE # 70592  
C.A.N. 3538  
  
SEP 14 2010

Approved as complying with the  
Florida Building Code  
Date OCT. 13, 2010  
NOAH 10-0511-05  
Miami Dade Product Control  
Division  
By Manuel Perez

date: 09-05-08  
scale: 1/2" = 1"  
dr. by: HAMID  
chk. by:  
  
drawing no.  
**M08-04**  
sheet 6 of 10

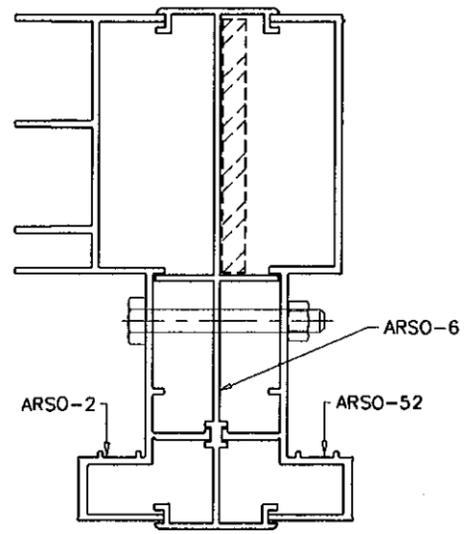
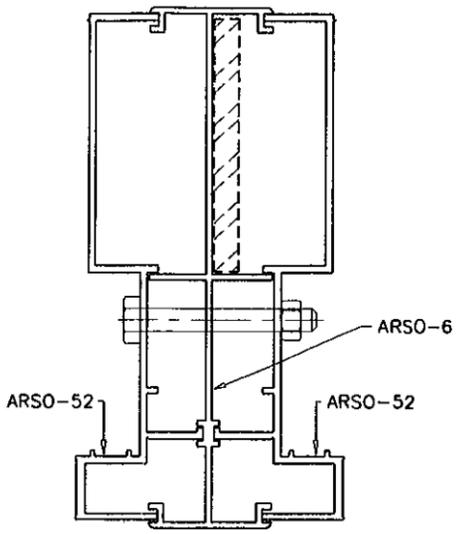
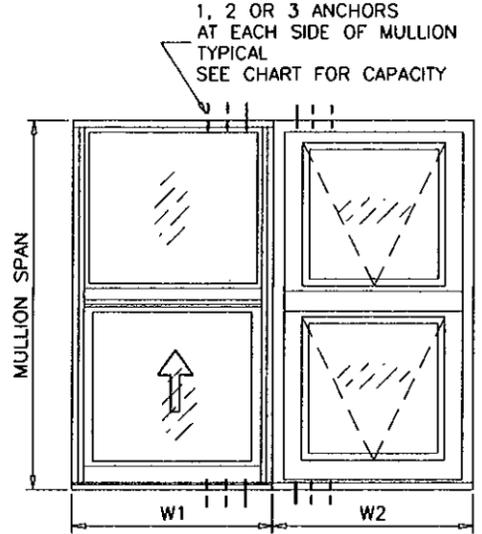
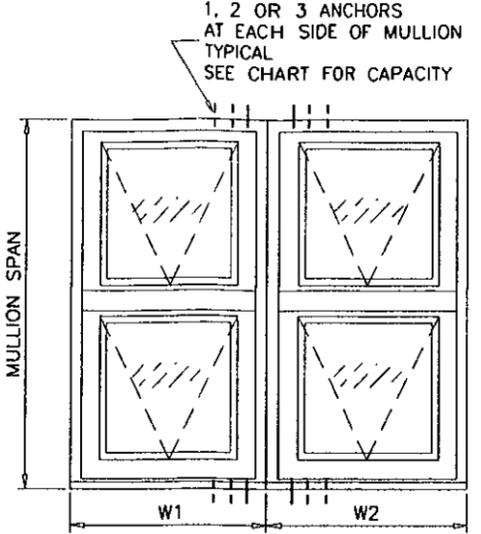
SEE SHEET 10 OF 10 FOR ANCHORING DETAILS

DESIGN LOAD CAPACITY - PSF  
CUSTOM MULLION W/O REINF.  
SERIES 540 PROJECTED AND S.H. TO PROJECTED WDW.

