



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

**NOTICE OF ACCEPTANCE (NOA)**

**M & F Shutters Corporation**  
**7975 N.W. 56<sup>th</sup> Street**  
**Doral, Florida 33166**

**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: HPMA / "Performance system 2" Aluminum Accordion Shutter**

**APPROVAL DOCUMENT:** Drawing No. 07-156, titled "Performance System 2 Accordion Shutter", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated June 08, 2007, signed and sealed by Walter A. Tillit Jr., P.E., on June 12, 2007, bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control 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 revises NOA # 06-0710.03 and consists of this page 1, evidence submitted pages E-1 & E-2 as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



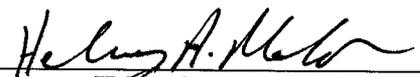
*Helmy A. Makar*  
 08 / 13 / 2007

**NOA No. 07-0619.10**  
**Expiration Date: 04/05/2012**  
**Approval Date: 08/13/2007**  
**Page 1**

**M & F Shutters Corporation**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

- 1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 06-0710.03**
- A. DRAWINGS**
  1. *Drawing No. 06-105, sheets 1 through 6 of 6, titled "Performance System 1 Accordion Shutter", prepared by Tilteco Inc., dated May 4, 2006, signed and sealed by Walter A. Tillit Jr., P.E.*
- B. TESTS**
  1. *See Association's generic approval under 05-0323.*
- C. CALCULATIONS**
  1. *See Association's generic approval under 05-0323.*
- D. QUALITY ASSURANCE**
  1. *By Miami-Dade County Building Code Compliance Office.*
- E. MATERIAL CERTIFICATIONS**
  1. *See Association's generic approval under 05-0323.*
- F. STATEMENTS**
  1. *Release letter issued by the Hurricane Protection Manufactures Association, Inc., received by our office on June 27, 2006 and signed by Jeffrey T. Robinson, President of the Association, certifying that this product meets the criteria of the product tested under their auspices, and approved under Miami-Dade County Approval No. 05-0323.*
  2. *Acknowledgment Letter issued by H.P.M.A. dated April 18, 2006, signed by Mr. Enrique Revilla, V. P. of the Association, to confirm, that M & F Shutter Corporation, Inc. is currently a H.P.M.A. member in good standing.*
  3. *Acknowledgement Letter issued by M & F Shutter Corporation, dated May 23, 2006, acknowledging that they are applying under the auspice of the H.P.M.A master file No. 05-0323, signed by Armando Fernandez, President.*
  4. *Letter issued by Tilteco Inc., dated on June 22, 2006, certifying that the drawing (No. 06-105) prepared for M & F Shutter Corporation, signed and sealed by Mr. Walter A. Tillit, Jr., P.E., is engineering wise completely identical to H.P.M.A. Miami Dade Approved generic drawing (No. 05-118).*



Helmy A. Makar, P.E., M.S.  
Product Control Examiner  
NOA No. 07-0619.10  
Expiration Date: 04/05/2012  
Approval Date: 08/13/2007

**M & F Shutters Corporation**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**2. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. *Drawing No. 07-156, titled " Performance System 2 Accordion Shutter ", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated June 08, 2007, signed and sealed by Walter A. Tillit Jr., P.E., on June 12, 2007.*

