



**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**

NOTICE OF ACCEPTANCE (NOA)

**High Velocity Hurricane Protection Systems
3390 Mercantile Avenue
Naples, Florida 34104**

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: "Category 5" Aluminum Accordion Shutter

APPROVAL DOCUMENT: Drawing No. 04-04, titled "Category 5 Accordion Shutter System", sheets 1 through 4 of 4, prepared by Al-Farooq Corporation, dated February 28, 2004, last revision #A dated January 25, 2005, signed and sealed by Humayoun Farooq, P.E., bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control 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(s) as well as approval document mentioned above. The submitted documentation was reviewed by **Helmy A. Makar, P.E.**



Helmy A. Makar
04/14/2005

**NOA No 04-1220.03
Expiration Date: 04/14/2010
Approval Date: 04/14/2005**

High Velocity Hurricane Protection Systems

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 04-04, titled "Category 5 Accordion Shutter System", sheets 1 through 4 of 4, prepared by Al-Farooq Corporation, dated February 28, 2004, last revision #A dated January 25, 2005, signed and sealed by Humayoun Farooq, P.E.*

B. TESTS

1. *Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of Category 5 Accordion Shutter System, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-03-1842, dated August 18, 2003, signed and sealed by Rafael E. Droz-Seda, P.E.*
2. *Test report on Uniform Static Air Pressure Test of Category 5 Accordion Shutter System, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-03-1843, dated August 18, 2003, signed and sealed by Rafael E. Droz-Seda, P.E.*

C. CALCULATIONS

1. *Anchor analysis dated March 23, 2004, Sheets A-1 through A-12 & AP-1 through AP-16, prepared by Al-Farooq Corporation, signed and sealed by Humayoun Farooq, P.E.*

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. *Certified Tensile Test Report from Hurricane Engineering & Testing Inc., Report No. HETI-03-T052, dated September 03, 2003, for aluminum accordion sample.*

F. STATEMENTS

1. *Statement letter of conformance by Al-Farooq Corporation, dated October 26, 2004, signed and sealed by Humayoun Farooq, P.E.*



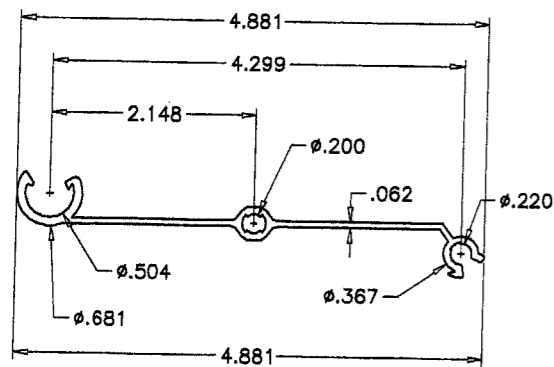
Helmy A. Makar, P. E.