| WINDOW DIMS. |           | 1 ANCHOR AT EACH SIDE OF MULLION | 2 ANCHORS AT EACH SIDE OF MULLION |
|--------------|-----------|----------------------------------|-----------------------------------|
| WIDTH (W)    | MULL SPAN |                                  |                                   |
| 19-1/8"      | 38-3/8"   | 75.0                             | 75.0                              |
| 26-1/2"      |           | 75.0                             | 75.0                              |
| 37"          |           | 75.0                             | 75.0                              |
| 53-1/8"      |           | 67.1                             | 75.0                              |
| 19-1/8"      | 50-5/8"   | 75.0                             | 75.0                              |
| 26-1/2"      |           | 75.0                             | 75.0                              |
| 37"          |           | 73.1                             | 75.0                              |
| 53-1/8"      |           | 50.9                             | 75.0                              |
| 19-1/8"      | 63"       | 75.0                             | 75.0                              |
| 26-1/2"      |           | 75.0                             | 75.0                              |
| 37"          |           | 58.7                             | 75.0                              |
| 24"          |           | 75.0                             | 75.0                              |
| 30"          | 48"       | 75.0                             | 75.0                              |
| 36"          |           | 75.0                             | 75.0                              |
| 42"          |           | 67.9                             | 75.0                              |
| 48"          |           | 59.4                             | 75.0                              |
| 54"          | 54"       | 52.8                             | 75.0                              |
| 60"          |           | 47.5                             | 75.0                              |
| 24"          |           | 75.0                             | 75.0                              |
| 30"          |           | 75.0                             | 75.0                              |
| 36"          | 60"       | 70.4                             | 75.0                              |
| 42"          |           | 60.3                             | 75.0                              |
| 48"          |           | 52.8                             | 75.0                              |
| 54"          |           | 46.9                             | 75.0                              |
| 24"          | 63"       | 75.0                             | 75.0                              |
| 30"          |           | 75.0                             | 75.0                              |
| 36"          |           | 63.4                             | 75.0                              |
| 42"          |           | 54.3                             | 75.0                              |
| 48"          | 63"       | 47.5                             | 75.0                              |
| 24"          |           | 75.0                             | 75.0                              |
| 30"          |           | 72.4                             | 75.0                              |
| 36"          |           | 60.3                             | 75.0                              |
| 42"          | 63"       | 51.7                             | 75.0                              |
| 48"          |           | 45.3                             | 75.0                              |

DESIGN LOAD CAPACITY - PSF  
CUSTOM MULLION W/ REINF.  
SERIES 540 PROJECTED AND S.H. TO PROJECTED WDW.

| WINDOW DIMS. |           | 1 ANCHOR AT EACH SIDE OF MULLION | 2 ANCHORS AT EACH SIDE OF MULLION | 3 ANCHORS AT EACH SIDE OF MULLION |
|--------------|-----------|----------------------------------|-----------------------------------|-----------------------------------|
| WIDTH (W)    | MULL SPAN |                                  |                                   |                                   |
| 19-1/8"      | 63"       | 75.0                             | 75.0                              | 75.0                              |
| 26-1/2"      |           | 75.0                             | 75.0                              | 75.0                              |
| 37"          |           | 58.7                             | 75.0                              | 75.0                              |
| 53-1/8"      |           | 40.9                             | 75.0                              | 75.0                              |
| 19-1/8"      | 74-1/4"   | 75.0                             | 75.0                              | 75.0                              |
| 26-1/2"      |           | 69.6                             | 75.0                              | 75.0                              |
| 37"          |           | 49.8                             | 75.0                              | 75.0                              |
| 53-1/8"      |           | 34.7                             | 69.4                              | 75.0                              |
| 24"          | 63"       | 75.0                             | 75.0                              | 75.0                              |
| 30"          |           | 72.4                             | 75.0                              | 75.0                              |
| 36"          |           | 60.3                             | 75.0                              | 75.0                              |
| 42"          |           | 51.7                             | 75.0                              | 75.0                              |
| 48"          | 72"       | 45.3                             | 75.0                              | 75.0                              |
| 54"          |           | 40.2                             | 75.0                              | 75.0                              |
| 60"          |           | 36.2                             | 72.4                              | 75.0                              |
| 24"          |           | 75.0                             | 75.0                              | 75.0                              |
| 30"          | 80"       | 63.4                             | 75.0                              | 75.0                              |
| 36"          |           | 52.8                             | 75.0                              | 75.0                              |
| 42"          |           | 45.3                             | 75.0                              | 75.0                              |
| 48"          |           | 39.6                             | 75.0                              | 75.0                              |
| 54"          | 84"       | 35.2                             | 70.4                              | 75.0                              |
| 24"          |           | 71.3                             | 75.0                              | 75.0                              |
| 30"          |           | 57.0                             | 75.0                              | 75.0                              |
| 36"          |           | 47.5                             | 75.0                              | 75.0                              |
| 42"          | 84"       | 40.7                             | 75.0                              | 75.0                              |
| 48"          |           | 35.6                             | 71.3                              | 75.0                              |
| 24"          |           | 67.9                             | 75.0                              | 75.0                              |
| 30"          |           | 54.3                             | 75.0                              | 75.0                              |
| 36"          | 84"       | 45.3                             | 75.0                              | 75.0                              |
| 42"          |           | 38.8                             | 75.0                              | 75.0                              |