**B. TESTS**

1. *See Association's generic approval under 07-2513.*

**C. CALCULATIONS**

1. *See Association's generic approval under 07-2513.*

**D. QUALITY ASSURANCE**

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

**E. MATERIAL CERTIFICATIONS**

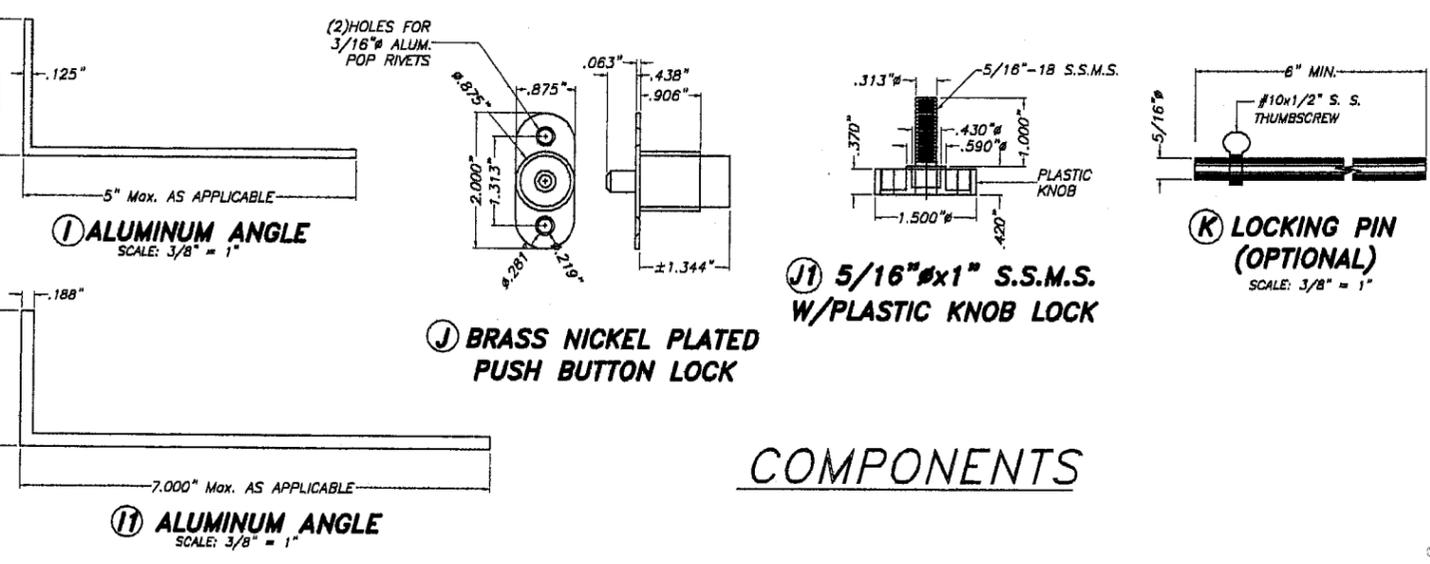
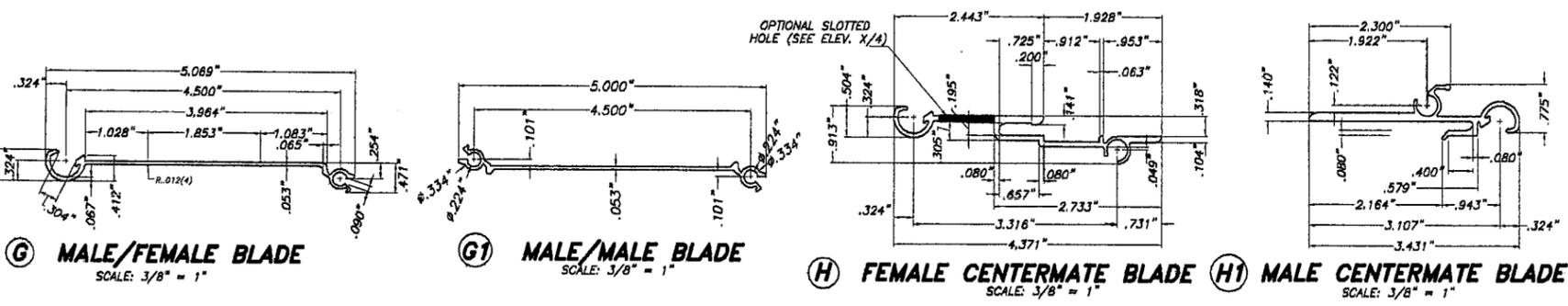
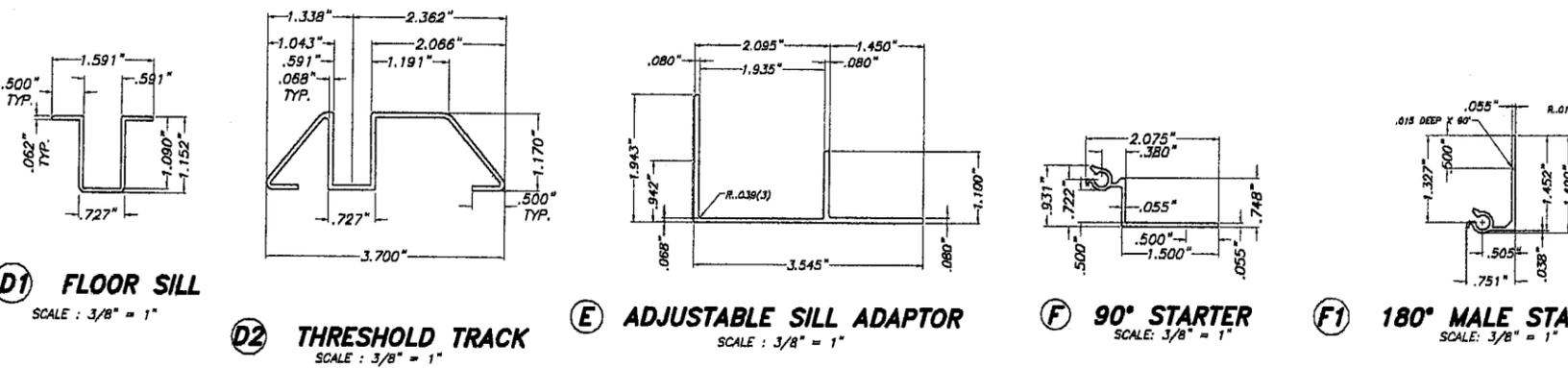
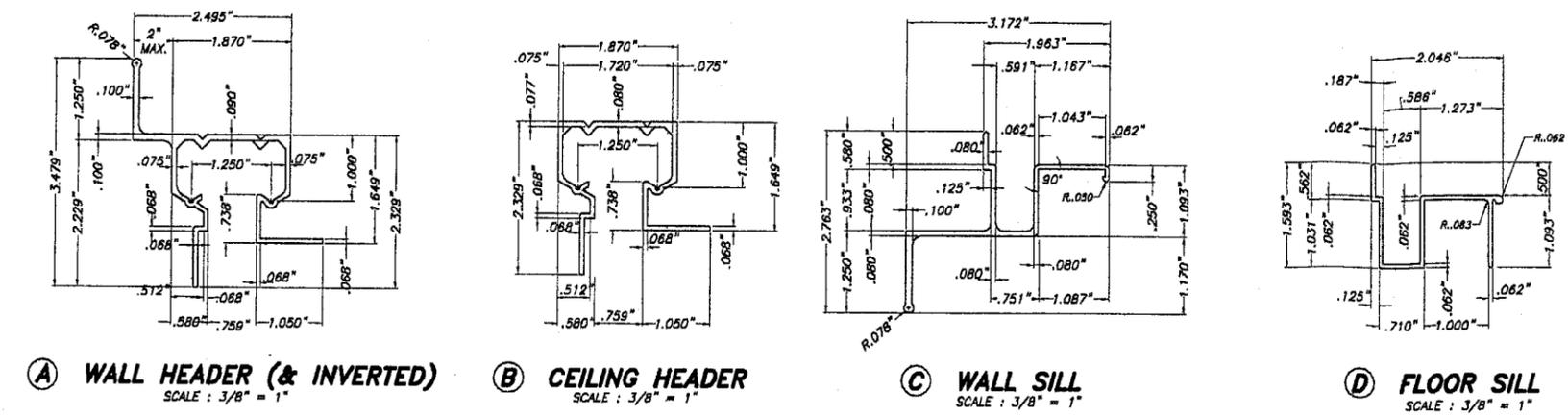
1. *See Association's generic approval under 07-2513.*

**F. STATEMENTS**

1. *Release letter issued by the Hurricane Protection Manufacturers Association, dated March 06, 2007, certifying this product to meet the criteria of product tested and approved, and allowing M & F Shutters Corporation to use the test results approved under Miami Dade County Approval No. 07-2513, signed by Mr. Henry Revilla.*
2. *Acknowledgment letter by M & F Shutters Corporation, dated April 10, 2007, signed by Mr. Armando Fernandez.*
3. *Letter by Tilteco Inc., dated June 12, 2007, signed and sealed by Mr. Walter A. Tillit, Jr., P.E., certifying that the drawing (No. 07-156) prepared for M & F Shutters Corporation is engineering wise identical to HPMA's generic drawing (No. 06-219).*
4. *Acceptance Letter issued to Mr. Armando Fernandez on August 11, 2007 and returned signed by Mr. Armando Fernandez on August 13, 2007, indicating to please issue the proposed Notice of Acceptance as submitted and reviewed.*



**Helmy A. Makar, P.E., M.S.**  
**Product Control Examiner**  
**NOA No. 07-0619.10**  
**Expiration Date: 04/05/2012**  
**Approval Date: 08/13/2007**



**COMPONENTS**

**GENERAL NOTES:**

1. ACCORDION SHUTTER SHOWN ON THIS PRODUCT APPROVAL DOCUMENT HAS BEEN VERIFIED FOR CODE COMPLIANCE IN ACCORDANCE WITH THE 2004 EDITION OF THE FLORIDA BUILDING CODE W/ 2005 & 2006 SUPPLEMENTS. IN ORDER TO VERIFY THAT ANCHORS ON THIS P.A.D., AS TESTED, WERE NOT OVER STRESSED, A 33% INCREASE IN ALLOWABLE LOADS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. HOWEVER FOR LAG SCREWS INTO WOOD, A 1.80 WIND LOAD DURATION FACTOR WAS USED TO CALCULATE SCREWS SPACINGS. ACCORDION SHUTTER'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.4 OF THE ABOVE MENTIONED CODE PER TAS-201, TAS-202, AND TAS-203 PROTOCOLS AS PER CONSTRUCTION TESTING CORPORATION LABORATORY REPORT N° 06-039.
2. STAINLESS STEEL SHEET METAL SCREWS USED AT LOUVER PIN SHALL BE # 14 x 3", 410-HT MINIMUM SERIES W/ 135.0 ksi YIELD STRENGTH & 180 ksi TENSILE STRENGTH. SCREWS SHALL BE COATED WITH XYLAN 5000 SERIES FLUOROPOLYMER COATINGS AS MANUFACTURED BY WHITFORD Co, BOX 507, WEST CHESTER PA. 19381.
3. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY WITH MINIMUM YIELD STRENGTH OF Fy=31.0 ksi.
4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 SERIES W/ 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018.
5. ALL ALUMINUM POP RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.
6. BOLTS TO BE GALVANIZED OR STAINLESS STEEL WITH 36 ksi MINIMUM YIELD STRENGTH.
7. ANCHORS TO WALL SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)

