



MIAMI-DADE COUNTY
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) 375-2908

www.miamidade.gov

NOTICE OF ACCEPTANCE (NOA)

A & M Hurricane Protection, LLC
1050 East 15th Street
Hialeah, Florida 33010

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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: "AS-500 Advanced" Aluminum Accordion Shutter

APPROVAL DOCUMENT: Drawing No. 07-13, titled "AS-500 Advanced Alum Accordion Shutter", sheets 1 through 7 of 7, prepared by Al-Farooq Corporation, dated June 07, 2007, signed and sealed by Humayoun Farooq, P.E., on June 27, 2007 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

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and the 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, evidence submitted page E-1 as well as approval document mentioned above. The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



Helmy A. Makar
 09/27/2007

NOA No. 07-0621.04
Expiration Date: 09/27/2012
Approval Date: 09/27/2007

A & M Hurricane Protection, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 07-13, titled "AS-500 Advanced Alum Accordion Shutter", sheets 1 through 7 of 7, prepared by Al-Farooq Corporation, dated June 07, 2007, signed and sealed by Humayoun Farooq, P.E., on June 27, 2007.*

B. TESTS

1. *See Association's generic approval under 07-3252.*

C. CALCULATIONS

1. *See Association's generic approval under 07-3252.*

D. QUALITY ASSURANCE

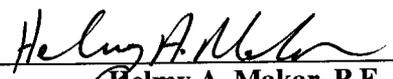
1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

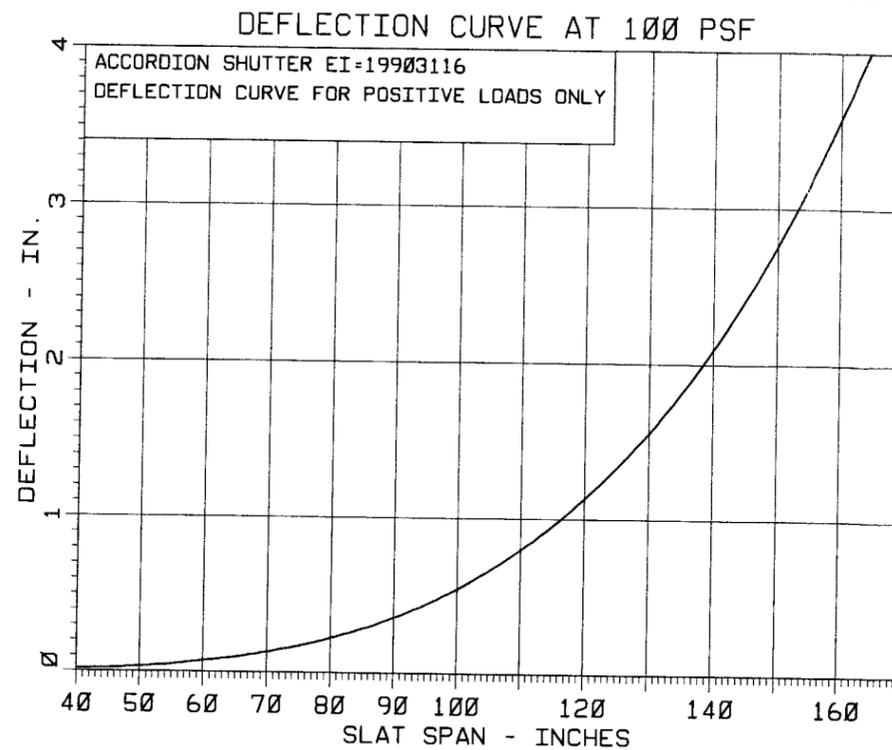
1. *See Association's generic approval under 07-3252.*

F. STATEMENTS

1. *Release letter issued by the RC Advanced Shutter Systems Association, Inc. dated June 29, 2007, certifying this product to meet the criteria of product tested and approved, and allowing A & M Hurricane Protection LLC to use the test results approved under Miami Dade County Approval No. 07-3252, signed by Mr. Richard Gallo.*
2. *Acknowledgment letter by A & M Hurricane Protection LLC, dated June 29, 2007, signed by Mr. Jose G. Perez.*
3. *Letter by Al-Farooq Corporation, dated June 27, 2007, signed and sealed by Mr. Humayoun Farooq, P.E., certifying that the drawing (No. 07-13) prepared for A & M Hurricane Protection LLC is engineering wise identical to RC Advanced Shutter Systems Association, Inc. generic drawing (No. 06-02A).*