Product Control Examiner

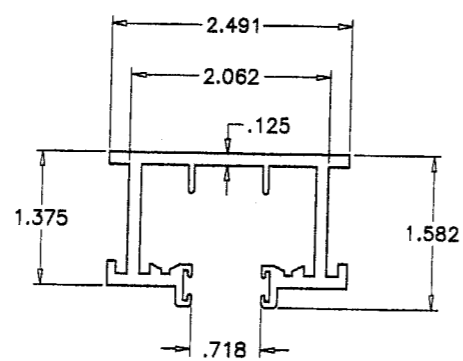
NOA No 04-1220.03

Expiration Date: 04/14/2010

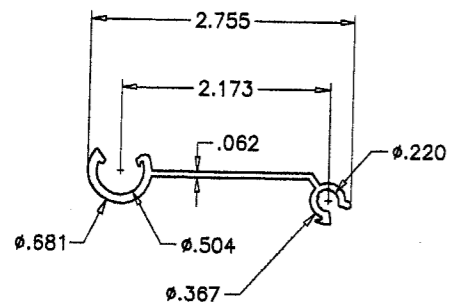
Approval Date: 04/14/2005



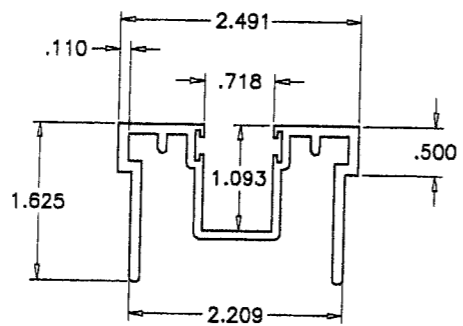
SLAT
6063-T6



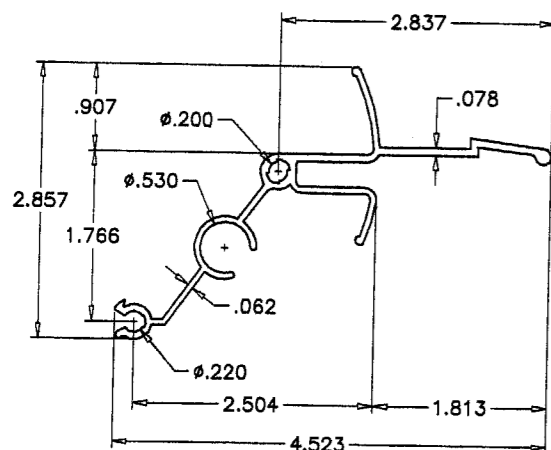
TOP TRACK
6063-T6



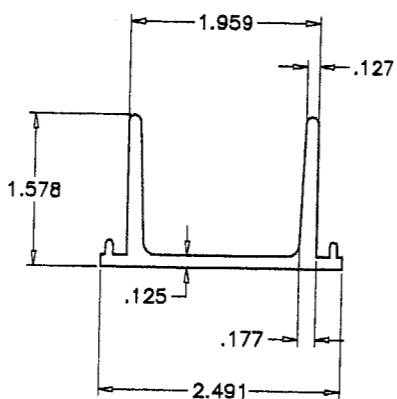
STARTER SLAT
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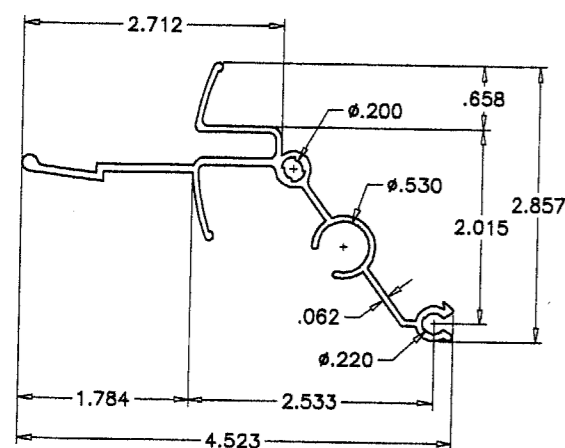
FLOOR TRACK
6063-T6