- (A) TO EXISTING POURED CONCRETE: f'c PER SCHEDULE ON SHEET 6
- 1/4" # TAPCON OR 1/4" # MAXI-SET TAPCON, AS MANUFACTURED BY I.T.W. BUILDDEX.
  - 1/4" # CRETE FLEX SS4 ANCHORS, AS MANUFACTURED BY ELCO TEXTRON.
  - 1/4" # x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY POWERS FASTENERS, INC.
- NOTES:
- A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS AND CRETE FLEX SS4 ANCHORS INTO CONCRETE IS 1 3/4".
  - A.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" #-20 S.S SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST.
  - A.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES A.1 & A.2 ABOVE.
- (B) TO EXISTING CONCRETE BLOCK WALL: ASTM C-90 BLOCK
- 1/4" # TAPCON OR 1/4" # MAXI-SET TAPCON, AS MANUFACTURED BY I.T.W. BUILDDEX.
  - 1/4" # CRETE FLEX SS4 ANCHORS, AS MANUFACTURED BY ELCO TEXTRON.
  - 1/4" # x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY POWERS FASTENERS, INC.
- NOTES:
- B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS, AND CRETE FLEX SS4 ANCHORS INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".
  - B.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE BLOCK UNIT. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" #-20 S.S SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
  - B.3) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES B.1 & B.2 ABOVE.

- (C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.
8. SHUTTER'S COMPONENTS ARE PATENT PENDING.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, BLOCK OR WOOD FRAME BUILDINGS.
10. A PERMANENT SHUTTER MANUFACTURER'S LABEL SHALL BE PLACED ON THE EXPOSED SURFACE OF THE FEMALE CENTERMATE BLADE (COMPONENT G). ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABEL SHALL READ AS FOLLOWS: "PERFORMANCE SYSTEM 2 ACCORDION SHUTTER" M & F SHUTTERS CORP. DORAL, FLORIDA MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED.

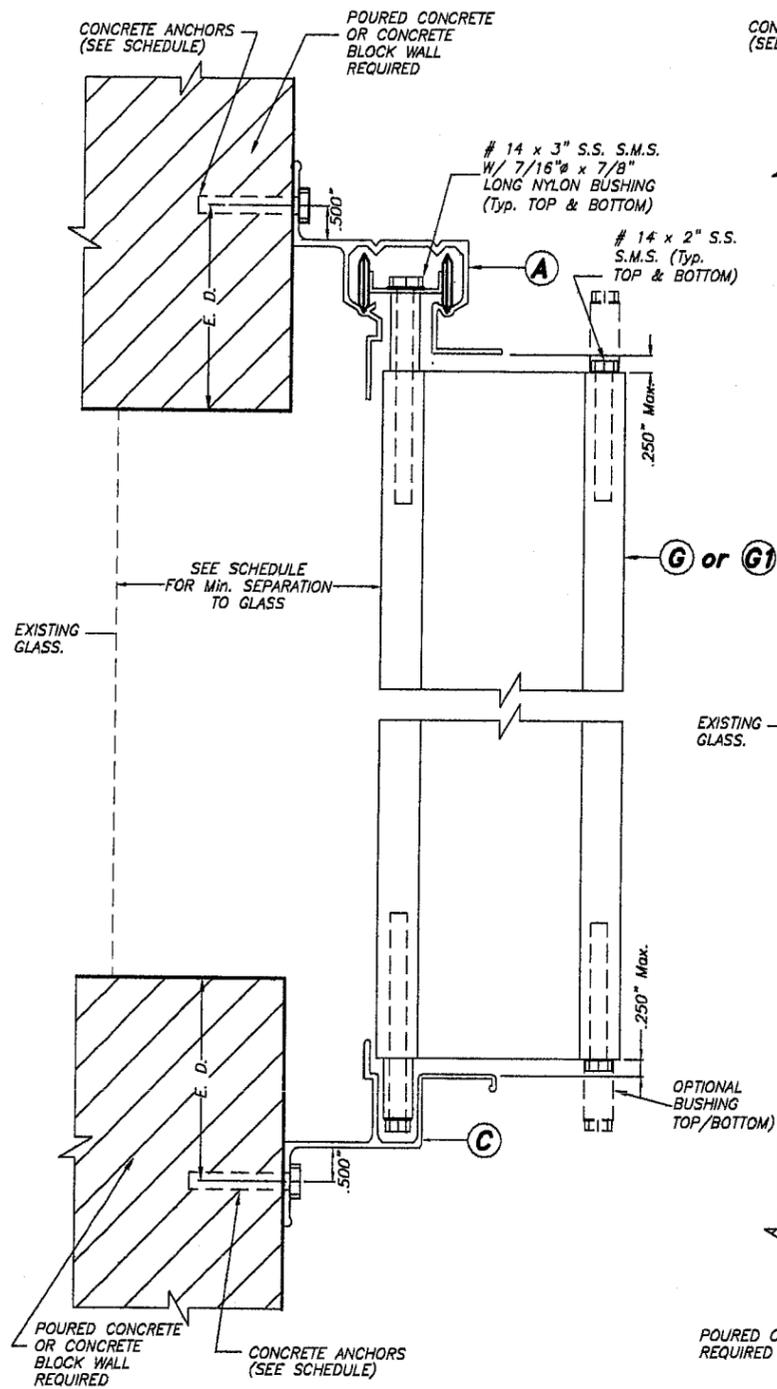
11. (a) THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.A.D.
- (b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT BASED ON THIS PRODUCT APPROVAL PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.
- (c) THIS PRODUCT APPROVAL DOCUMENT WILL BE CONSIDERED INVALID IF MODIFIED.
- (d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.A.D. ENGINEER OF RECORD, ACTING AS DELEGATED ENGINEER TO THE P.A.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.
- (e) THIS P.A.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER THAT PREPARED IT.

**PRODUCT REVISED**  
as complying with the Florida Building Code  
Acceptance No. 07-0619/10  
Expiration Date 04/05/2012  
By *Helmut H. Miller*  
Miami Dade Product Control Division

F.B.C. (High Velocity Hurricane Zone)