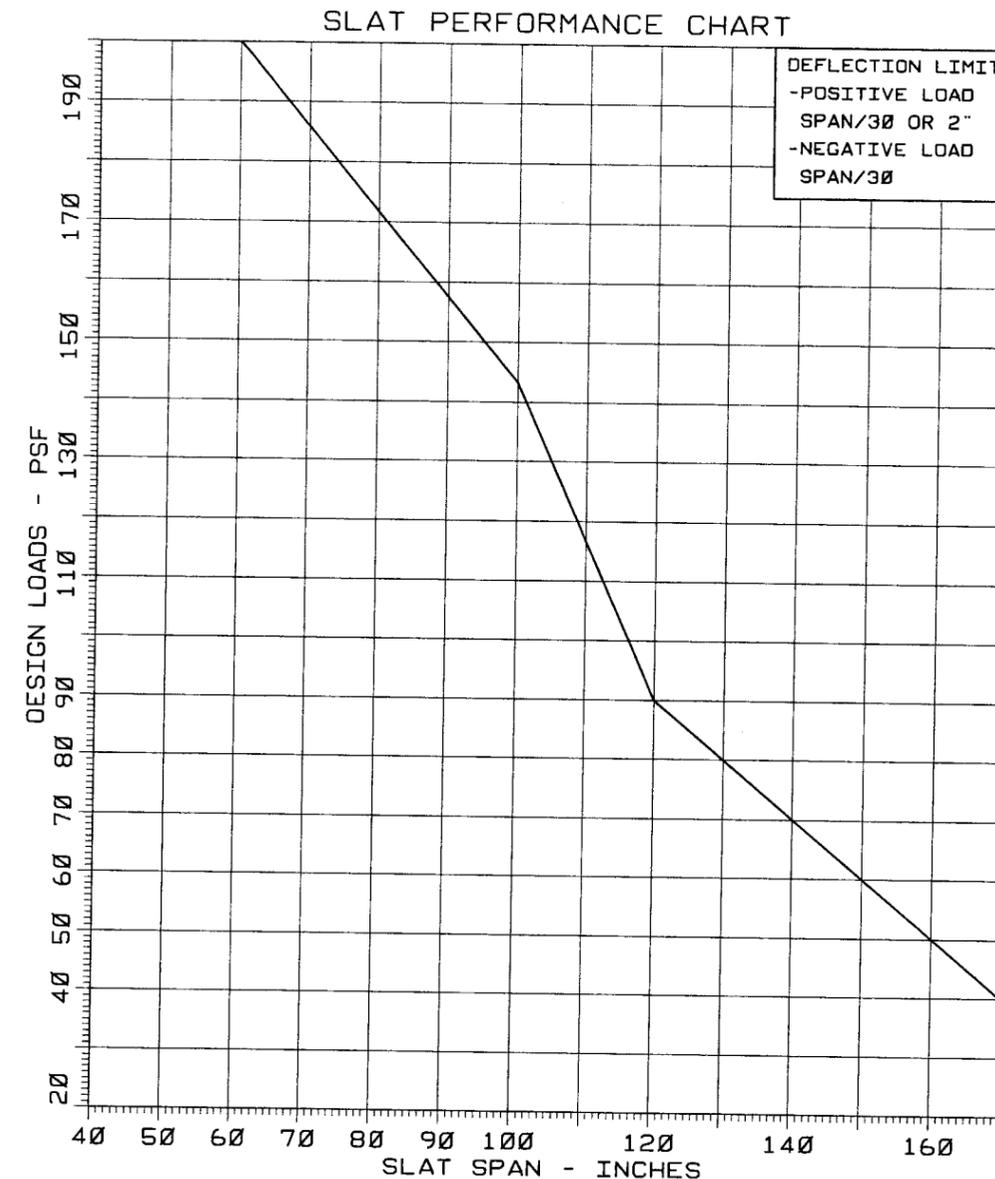


Helmy A. Makar, P.E., M.S.
Product Control Examiner
NOA No. 07-0621.04
Expiration Date: 09/27/2012
Approval Date: 09/27/2007



MINIMUM SEPARATION FROM GLASS			
SEPARATION REQD. DUE TO WIND LOAD		SEPARATION REQD. DUE TO LARGE MISSILE IMPACT	
SHUTTER SPAN = H =	IN.	FOR SLAT SPANS UPTO	SEPARATION
DESIGN LOAD = Pd =	PSF	96"	2-1/2"
FACTOR = K = Pd/100 =	IN.	120"	3"
READING FROM SPAN D. CURVE = D =	IN.	170"	3-5/8"
DEFLECTION AT Pd = K*D =	IN.		
MIN. SEPARATION REQD. = K*D+1" =	IN.		

FOR INSTALLATIONS UPTO 30' OF GRADE USE MAXIMUM OF WIND LOAD OR IMPACT LOAD REQUIREMENTS SHOWN ABOVE
FOR INSTALLATIONS ABOVE 30' OF GRADE IGNORE LARGE MISSILE IMPACT REQUIREMENT.
NOTE: NO PART OF SHUTTER SHALL BE UNDER 30' ABOVE GRADE TO WAIVE LARGE MISSILE IMPACT REQUIREMENT.



USE SLAT PERFORMANCE CHART TO VERIFY SLAT CAPACITY FOR THE REQUIRED DESIGN LOAD FOR THE PARTICULAR LOCATION.

DESIGN LOADS SHALL BE CALCULATED AS PER REQUIREMENTS OF ASCE 7-02.

GENERAL NOTES

1. THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2004 EDITION INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
2. DESIGN CRITERIA FOR ALUMINUM, MINIMUM MECHANICAL PROPERTIES, AND SAFETY FACTORS ARE IN ACCORDANCE WITH THE "ALUMINUM CONSTRUCTION MANUAL" LATEST EDITION.
3. ALUMINUM ALLOYS: ALL EXTRUSIONS SHALL BE ALLOY AS SHOWN
4. STEEL SURFACES TO BE PLACED IN CONTACT WITH ALUMINUM SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER IN ACCORDANCE WITH FEDERAL SPEC. NO. TTP-645, OR BE GALVANIZED.
5. ANCHORS SHALL BE AS SHOWN ON DETAILS. ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
6. ALL BOLTS SHALL BE STAINLESS STEEL, ALUMINUM ALLOY 2024-T4 OR 7075-T6, OR PLATED STEEL. WING NUTS TO BE OF ZINC ALLOY.
7. DESIGN CRITERIA FOR SLATS: MAX DEFLECTION ≤ THE LESSER OF L/30 OR 2".
8. ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
9. A LOAD DURATION INCREASE IN ALLOWABLE STRESS IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

PRODUCT MARKING

A LABEL SHALL BE AFFIXED ON LOCKING MEMBER OF UNIT ABOVE LOCK WITH THE FOLLOWING STATEMENT.
A & M HURRICANE PROTECTION LLC, HIALEAH, FL.
'MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED'

Engr: DR. HUMAYUN FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

JUN 27 2007

Approved as complying with the Florida Building Code
Date 09/27/2007
NOA# 07-0621.04
Miami Dade Product Control
Division
By: *Helmy A. Helmy*