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

|                              |                                     |
|------------------------------|-------------------------------------|
|                              |                                     |
| MULLION W/O REINF. PROJECTED | MULLION W/O REINF. S.H. - PROJECTED |
| Ix IN <sup>4</sup> 7.4397    | Ix IN <sup>4</sup> 8.1357           |
| Sx IN <sup>3</sup> 2.4092    | Sx IN <sup>3</sup> 2.7845           |

1/4" X 2-3/4" STEEL BAR

MULLION W/ REINF. PROJECTED

|          |                           |                           |
|----------|---------------------------|---------------------------|
| ALUMINUM | Ix IN <sup>4</sup> 7.4397 | Sx IN <sup>3</sup> 2.4092 |
| STEEL    | 0.4333                    | 0.3151                    |
| TOTAL    | Ix ALUM + Ix STL X 2.9    | 8.6963                    |

1/4" X 2-3/4" STEEL BAR

MULLION W/ REINF. S.H. - PROJECTED

|          |                           |                           |
|----------|---------------------------|---------------------------|
| ALUMINUM | Ix IN <sup>4</sup> 8.1357 | Sx IN <sup>3</sup> 2.7845 |
| STEEL    | 0.4333                    | 0.3151                    |
| TOTAL    | Ix ALUM + Ix STL X 2.9    | 9.3923                    |