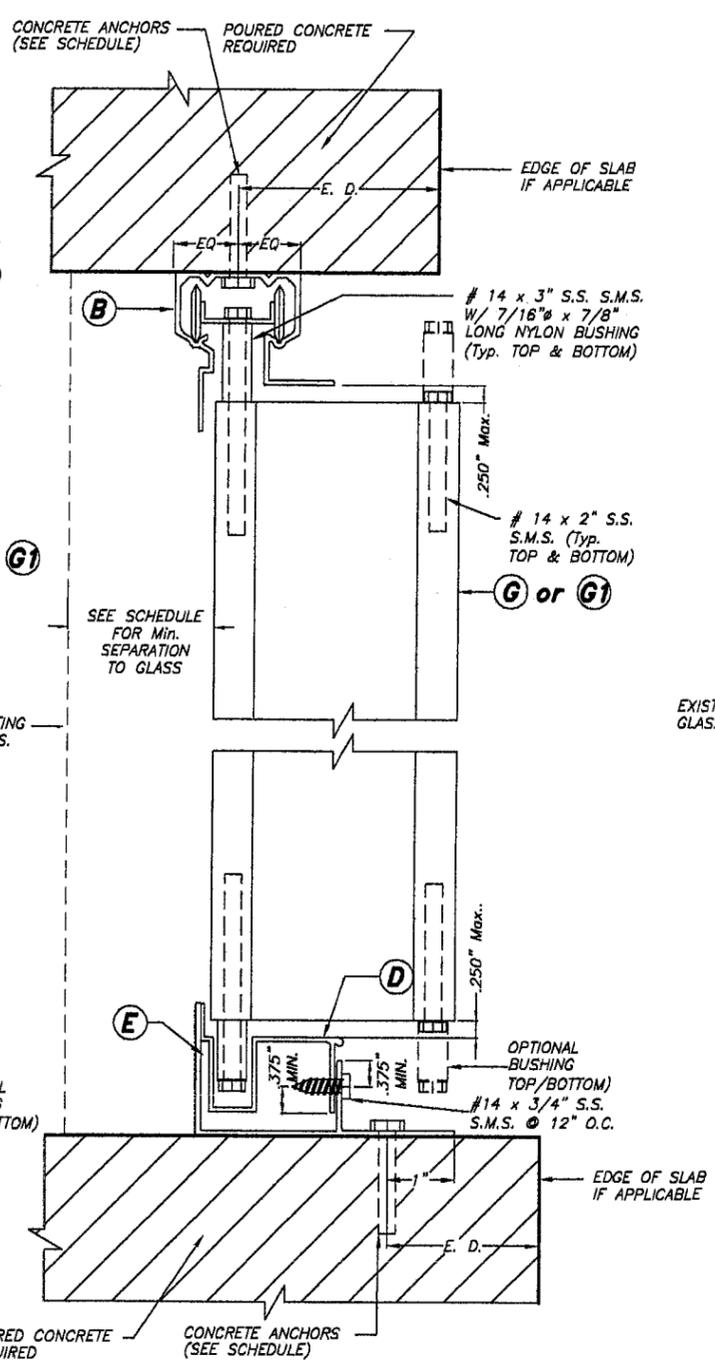
© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION		PERFORMANCE SYSTEM 2 ACCORDION SHUTTER		DRAWN BY: F.P.	
<b>TILECO INC.</b> TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33168 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167		<b>M &amp; F SHUTTERS CORP.</b> (H.P.M.A. # 12) 7975 N.W. 56 STREET DORAL, FLORIDA 33166 PH: (305) 597-6306 FAX: (305) 471-9540		06/08/07 DATE	
				07-156 DRAWING No	
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JUN 12 2007



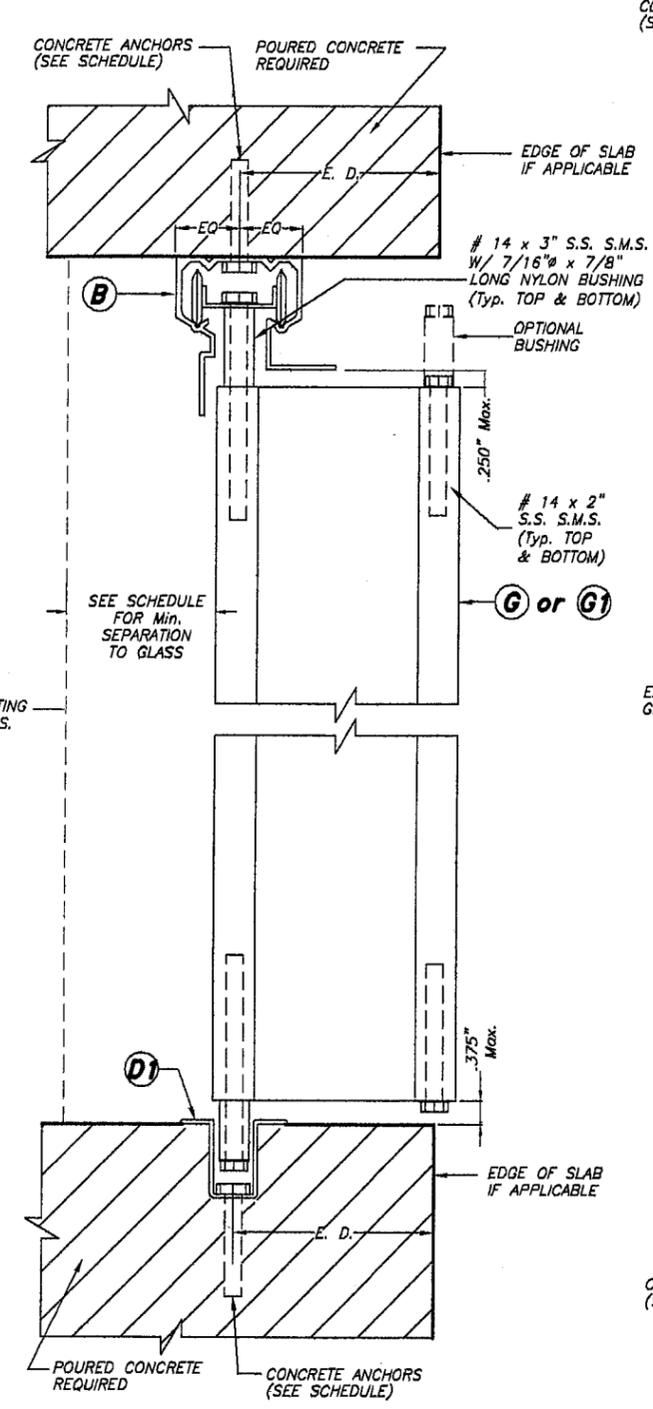
**WALL MOUNTING  
INSTALLATION  
SECTION A**

SCALE : 3/8" = 1"