afc

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
ACCORDION/07-13AMH

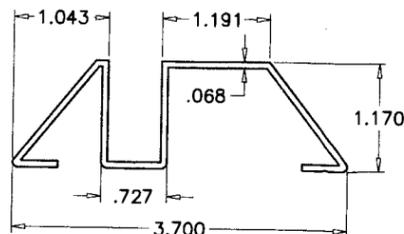
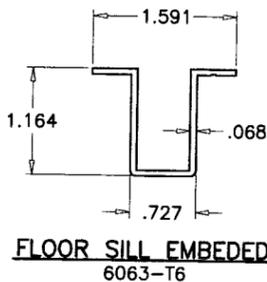
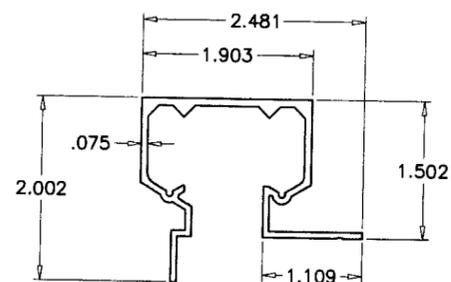
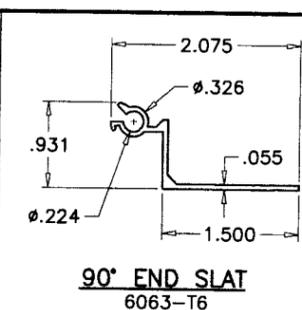
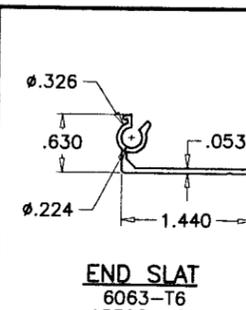
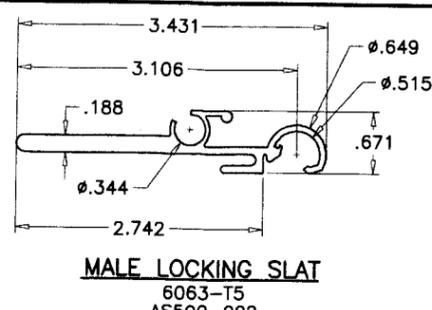
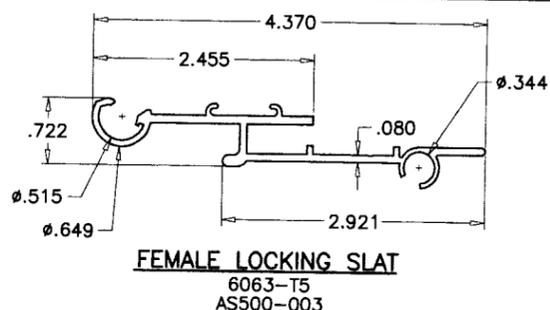
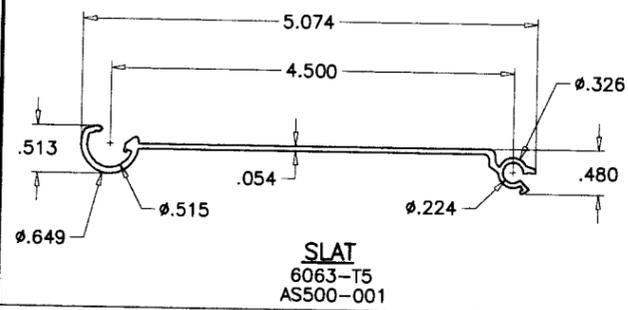
AS-500 ADVANCED ALUM ACCORDION SHUTTER
A & M HURRICANE PROTECTION LLC.
1050 E. 15 STREET
HIALEAH, FL. 33010
TEL. (305) 885-0678 FAX. (305) 882-0510

no	date	by	description

date: 06-07-07 scale: 1/2" = 1" dr. by: HAMID chk. by:

drawing no.
07-13

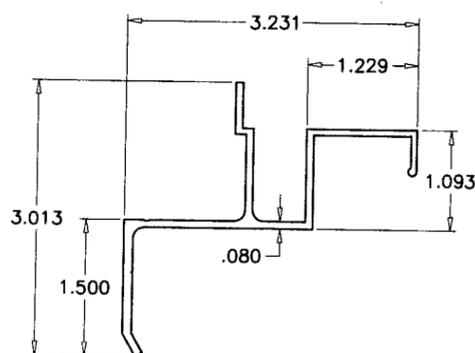
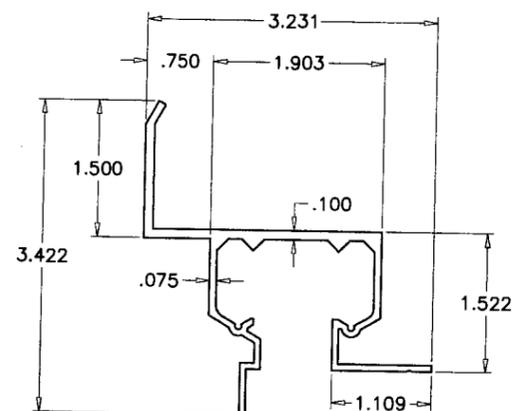
sheet 1 of 7



CEILING HEADER
6063-T5
AS500-008

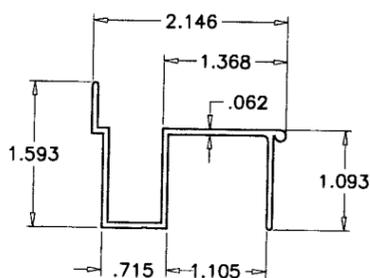
FLOOR SILL EMBEDDED
6063-T6
AS500-012

THRESHOLD TRACK
6063-T6
AS500-013

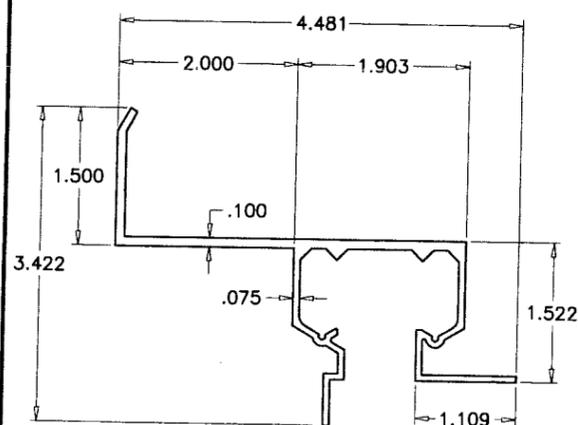


WALL SILL
6063-T5
AS500-011

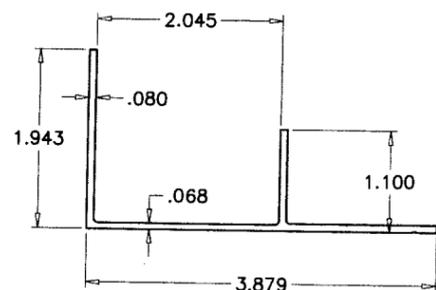
BUILT-OUT WALL HEADER
6063-T5
AS500-006



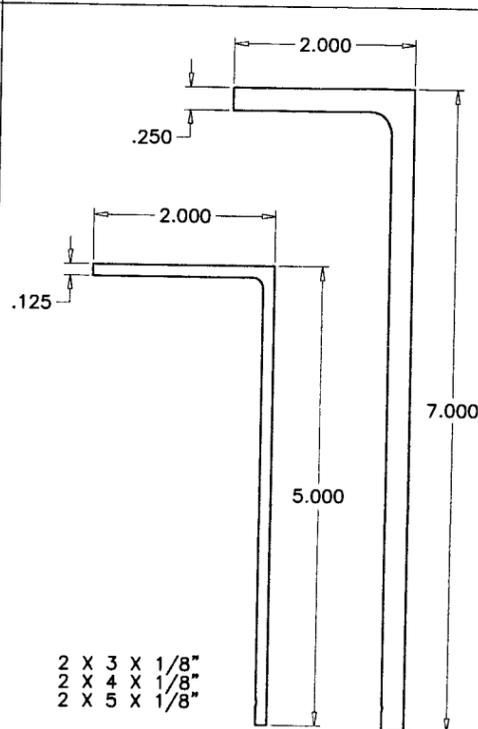
FLOOR SILL
6063-T5
AS500-010



2" BUILT-OUT WALL HEADER
6063-T5
AS500-007



ADJUSTABLE SILL ADAPTER
6063-T5
AS500-009



BUILT-OUT ANGLES
6063-T5

2 X 3 X 1/8"
2 X 4 X 1/8"
2 X 5 X 1/8"

Approved as complying with the
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Date: 09/27/2007
NOA# 07-0621-04
Miami Code Product Control
Division:
By: *Helmy A. Helmy*