CUSTOM MULLION  
SERIES 540 FRAMES

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

SEP 14 2010

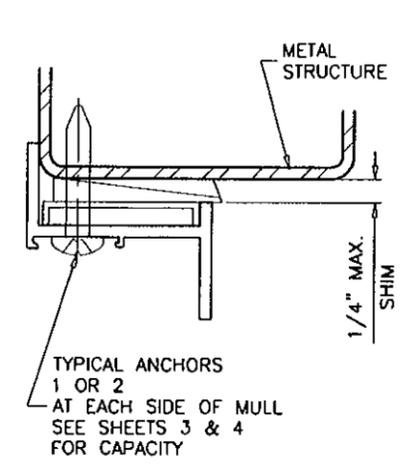
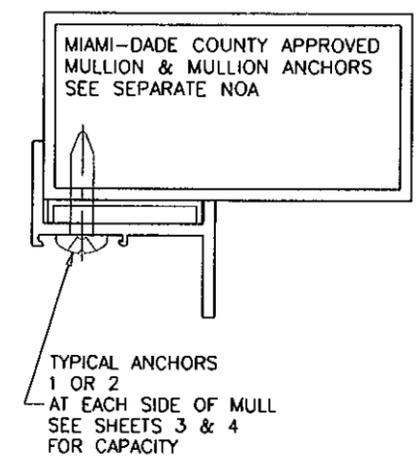
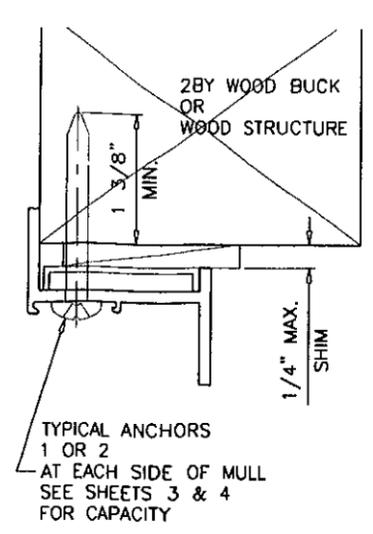
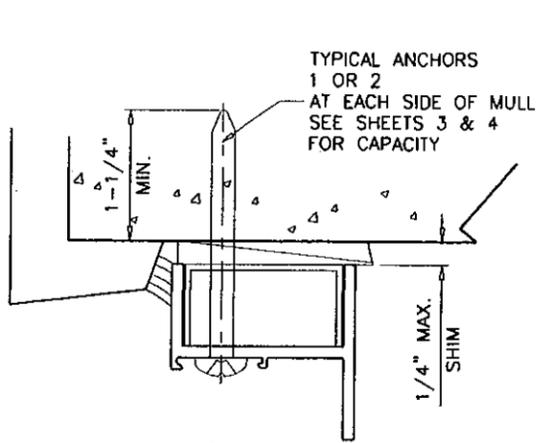
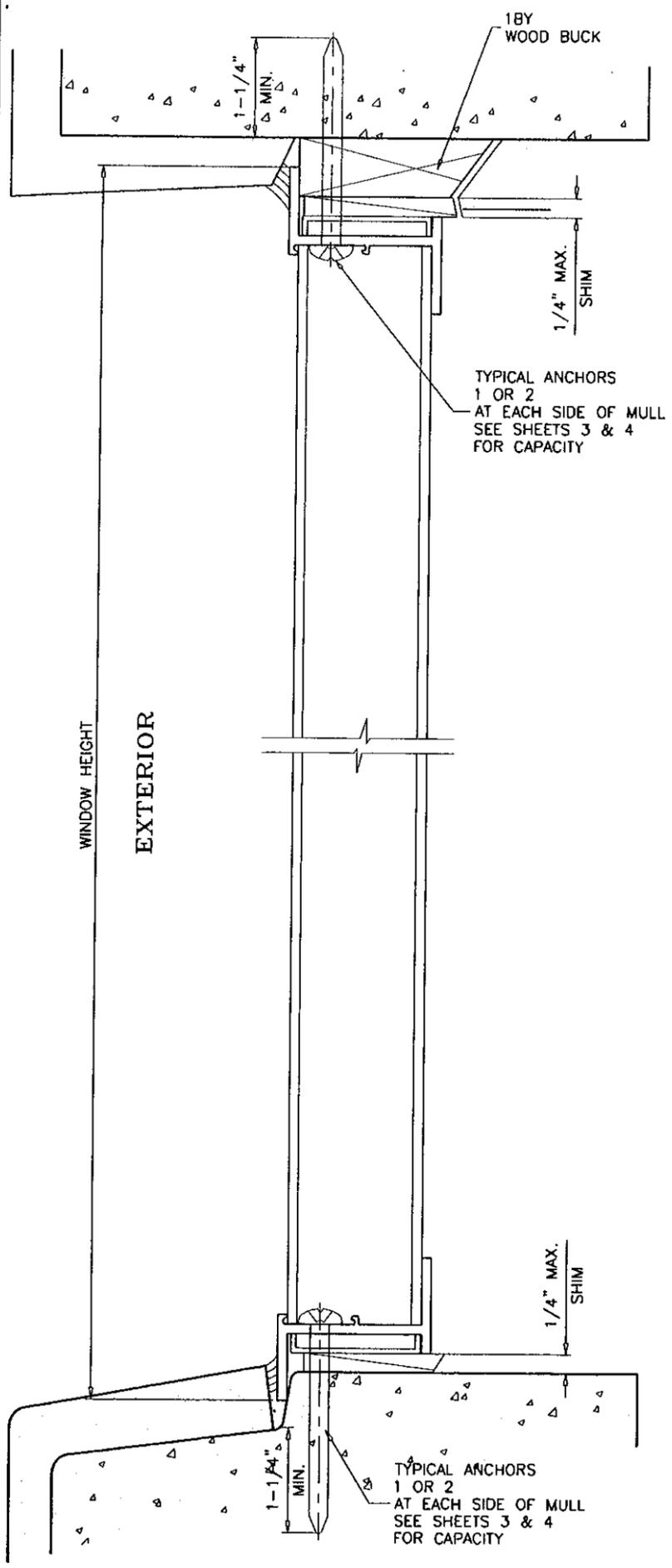
Approved as complying with the  
Florida Building Code  
Date Oct. 13, 2010  
NOAR 10-0511.05  
Miami Dade Product Control  
Division  
By Maureen P...

SEE SHEET 10 OF 10 FOR ANCHORING DETAILS

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

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
4101 N.W. 132ND STREET  
MIAMI, FL. 33054  
TEL. (305) 681-2020 FAX. (305) 681-2035

|             |          |          |                        |               |
|-------------|----------|----------|------------------------|---------------|
| revisions:  | no.      | date     | description            | by            |
|             | A        | 09.13.10 | REV. PER BCCO COMMENTS |               |
| date:       | 09-05-08 | scale:   | 1/2" = 1"              | dr. by: HAMID |
| chk. by:    |          |          |                        |               |
| drawing no. | M08-04   |          |                        |               |
| sheet       | 7 of 10  |          |                        |               |



FLANGE AND EQUAL LEG FRAMES CAN BE USED AT ALL ANCHORAGE CONDITIONS.