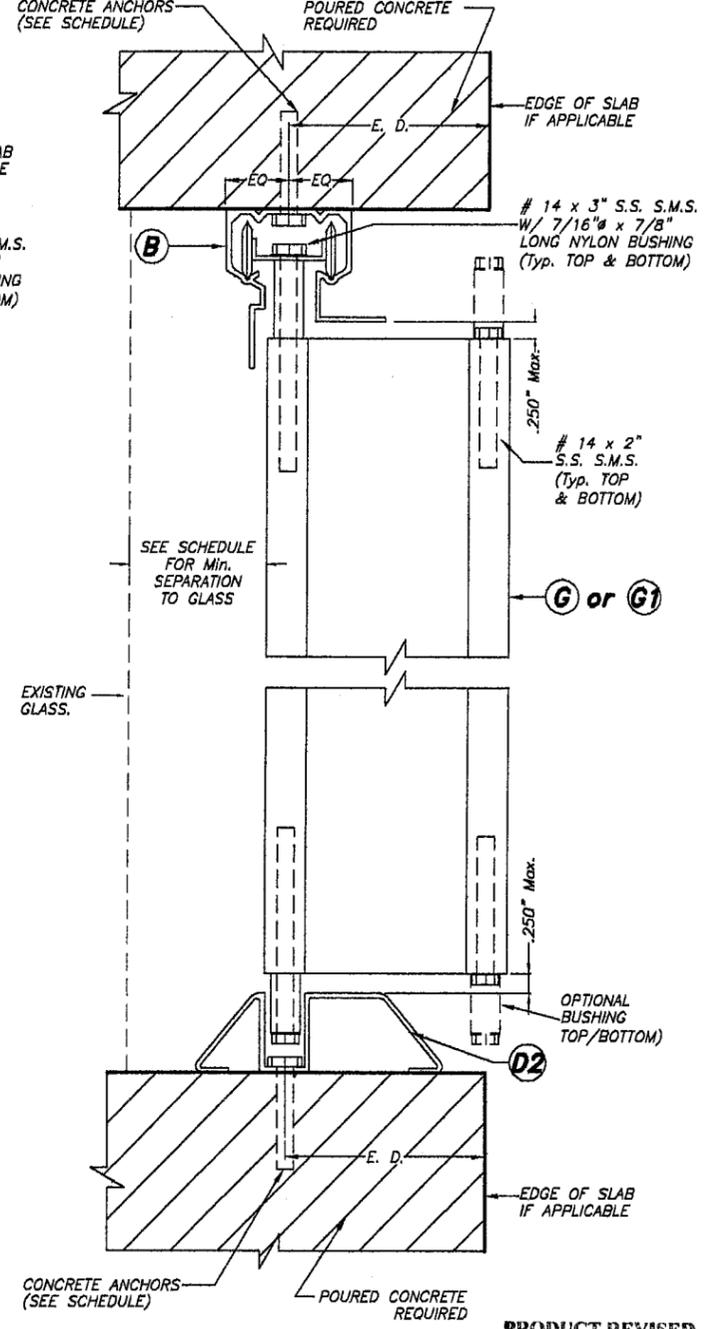
**CEILING & FLOOR  
MOUNTING INSTALLATION  
SECTION B**

SCALE : 3/8" = 1"



**CEILING & FLOOR  
MOUNTING INSTALLATION  
SECTION B1**

SCALE : 3/8" = 1"



**CEILING & FLOOR  
MOUNTING INSTALLATION  
SECTION B2**

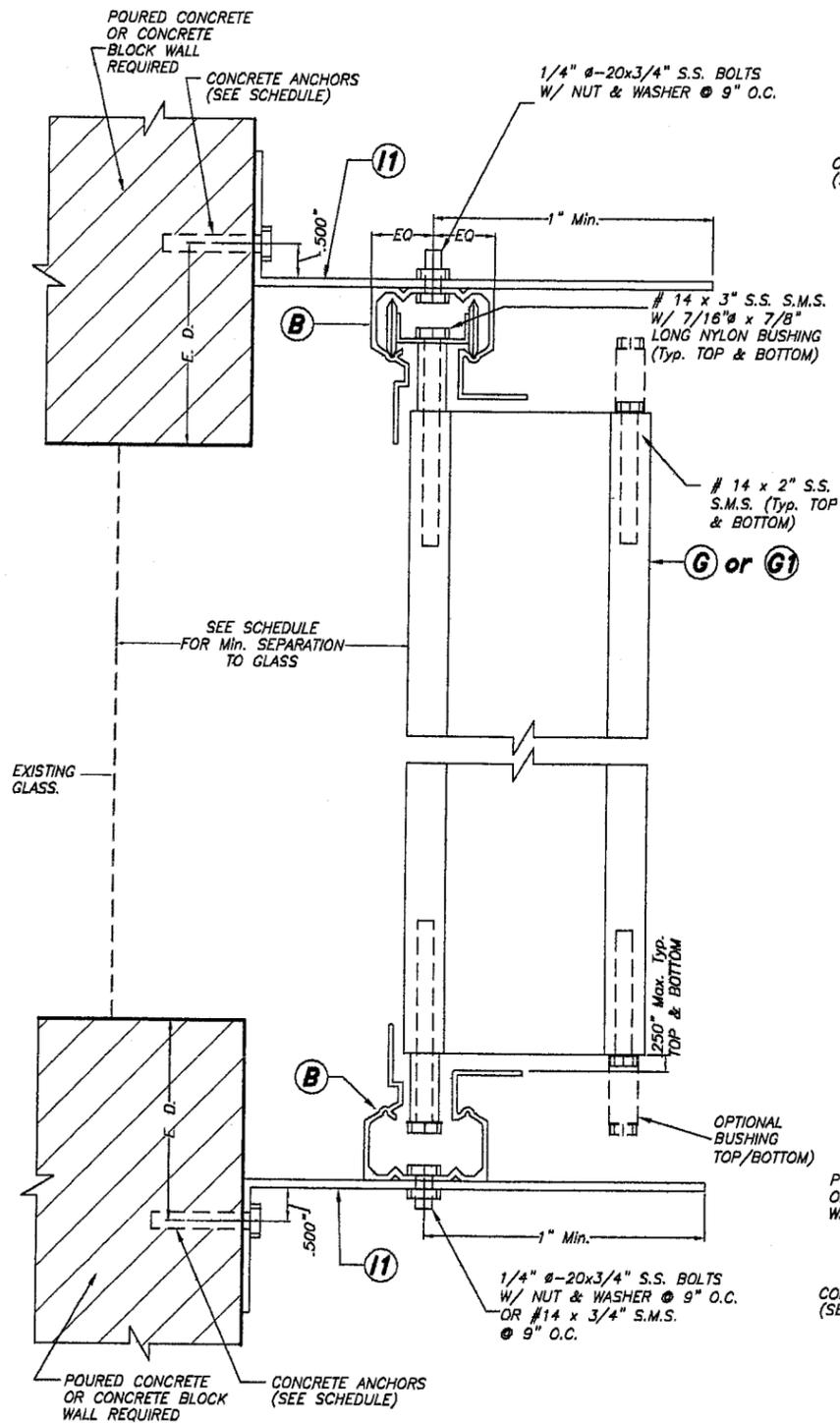
SCALE : 3/8" = 1"

**PRODUCT REVISED**  
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Acceptance No. 07-0619.10  
Expiration Date 04/05/2012  
By: *Helene J. Miller*  
Miami Dade Product Control  
Division