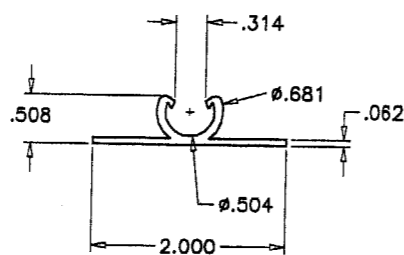
LEFT CENTER MATE
6063-T6



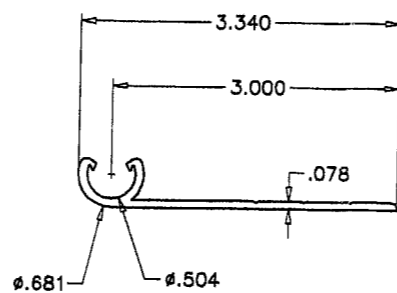
EXPANSION BASE
6063-T6



RIGHT CENTER MATE
6063-T6



END BASE
6063-T6

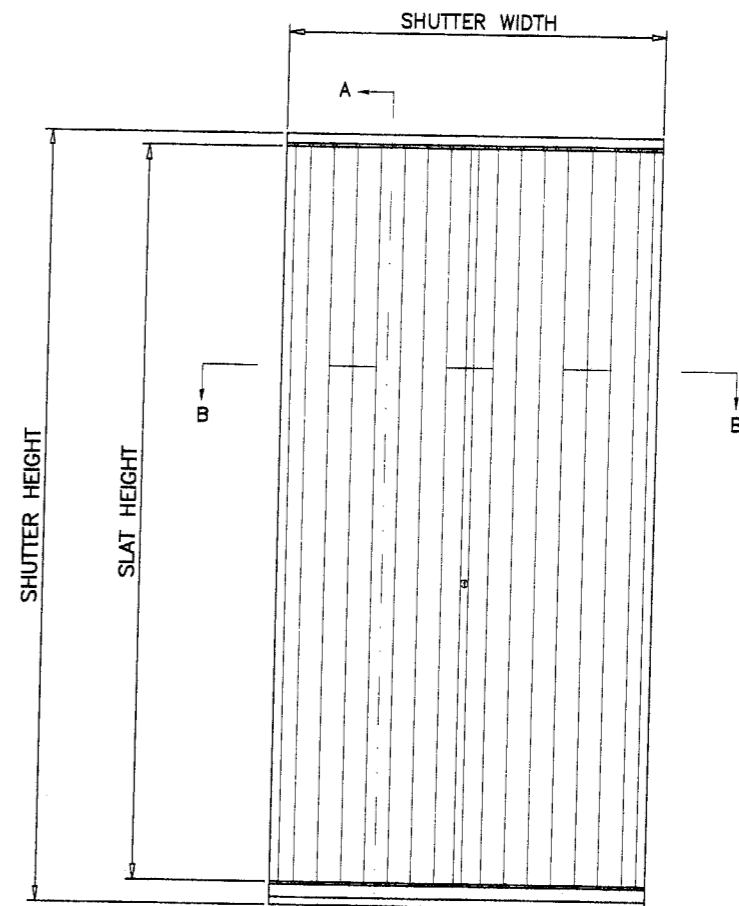


ALT. END BASE
6063-T6

GENERAL NOTES

1. THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE.
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 $\leq L/30$ OR 2".
8. ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
9. A 33% INCREASE IN ALLOWABLE STRESS WAS USED IN DESIGN OF ANCHOR SPACING.

FOR INSTALLATION DETAILS SEE SHEETS 2 THRU 4.



TYPICAL ELEVATION

PRODUCT MARKING

A PERMANENT LABEL SHALL BE AFFIXED ON LOCKING MEMBER OF UNIT ABOVE LOCK WITH THE FOLLOWING STATEMENT.
HIGH VELOCITY CATEGORY 5TH HURRICANE PROTECTION SYSTEMS, NAPLES, FL.
"MIAMI DADE COUNTY PRODUCT CONTROL APPROVED"

DESIGN LOADS SHALL BE CALCULATED AS PER REQUIREMENTS OF ASCE 7-98.

Approved as complying with the
Florida Building Code
Date 04/14/2005
NOA# 04-1720.03
Miami Dade Product Control
Division
By Helmy A. Matar

Engr: DR. HUMAYOUN FAROOQ
STRUCTURES
FLA. PE # 18557
C.A.N. 3538

MAR 04 2005

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

CATEGORY 5TH ACCORDION SHUTTER SYSTEM
HIGH VELOCITY HURRICANE PROTECTION SYSTEMS
3390 MERCANTILE AVENUE
NAPLES, FL. 34104-3306
TEL. (239) 642-5050 FAX. (239) 642-1400

no	date	description	BY
A	01.25.05	REV. PER BCCO COMMENTS	

date: 02-28-04
scale: 1/2" = 1"
dr. by: HAMID
chk. by:

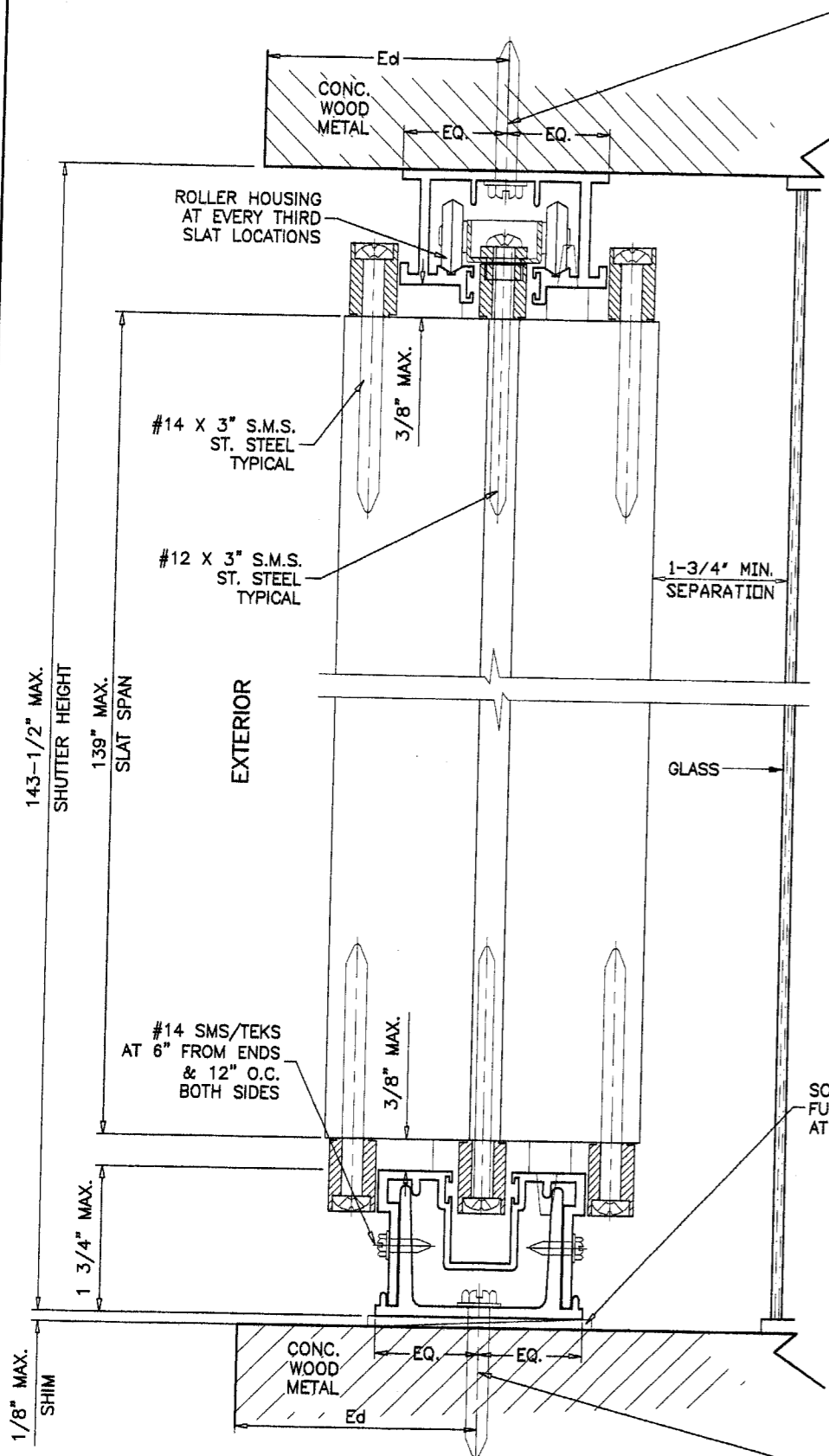
drawing no.
04-04

sheet 1 of 4



ACCORDION/04-04HVH

INSIDE MOUNTS



SECTION A-A

ANCHOR TYPE	SPACING INCHES					
	120" SHUTTER HT.					
	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD/METAL	CONC.	WOOD/METAL	CONC.	WOOD/METAL
A	6	-	6	-	6	-
D	6	-	6	-	4.7	-
E	-	5.3	-	3.2	-	-
G	-	-	6	-	4.7	3.4

ANCHOR TYPE	SPACING INCHES					
	143-1/2" SHUTTER HT.					
	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD/METAL	CONC.	WOOD/METAL	CONC.	WOOD/METAL
A	6	-	6	-	6	-
D	6	-	5.5	-	4	-
E	-	4.5	-	2.7	-	-
G	-	-	6	-	4	2.8

ANCHOR TYPE	SPACING INCHES			
	120" SHUTTER HT.			
	UPTO 60 PSF	UPTO 100 PSF	UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD
A	6	-	6	-
D	6	-	5.8	-
E	-	4.9	-	2.9