Engr: DR. HUMAYOUN FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

[Signature]
JUN 27 2007

af c
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
1235 S.W. 87 AVE
MIAMI, FLORIDA 33174
TEL. (305) 264-8100 FAX. (305) 262-6978
ACCORDION/07-13AMH

AS-500 ADVANCED ALUM ACCORDION SHUTTER
A & M HURRICANE PROTECTION LLC.
1050 E. 15 STREET
HIALEAH, FL. 33010
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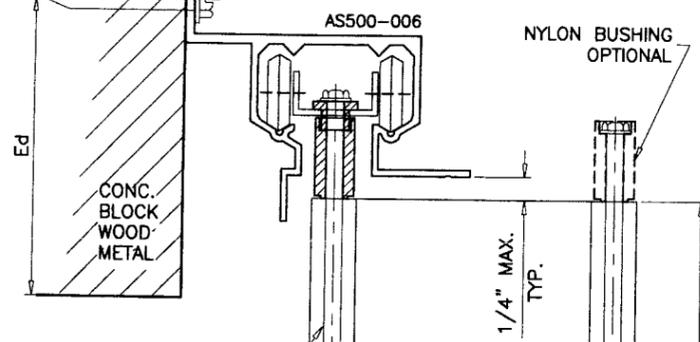
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scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no.
07-13
sheet 2 of 7

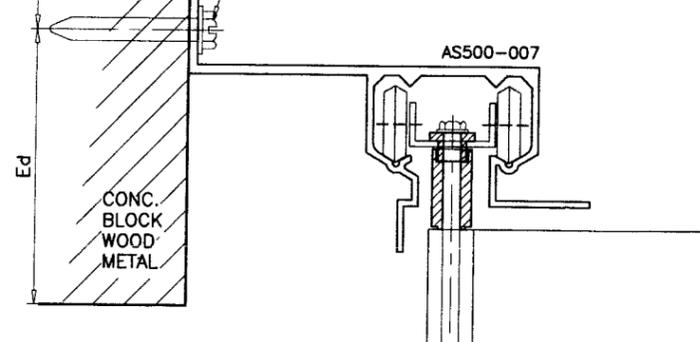
WALL MOUNTS

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	3	1	-	-
B	4	1	-	-
D	4	1	-	-
E	-	-	4	-
G	-	-	-	1



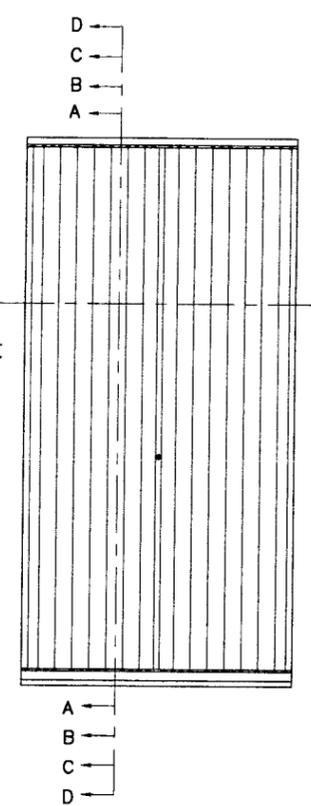
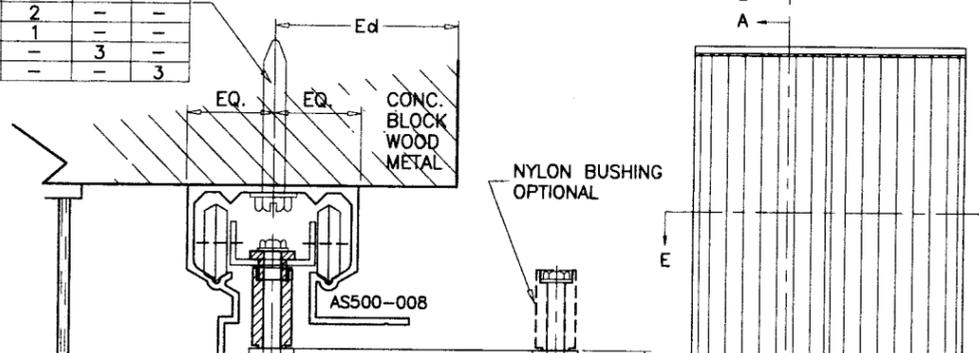
ALT. WALL MOUNTS

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	3	1	-	-
B	4	1	-	-
D	4	1	-	-
E	-	-	4	-
G	-	-	-	1



INSIDE MOUNTS

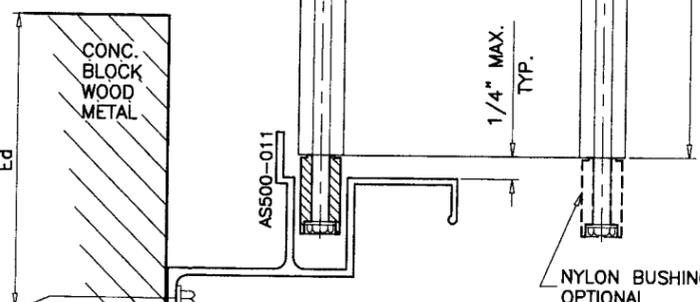
ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	4	2	-	-
B	6	2	-	-
D	4	1	-	-
E	-	-	3	-
G	-	-	-	3



TYPICAL ELEVATION

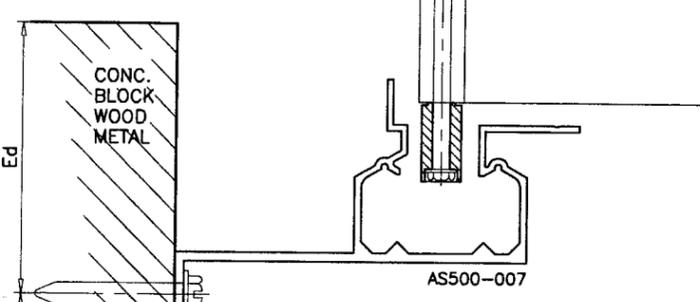
#14 X 3" S.M.S. STAINLESS STEEL TYP.