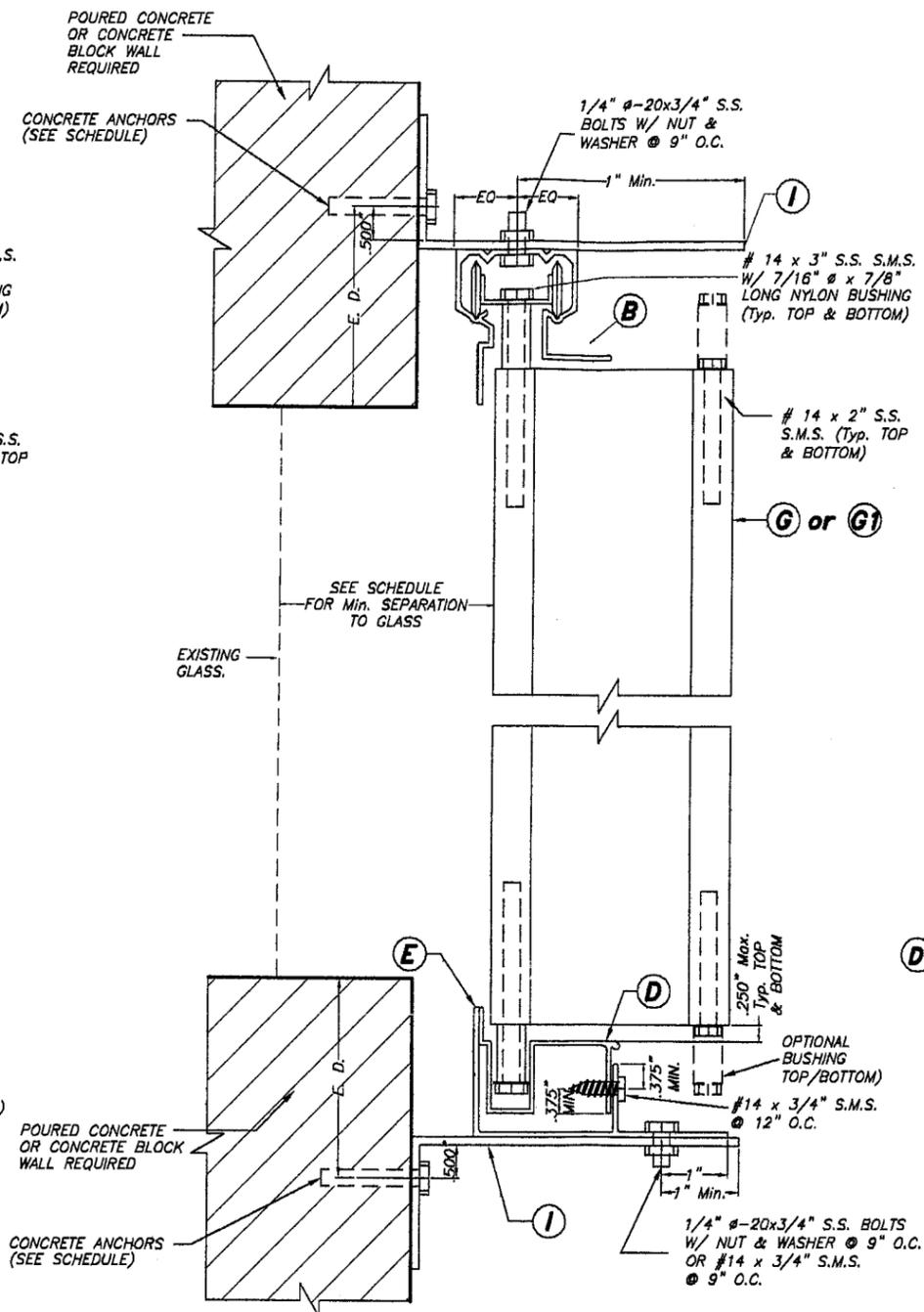
F.B.C. (High Velocity Hurricane Zone)

JUN 12 2007

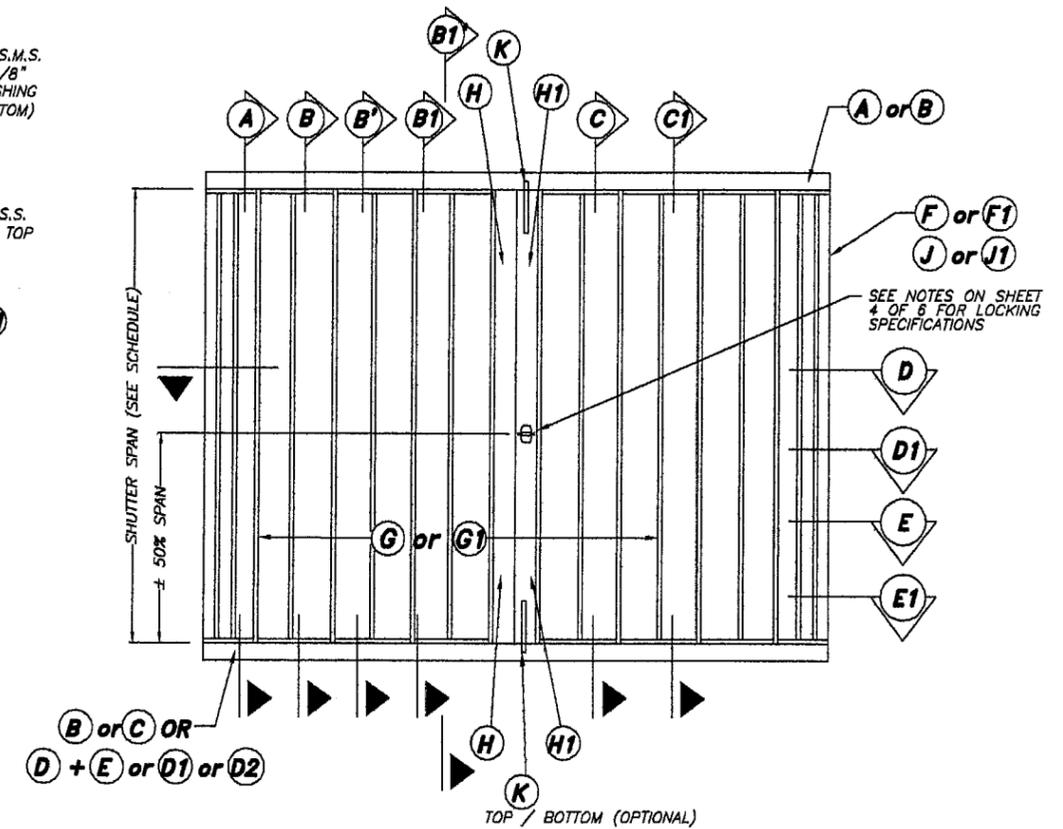
© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION		PERFORMANCE SYSTEM 2 ACCORDION SHUTTER		DRAWN BY: F.P.	
 <b>TILTECO INC.</b> TILLIT TESTING & ENGINEERING COMPANY 8355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33186 Phone : (305)871-1530 . Fax : (305)871-1531 EB-0006719 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167		<b>M &amp; F SHUTTERS CORP.</b> (H.P.M.A. # 12) 7975 N.W. 56 STREET DORAL, FLORIDA 33186 PH: (305) 597-6306 FAX: (305) 471-9540		06/08/07 DATE	
				07-156 DRAWING No	
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**BUILD-OUT INSTALLATION  
- SECTION C**  
SCALE : 3/8" = 1"