WOOD BUCKS AND METAL STRUCTURE NOT BY SOL-A-TROL 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 'ELCO' (Fu=177 KSI, Fy=155 KSI)  
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES  
 1-3/8" MIN. PENETRATION INTO WOOD  
 THRU 1BY BUCKS INTO CONC. OR MASONRY  
 1-1/4" MIN. EMBED INTO CONC. OR MASONRY  
 DIRECTLY INTO CONC. OR MASONRY  
 1-1/4" MIN. EMBED INTO CONC. OR MASONRY

**#14 SELF DRILLING SCREWS** (GRADE 5 CRS)  
 INTO METAL STRUCTURES  
 STEEL : 12 GA. MIN. (Fy = 36 KSI MIN.)  
 ALUMINUM : 1/8" THK. MIN. (6063-T5 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.

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

ZERO MULLION  
 TUBE MULLION  
 SERIES 3000/3062 FRAMES

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

*JA*  
 SEP 14 2010

Approved as complying with the  
 Florida Building Code  
 Date Oct. 13, 2010  
 NOA# 10-0511.05  
 Miami Dade Product Control  
 Division  
 By: *Manuel Perez*

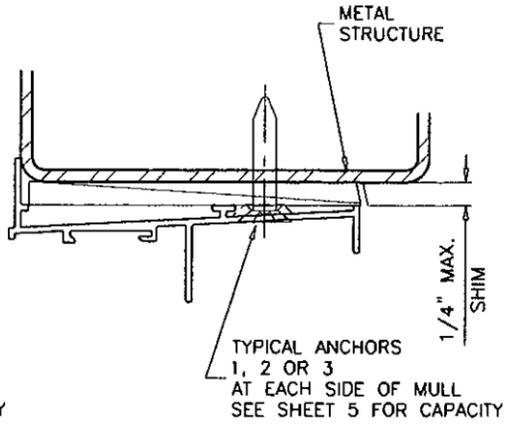
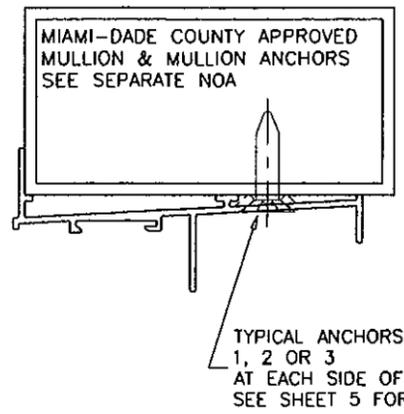
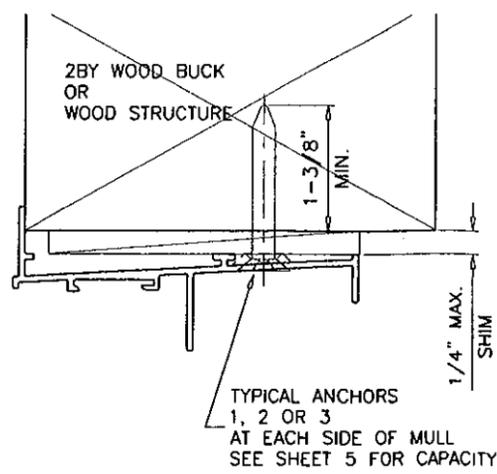
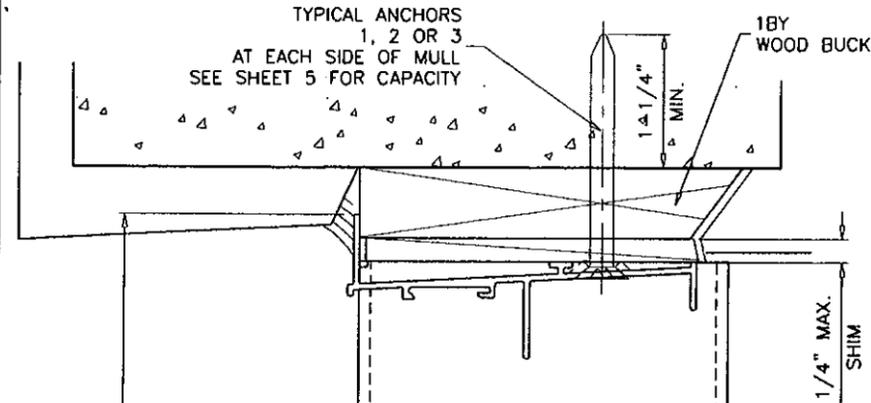
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**AL-FAROOQ CORPORATION**  
 ENGINEERS & PRODUCT DEVELOPMENT  
 12335 S.W. 87 AVE  
 MIAMI, FLORIDA 33174  
 TEL. (305) 264-8100 FAX. (305) 262-6978  
 MULLION\M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
 4101 N.W. 132ND STREET  
 MIAMI, FL. 33054  
 TEL. (305) 681-2020 FAX. (305) 681-2035