FOR MIN. SEPARATION SEE SHEET 1 TYP.



ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	3	1	-	-
B	4	1	-	-
D	4	1	-	-
E	-	-	4	-
G	-	-	-	1

SECTION A-A



ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	3	1	-	-
B	4	1	-	-
D	4	1	-	-
E	-	-	4	-
G	-	-	-	1

SECTION B-B

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	7	5	-	-
B	8	5	-	-
D	6	4	-	-
E	-	-	5	-
G	-	-	-	6

SECTION C-C

#5 X 5/16" LG RIVETS AT 2" FROM ENDS AND 9" O.C. MAX.

#14 X 1" SMS AT 2" FROM ENDS AND 9" O.C. MAX.

ANCHORS: EMBEDMENT & EDGE DISTANCES SHOWN ARE BEYOND THE WALL & FLOOR COVERING (STUCCO, TILES, ETC.)

Ed = TYPICAL EDGE DISTANCE
CONC. & BLOCK = 12d (12 ANCHOR DIAMETERS)
WOOD = 5d
FOR LESSER EDGE DISTANCES SEE SHEET 6 OF 6.

HEADER AND SILL DETAILS CAN BE USED IN ANY COMBINATIONS.

Engr: DR. HUMAYOUN FAROOQ
STRUCTURES
FLA. PE # 16557
C.A.N. 3538

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NOA# 07-0621-04
Miami Dept Product Control
By: *Helmy A. Helmy*

JUN 27 2007

FOR GENERAL NOTES AND EXTRUSION DETAILS SEE SHEET 1 OF 6.
FOR WOOD INSTALLATIONS SEE SHEET 5 OF 6.
FOR ANCHOR CHARTS SEE SHEET 6 OF 6.

af c

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AS-500 ADVANCED ALUM ACCORDION SHUTTER

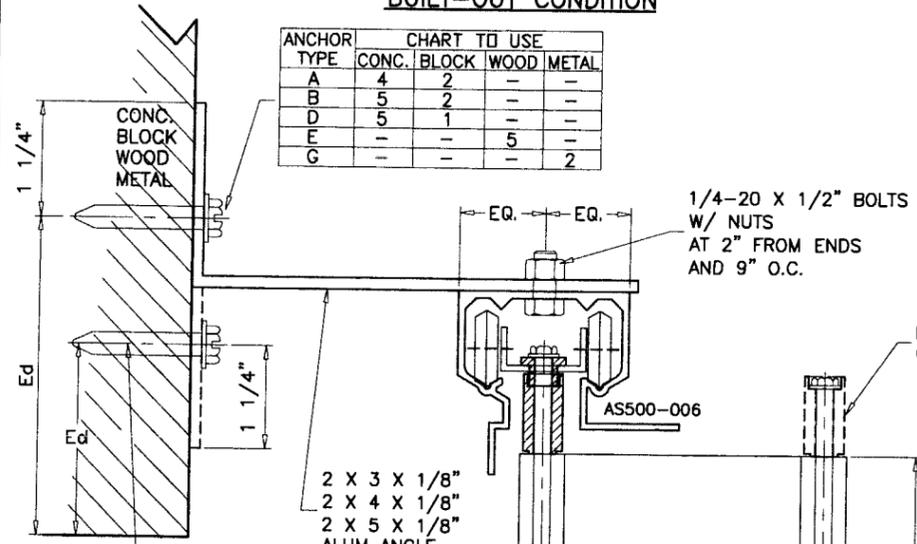
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revisions:	no	date	by	description

date: 06-07-07
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

drawing no. **07-13**
sheet 3 of 7

BUILT-OUT CONDITION



ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	4	2	-	-
B	5	2	-	-
D	5	1	-	-
E	-	-	5	-
G	-	-	-	2

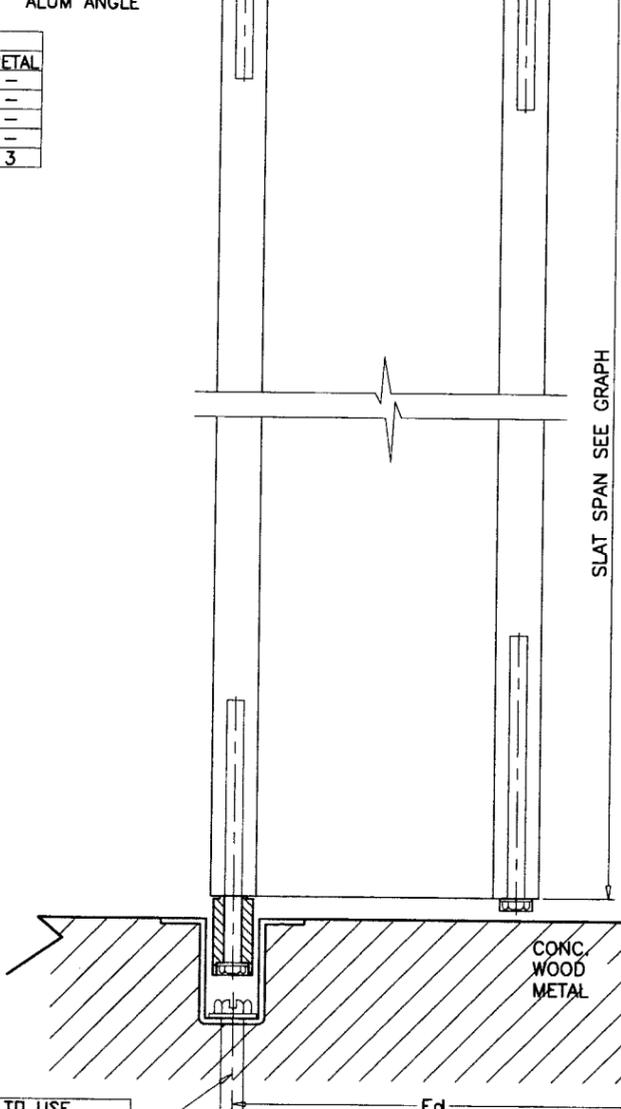
1/4-20 X 1/2" BOLTS
W/ NUTS
AT 2" FROM ENDS
AND 9" O.C.

NYLON BUSHING
OPTIONAL

AS500-006

2 X 3 X 1/8"
2 X 4 X 1/8"
2 X 5 X 1/8"
ALUM ANGLE

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	6	3	-	-
B	7	3	-	-
D	7	2	-	-
E	-	-	6	-
G	-	-	-	3



SLAT SPAN SEE GRAPH

#5 X 5/16" LG RIVETS
AT 2" FROM ENDS
AND 9" O.C. MAX.