**BUILD-OUT INSTALLATION  
- SECTION C1**  
SCALE : 3/8" = 1"



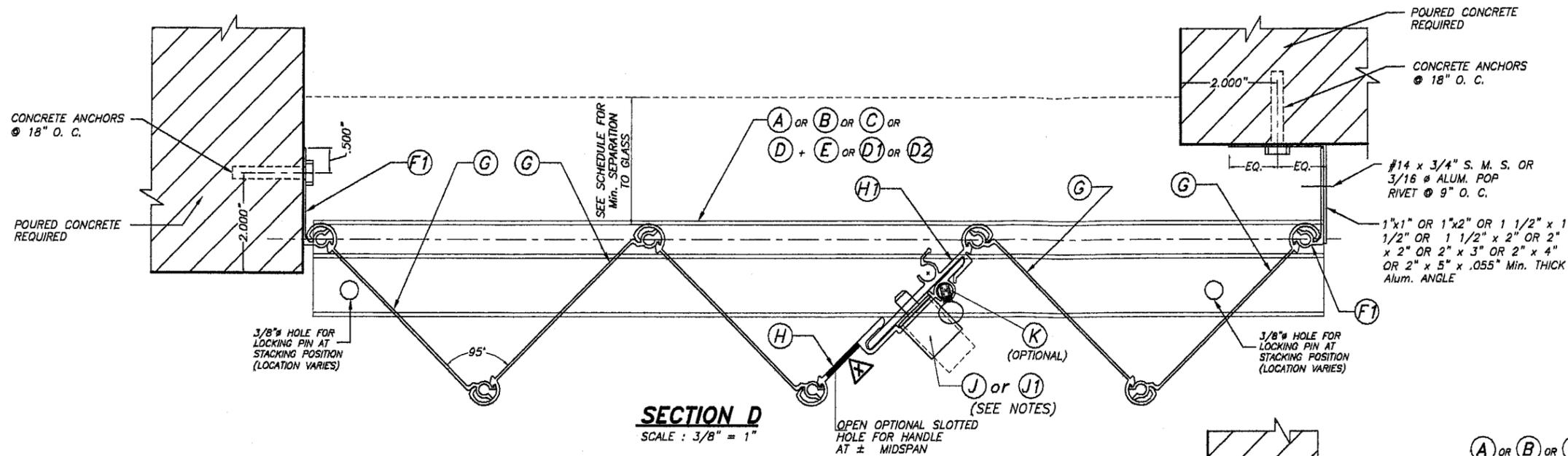
**TYPICAL ELEVATION**  
N. T. S.

PRODUCT REVISED  
as complying with the Florida  
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Acceptance No. 07-0619/10  
Expiration Date 04/05/2012  
By *Walter A. Tillit Jr.*  
Miami Data Product Control  
Division

F.B.C. (High Velocity Hurricane Zone)

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					SHEET 3 OF 6

JUN 12 2007

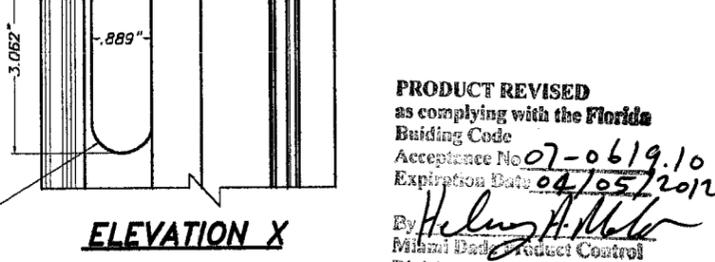
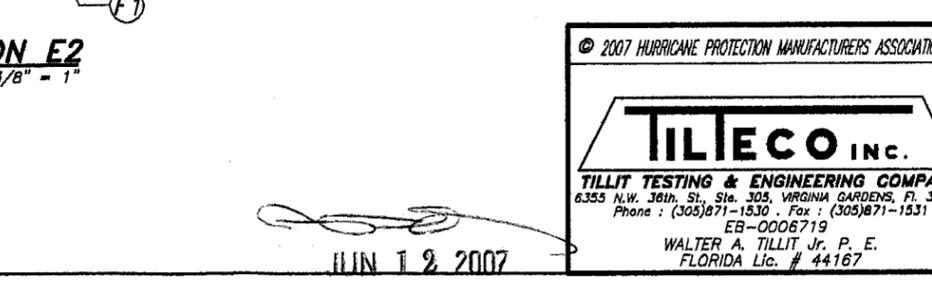
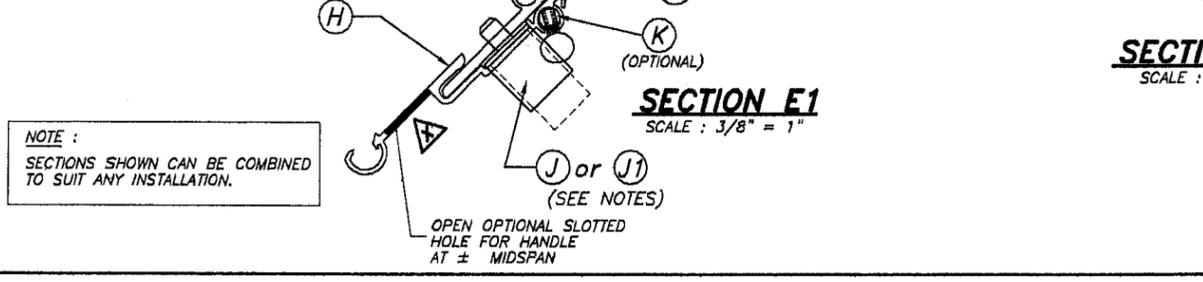
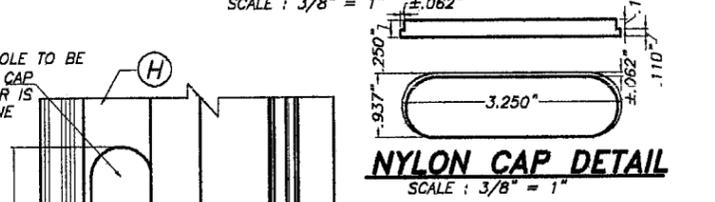
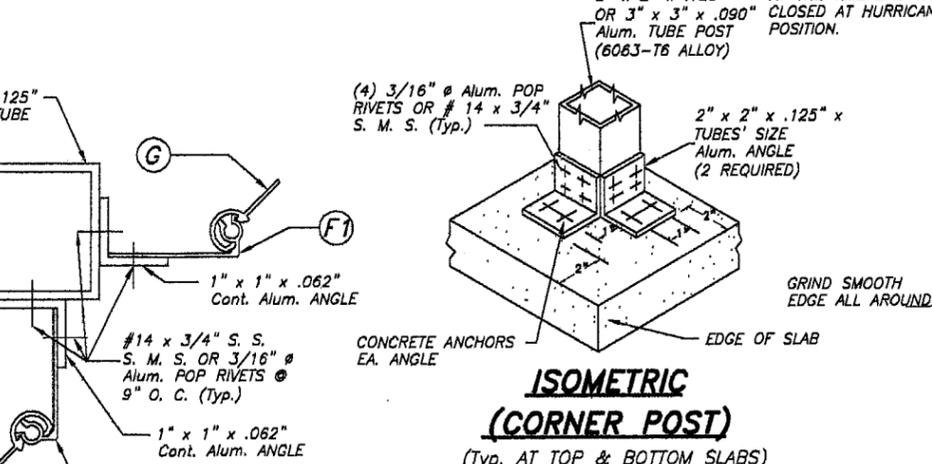
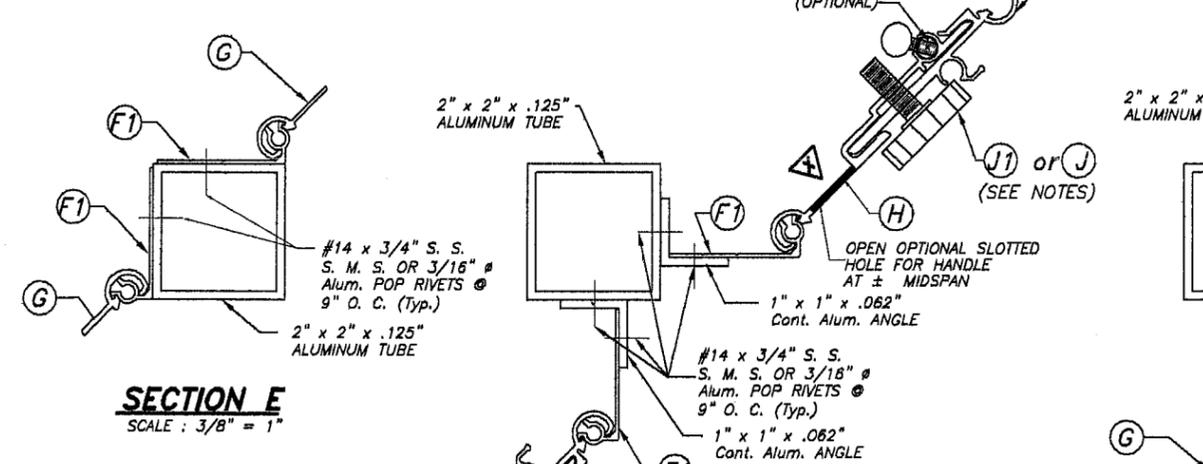
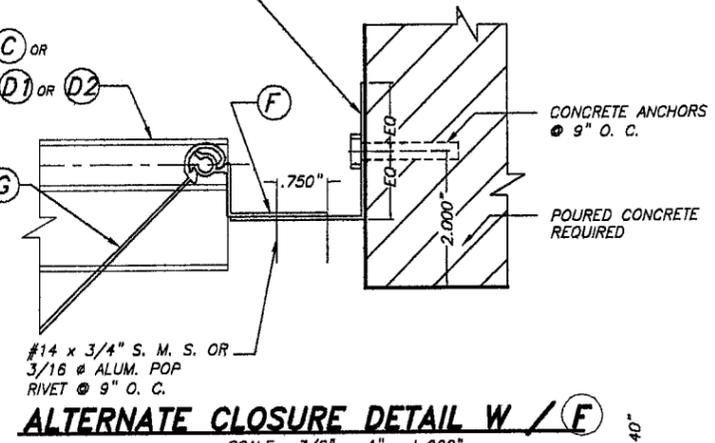
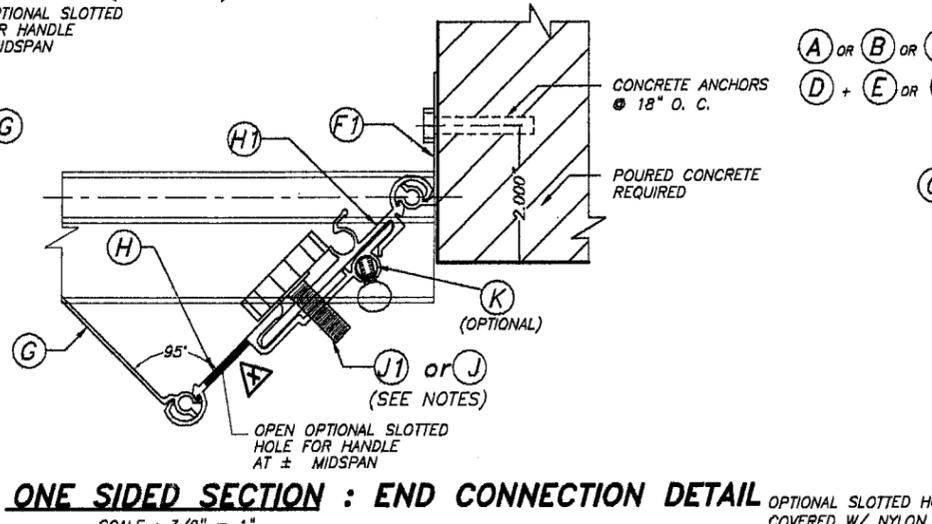
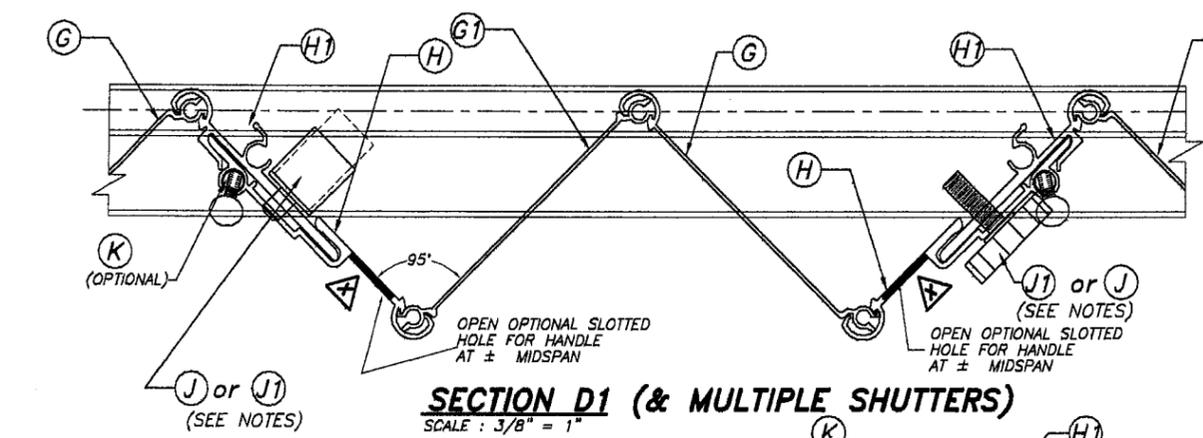