| no | date     | by | description            |
|----|----------|----|------------------------|
| A  | 09.13.10 |    | REV. PER ECCO COMMENTS |
|    |          |    |                        |
|    |          |    |                        |
|    |          |    |                        |

date: 09-05-08  
 scale: 1/2" = 1"  
 dr. by: HAMID  
 chk. by:

drawing no.  
**M08-04**  
 sheet 8 of 10



WOOD BUCKS AND METAL STRUCTURE NOT BY SOL-A-TROL  
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 'ELCO' (Fu=177 KSI, Fy=155 KSI)
- INTO 2BY WOOD BUCKS OR WOOD STRUCTURES  
1-3/8" MIN. PENETRATION INTO WOOD
- THRU 1BY BUCKS INTO CONC. OR MASONRY  
1-1/4" MIN. EMBED INTO CONC. OR MASONRY
- DIRECTLY INTO CONC. OR MASONRY  
1-1/4" MIN. EMBED INTO CONC. OR MASONRY

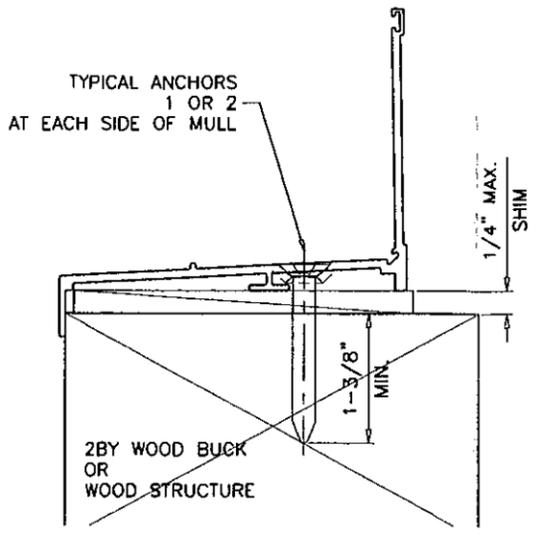
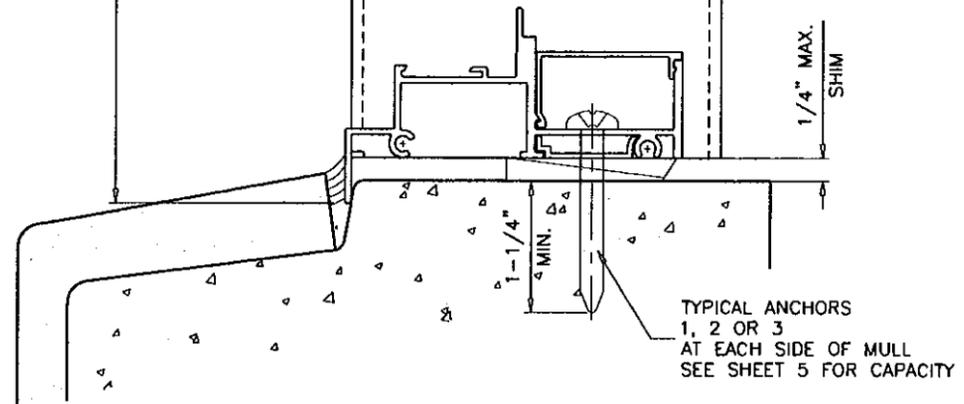
- #14 SELF DRILLING SCREWS (GRADE 5 CRS)
- INTO METAL STRUCTURES
- STEEL : 12 GA. MIN. (Fy = 36 KSI MIN.)
- ALUMINUM : 1/8" THK. MIN. (6063-T5 MIN.)
- (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