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	5	2	-	-
B	6	2	-	-
D	6	2	-	-
E	-	-	6	-
G	-	-	-	3

#14 X 1" SMS
AT 2" FROM ENDS
AND 9" O.C. MAX.

NYLON BUSHING
OPTIONAL

1/4-20 X 1/2" BOLTS
W/ NUTS OR
#14 SMS/TEKS
AT 2" FROM ENDS
AND 9" O.C.

2 X 3 X 1/8"
2 X 4 X 1/8"
2 X 5 X 1/8"
ALUM ANGLE

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	6	4	-	-
B	7	3	-	-
D	5	3	-	-
E	-	-	4	-
G	-	-	-	4

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	8	8	-	-
B	8	7	-	-
D	7	6	-	-
E	-	-	6	-
G	-	-	-	8

ANCHOR TYPE	CHART TO USE			
	CONC.	BLOCK	WOOD	METAL
A	4	1	-	-
B	5	1	-	-
D	5	1	-	-
E	-	-	4	-
G	-	-	-	2

Engr: DR. HUMAYOUN FAROOQ
STRUCTURES
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By: *Helmy A. Helmy*

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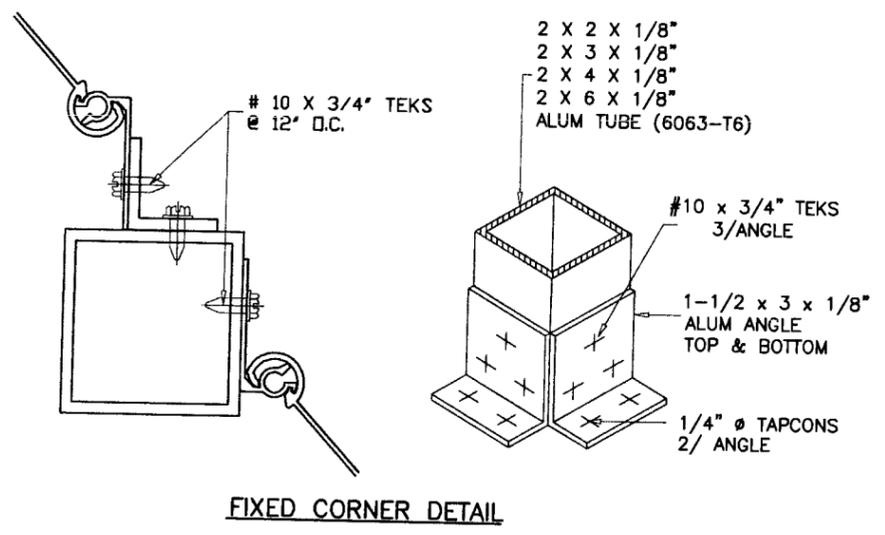
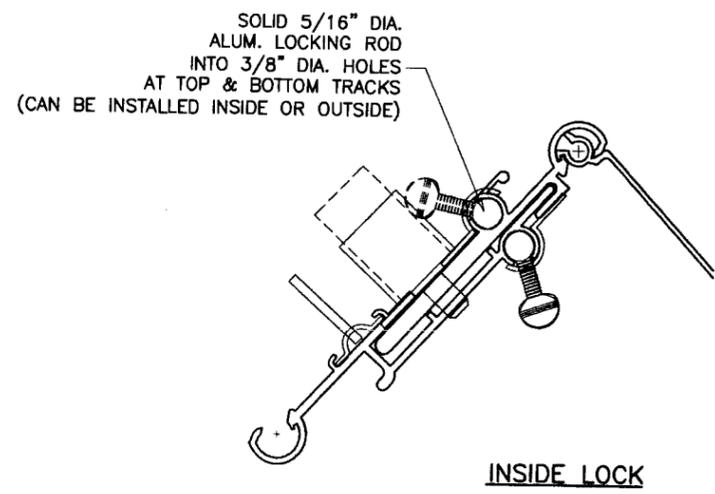
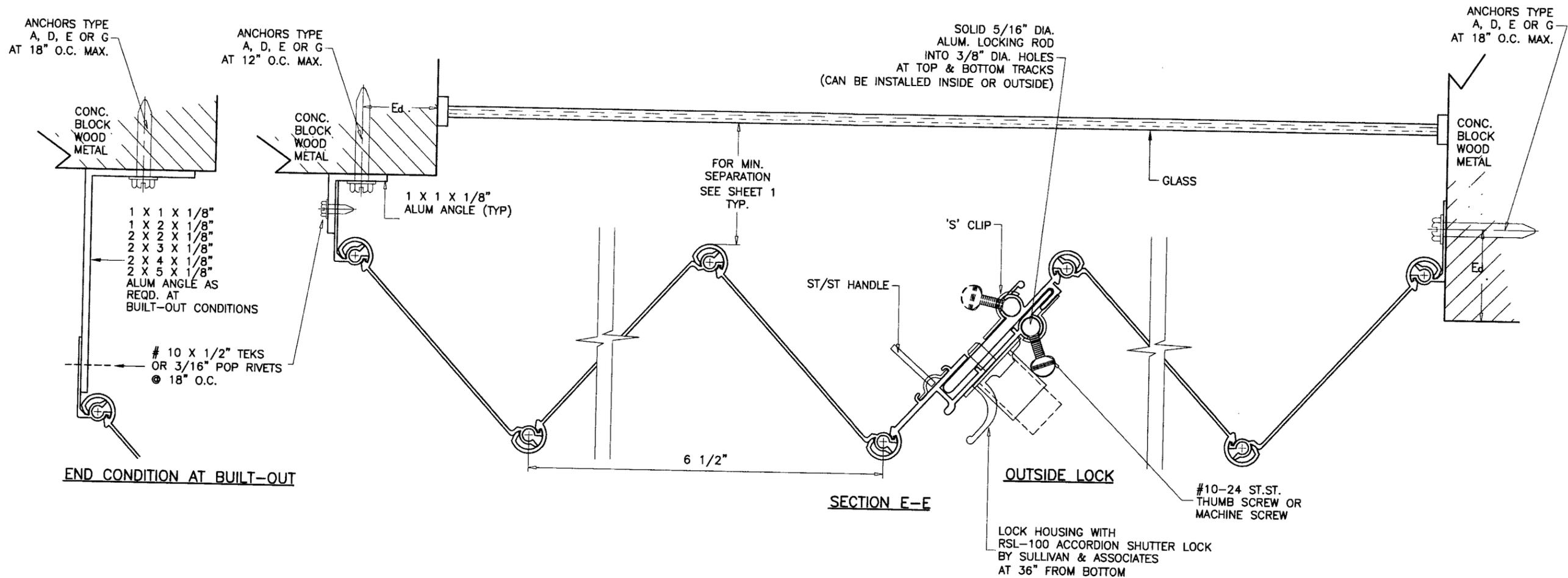
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revisions:	no	date	by	description