ANCHOR TYPE	SPACING INCHES			
	143-1/2" SHUTTER HT.			
	UPTO 60 PSF	UPTO 100 PSF	UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD
A	6	-	6	5.8
D	6	-	4.8	3.4
E	-	4.1	-	2.5

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

TYPICAL ANCHORS:

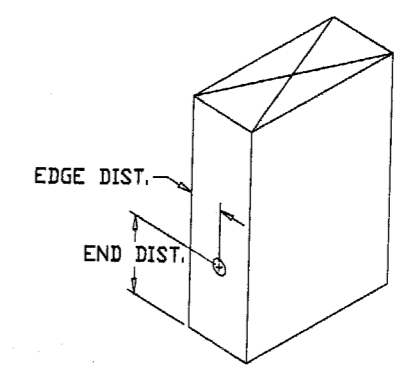
- ANCHOR (A) = 5/16" DIA. TAPCONS (BY ELCO)
1-3/4" EMBEDMENT INTO 3000 PSI CONC.
- ANCHOR (D) = 1/4" RAWL CALK-IN. STAR TAMPIN
TOTAL ANCHOR BODY INTO 3000 PSI CONC.
- ANCHOR (E) = #14 SMS
1-1/2" MIN PENETRATION INTO WOOD(S.G.=0.55)
- ANCHOR (G) = #14 SMS OR SELF DRILLING (TEKS) SCREWS
INTO METAL STRUCTURES
(STEEL OR ALUMINUM 1/8" MIN. THICK.)

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

FASTENER SPACING IN MASONRY								
CHARTS ARE BASED ON TYPICAL EDGE DISTANCE = 12 X ANCHOR DIA. FOR LESSER EDGE DISTANCE DECREASE SPACING BY MULTIPLYING WITH THE FACTOR BELOW								
EDGE DISTANCE	3"	2-3/4"	2-1/2"	2-1/4"	2"	1-3/4"	1-1/2"	1-1/4"
ANCHORS 'A'	1	.93	.86	.79	.71	.64	.57	.50
ANCHORS 'D'	1	.95	.90	.85	.80	-	-	-

EXAMPLE: FOR 3" EDGE DIST. SPACING = 6" O.C. (FROM CHART)
 FOR 2" EDGE DIST. SPACING = 6 X .71 = 4.2 O.C.

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



Approved as complying with the
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 Miami Dade Product Control
 Division By *Helmy A. Maher*

Engr. DR. HUMAYOUN FAROOQ
 STRUCTURES
 FLA. PE # 16557
 C.A.N. 3539

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

MAR 04 2005

FOR GENERAL NOTES AND EXTRUSION DETAILS SEE SHEET 1 OF 4.

AL-FAROOQ CORPORATION
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no	date	description
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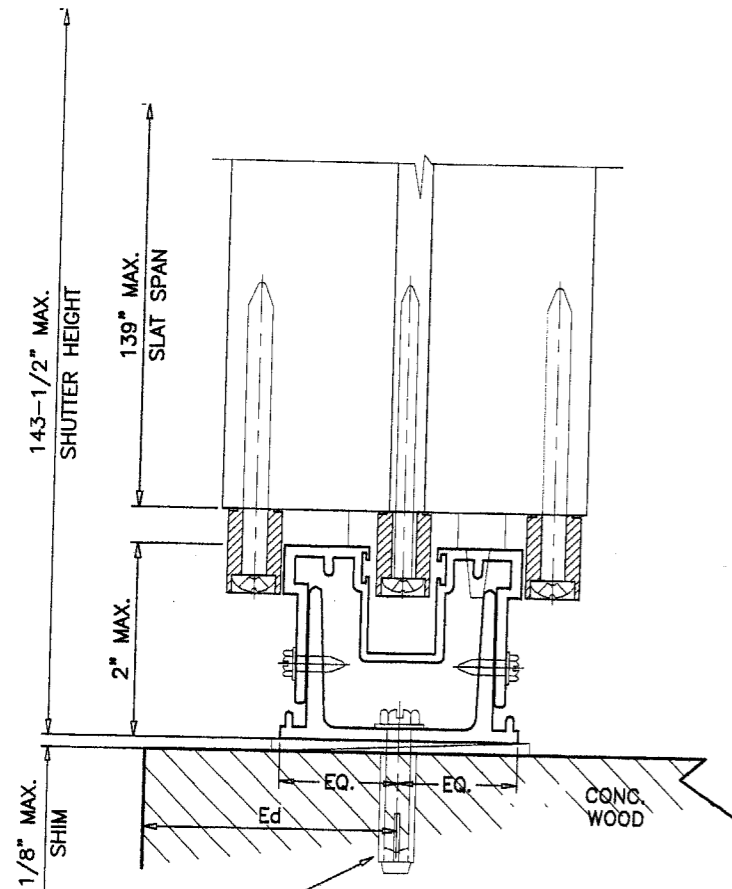
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 chk. by:

drawing no.
04-04

sheet 2 of 4

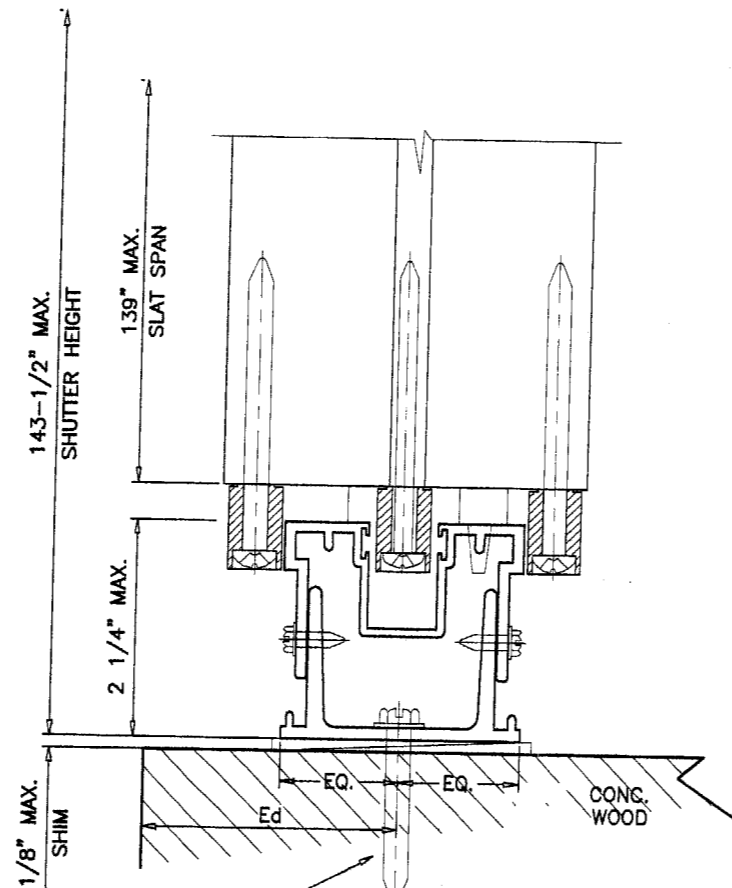


ACCORDION/04-04HVH



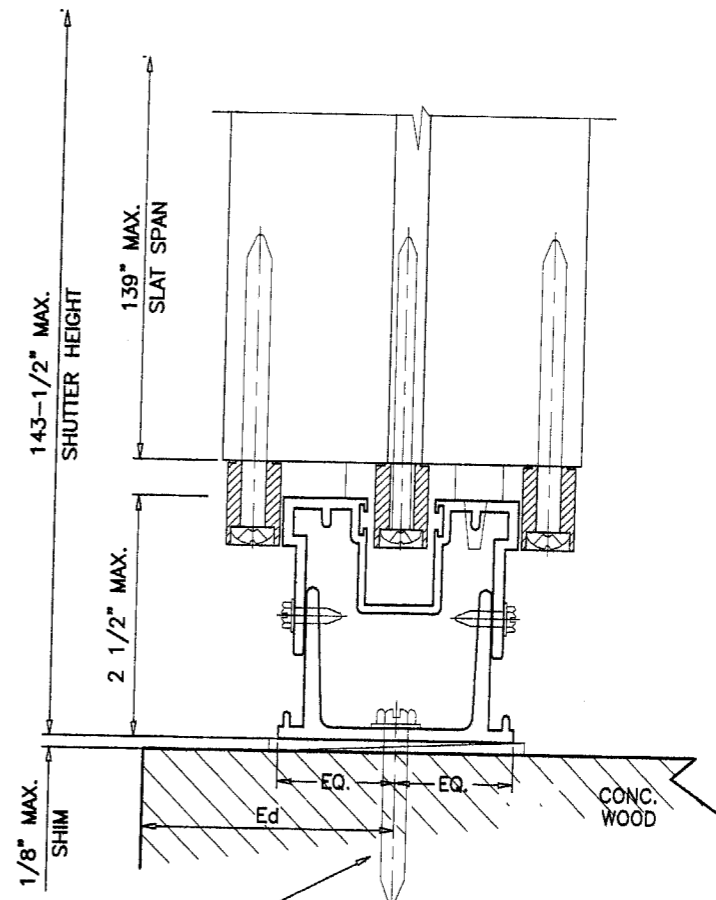
SPACING INCHES						
120" SHUTTER HT.						
ANCHOR TYPE	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD	CONC.	WOOD
A	6	-	6	-	6	-
D	6	-	5.4	-	3.8	-
E	-	4.7	-	2.8	-	-

SPACING INCHES						
143-1/2" SHUTTER HT.						
ANCHOR TYPE	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD	CONC.	WOOD
A	6	-	6	-	5.3	-
D	6	-	4.5	-	3.2	-
E	-	3.9	-	-	-	-



SPACING INCHES						
120" SHUTTER HT.						
ANCHOR TYPE	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD	CONC.	WOOD
A	6	-	6	-	5.8	-
D	6	-	5.1	-	3.6	-
E	-	4.5	-	2.7	-	-

SPACING INCHES						
143-1/2" SHUTTER HT.						
ANCHOR TYPE	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD	CONC.	WOOD
A	6	-	6	-	4.9	-
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E	-	3.7	-	-	-	-



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120" SHUTTER HT.						
ANCHOR TYPE	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD	CONC.	WOOD
A	6	-	6	-	5.4	-
D	6	-	4.8	-	3.4	-
E	-	4.3	-	2.6	-	-

SPACING INCHES						
143-1/2" SHUTTER HT.						
ANCHOR TYPE	UPTO 60 PSF		UPTO 100 PSF		UPTO 140 PSF	
	CONC.	WOOD	CONC.	WOOD	CONC.	WOOD
A	6	-	6	-	4.5	-
D	6	-	4	-	-	-
E	-	3.6	-	-	-	-

Approved as complying with the Florida Building Code
 Date 04/14/2005
 NOA# 04-1220-03
 Miami Dade Product Control
 Division
 By Helmy A. Mohr

Engr: DR. HUMAYOUN FAROOQ
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 MAR 04 2005