**TYPICAL EDGE DISTANCE**

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

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

WINDOW HEIGHT  
EXTERIOR



TUBE MULLION  
SERIES 535 FRAMES

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

SEP 14 2010

Approved as complying with the  
Florida Building Code  
Date Oct. 13, 2010  
NOA# 10-0511.05  
Miami Dade Product Control  
Division  
By Manuel Perez

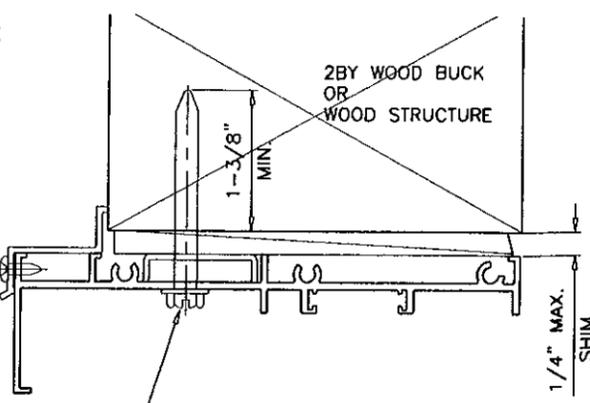
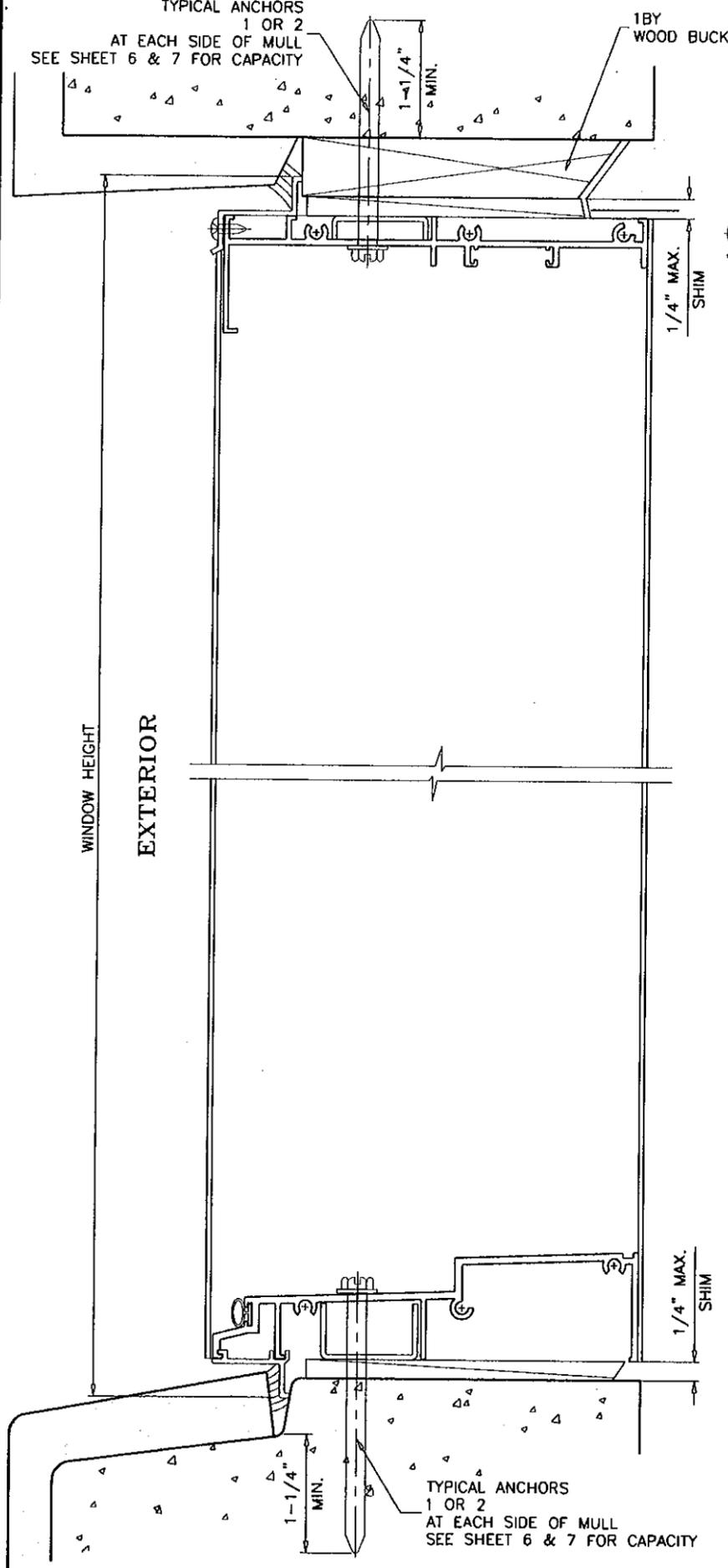
**af c**  
**AL-FAROOQ CORPORATION**  
ENGINEERS & PRODUCT DEVELOPMENT  
1235 S.W. 87 AVE  
MIAMI, FLORIDA 33174  
TEL. (305) 264-8100 FAX. (305) 262-6978  
MULLION\M08-04SAT