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dr. by: HAMID
chk. by:

drawing no.
07-13
sheet 4 of 7



Approved as complying with the Florida Building Code
 Date 09/27/2007
 NOAH 07-0621.04
 Miami Code Product Control
 Division
 By Helmy A. Helmy

Engr: DR. HUMAYOUN FAROOQ
 STRUCTURES
 FLA. PE # 16557
 C.A.N. 3538

09/27/2007

afc
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 ENGINEERS & PRODUCT DEVELOPMENT
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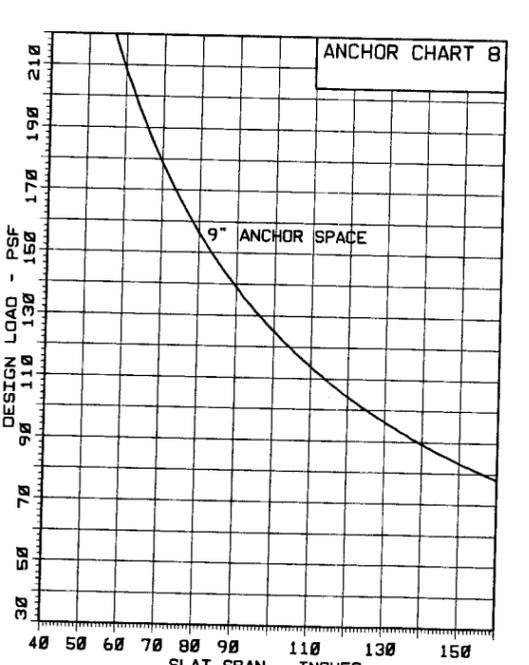
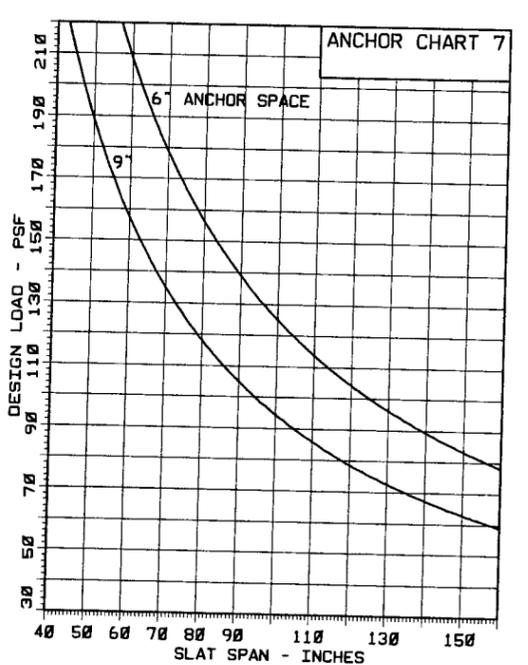
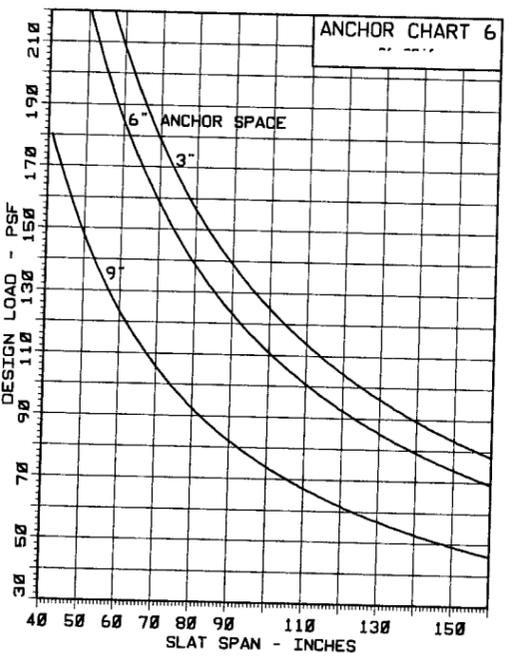
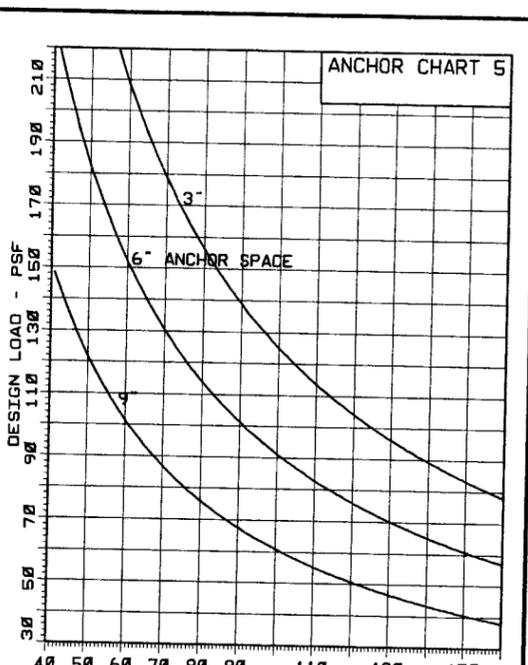
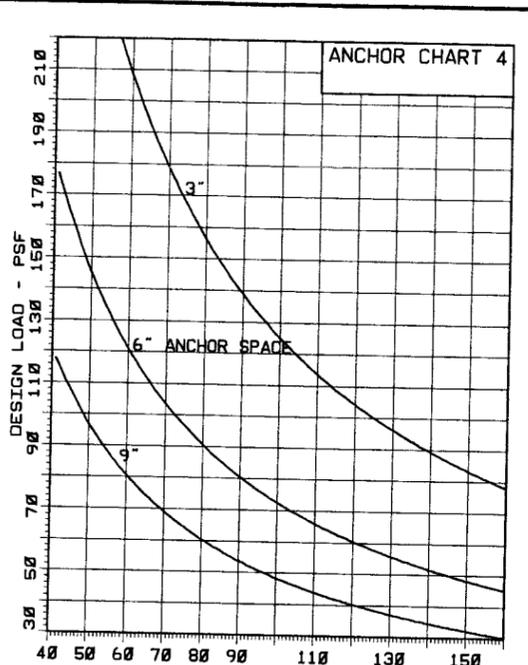
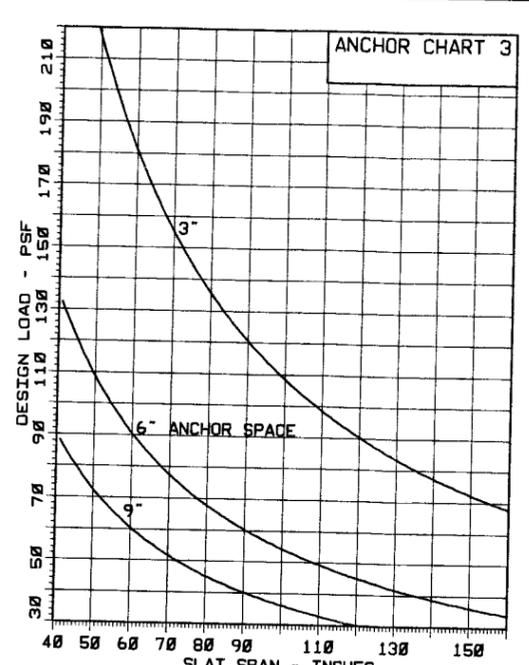
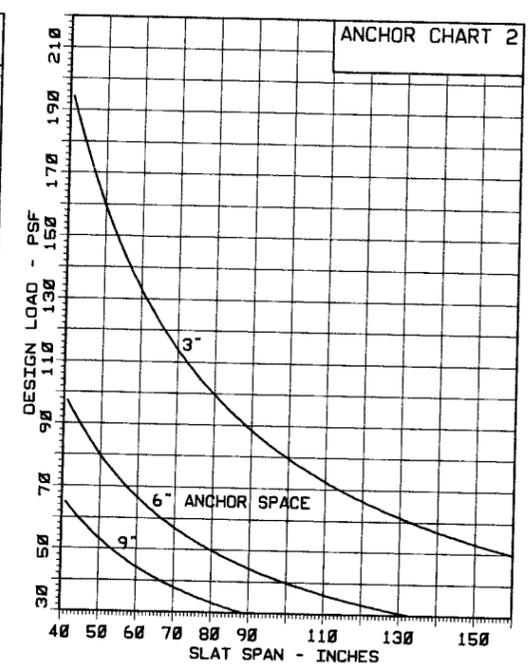
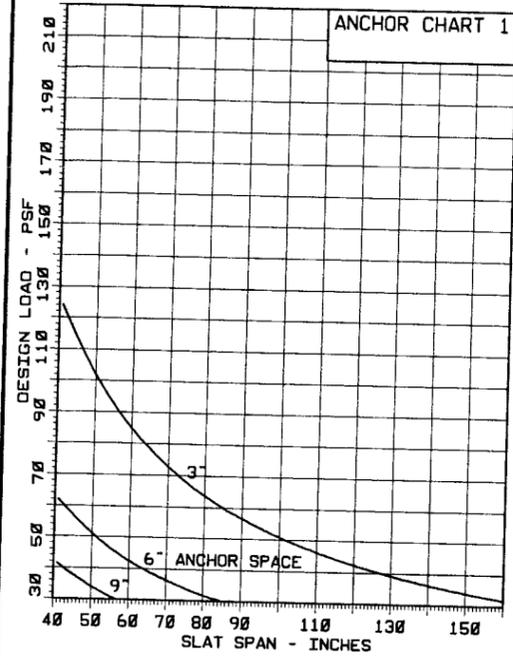
AS-500 ADVANCED ALUM ACCORDION SHUTTER
A & M HURRICANE PROTECTION LLC.
 1050 E. 15 STREET
 HIALEAH, FL. 33010
 TEL. (305) 885-0678 FAX. (305) 882-0510