afc

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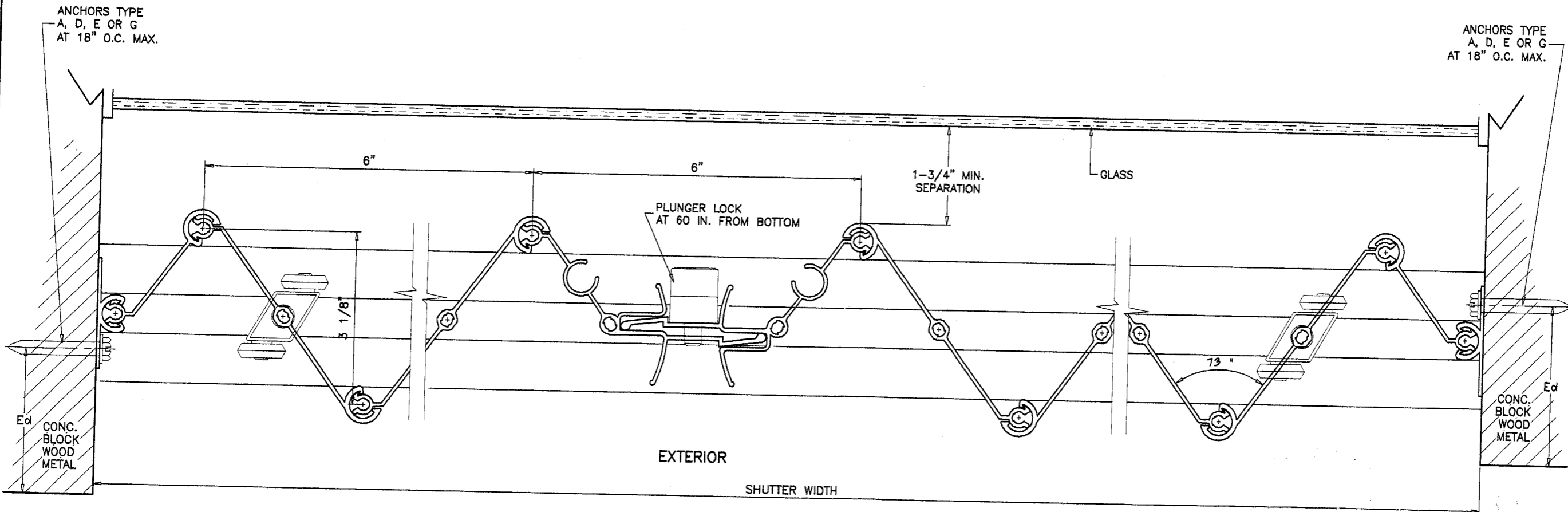
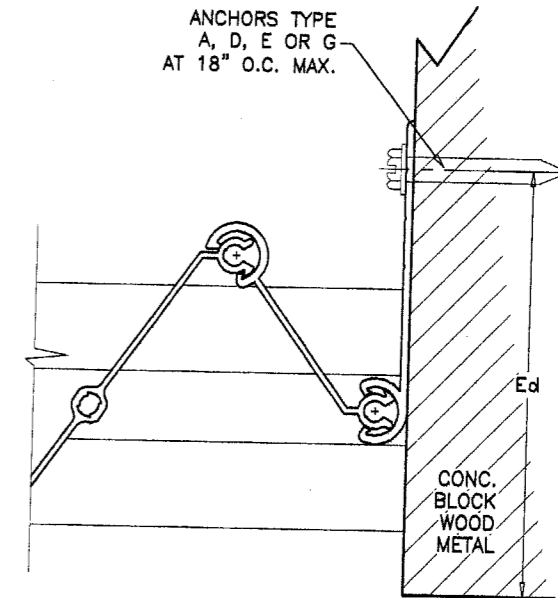
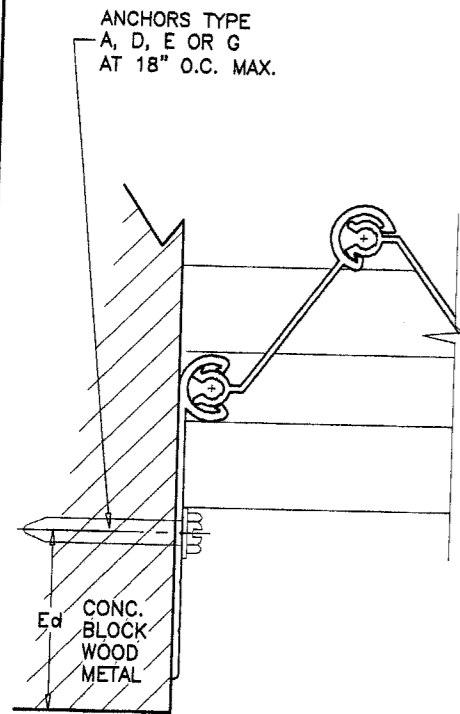
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date: 02-28-04
 scale: 1/2" = 1"
 dr. by: HAMID
 chk. by:

drawing no.
04-04

sheet 3 of 4



ANCHORS TYPE
A, D, E OR G
AT 18" O.C. MAX.

Ed
CONC.
BLOCK
WOOD
METAL

Approved as complying with the
Florida Building Code
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NOA# 04-1220-03
Miami Dade Product Control
Division
By Helmy A. Helmy

Engr: DR. HUMAYOUN FAROOQ
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sheet 4 of 4

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