UNCLIPPED ALUM ZERO & TUBE MULLION  
**SOL-A-TROL** ALUMINUM PRODUCTS  
4101 N.W. 132ND STREET  
MIAMI, FL. 33054  
TEL. (305) 681-2020 FAX. (305) 681-2035

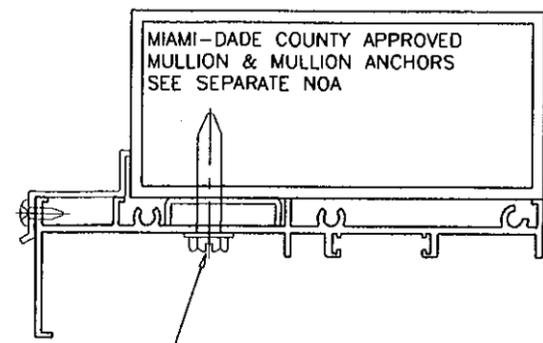
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|----|----------|-------------|----------|----------|
| A  | 09.13.10 |             |          |          |

date: 09-05-08  
scale: 1/2" = 1"  
dr. by: HAMID  
chk. by:

drawing no.  
**M08-04**  
sheet 9 of 10

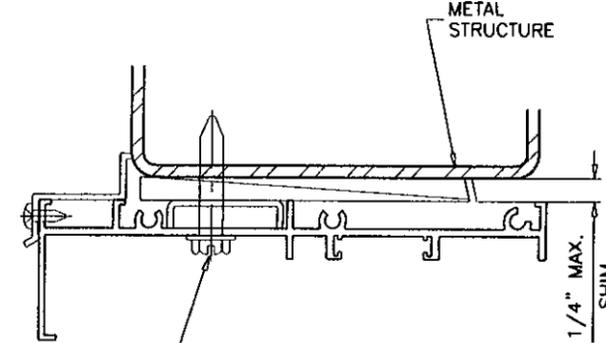


TYPICAL ANCHORS  
1 OR 2  
AT EACH SIDE OF MULL  
SEE SHEET 6 & 7 FOR CAPACITY



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

TYPICAL ANCHORS  
1 OR 2  
AT EACH SIDE OF MULL  
SEE SHEET 6 & 7 FOR CAPACITY



TYPICAL ANCHORS  
1 OR 2  
AT EACH SIDE OF MULL  
SEE SHEET 6 & 7 FOR CAPACITY

WOOD BUCKS AND METAL STRUCTURE NOT BY SOL-A-TROL  
MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM  
AND TRANSFER THEM TO THE BUILDING STRUCTURE.

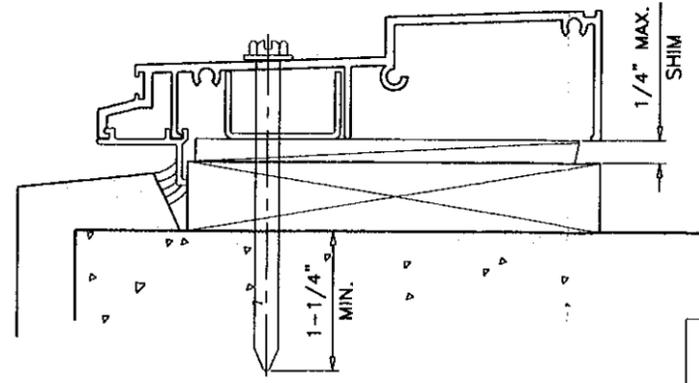
**TYPICAL ANCHORS:** SEE ELEV. FOR SPACING

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 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES  
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 C-90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.



TYPICAL ANCHORS  
1 OR 2  
AT EACH SIDE OF MULL  
SEE SHEET 6 & 7 FOR CAPACITY

**CUSTOM MULLION  
SERIES 540 FRAMES**

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

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|     |          |    |                        |
|     |          |    |                        |

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 sheet 10 of 10