revisions:	no	date	by	description

date: 06-07-07
 scale: 1/2" = 1"
 dr. by: HAMID
 chk. by:

drawing no.
07-13

sheet 5 of 7



TYPICAL ANCHORS:

- ANCHOR (A) = 1/4" DIA. TAPCONS (BY ELCO)
1-3/4" EMBEDMENT INTO 3000 PSI CONC.
1-1/4" EMBEDMENT INTO C-90 BLOCK
- ANCHOR (B) = 1/4" DIA. KWIKCON II (BY HILTI)
1-3/4" EMBEDMENT INTO 3000 PSI CONC.
1-1/4" EMBEDMENT INTO C-90 BLOCK
- ANCHOR (D) = 1/4" RAWL CALK-IN
TOTAL ANCHOR BODY INTO 3000 PSI CONC.
OR C-90 BLOCK
- ANCHOR (E) = 1/4" DIA. TAPCONS
1-1/2" MIN PENETRATION INTO WOOD(S.G.=0.55)
- ANCHOR (G) = 1/4" DIA. KWIK-FLEX SELF DRILLING SCREWS
INTO METAL STRUCTURES
(STEEL OR ALUMINUM 1/8" MIN. THICK.)

NOTE: ANCHORS EMBEDMENT SHOWN IS BEYOND WALL & FLOOR COVERINGS (STUCCO, TILES, ETC.)

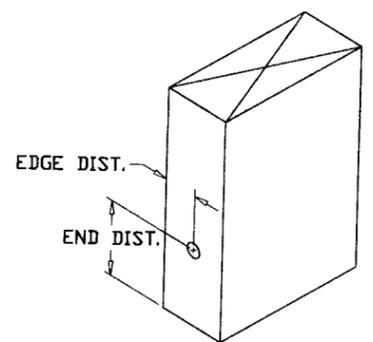
FASTENER SPACING IN MASONRY/CONCRETE

CHARTS ARE BASED ON TYPICAL EDGE DISTANCE = 12d.
FOR LESSER EDGE DISTANCE DECREASE SPACING BY MULTIPLYING WITH THE FACTOR BELOW

EDGE DIST.	12d=3"	10d=2-1/2"	8d=2"	6d=1-1/2"	5d=1-1/4"
FACTOR	1.00	0.86	0.71	0.57	0.50

EXAMPLE: FOR 3" EDGE DIST. SPACING = 9" O.C. (FROM CHART)
FOR 2" EDGE DIST. SPACING = 9 X .71 = 6.4 O.C.

TYPICAL EDGE DISTANCE IN WOOD = 3/4"
TYPICAL END DISTANCE IN WOOD = 1"
NO REDUCTION FACTOR IS REQUIRED



USE CHARTS 1 THRU 8 TO VERIFY ANCHOR REQUIREMENTS AND STRESS LIMITATIONS OF LOAD/SPAN COMBINATIONS FOR HEADER AND SILL.

Engr: DR. HUMAYUN FAROOQ
STRUCTURES
FLA. PE # 15557
C.A.N. 3538

JUN 27 2007

Approved as complying with the
Florida Building Code
Date: 09/27/2007
NOAA 07-0621-04
Miami-Dade Product Control
Division
By: *Helmy A. Helmy*

af c
AL-FAROOQ CORPORATION
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ACCORDION/07-13AMH