**NOTES FOR LOCKING OF (H) & (H1)**

1-PUSH BOTTOM LOCK (J) MAY BE USED FOR INSTALLATIONS SECURED FROM THE OUTSIDE OR INSIDE OF SHUTTER. WHEN INSTALLING (J) FROM THE OUTSIDE, A 7/8" HOLE SHALL BE DRILLED AT (H) AND (J) MUST BE RIVETED FROM THE BACK OF (H) TO THE FRONT W/ (2) 3/16" ALUM. POP RIVETS. A 3/8" HOLE MUST THEN BE DRILLED AT (H1) TO ALLOW FOR (J)'S PIN TO PASS THRU. WHEN INSTALLING (J) FROM THE INSIDE, (J) MUST BE RIVETED TO (H1) W/ (2) 3/16" ALUM. POP RIVETS. A 3/8" HOLE MUST THEN BE DRILLED THRU (H) AND (H1) TO ALLOW FOR (J)'S PIN TO PASS THRU.

2-5/16"x1" LOCK (J1) MAY BE USED ALTERNATIVELY TO (J) LOCK FOR INSTALLATIONS SECURED FROM THE OUTSIDE OR INSIDE OF SHUTTER. IN THIS CASE, A 5/16" HOLE SHALL BE DRILLED THRU (H) AND (H1). HOLE DRILLED TO (H1) SHALL BE TAPPED TO ACCEPT 18 THREADS PER INCH MACHINE SCREW.

1"x1" OR 1"x2" OR 1 1/2" x 1 1/2" OR 1 1/2" x 2" OR 2" x 2" OR 2" x 3" OR 2" x 4" OR 2" x 5" x .055" Min. THICK Alum. ANGLE



**NOTE:**  
SECTIONS SHOWN CAN BE COMBINED TO SUIT ANY INSTALLATION.

**PRODUCT REVISED**  
as complying with the Florida Building Code  
Acceptance No. 07-0619.10  
Expiration Date 04/05/2012  
By: *Helmut A. Miller*  
Miami District Product Control Division

F.B.C. (High Velocity Hurricane Zone)

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<b>TILECO INC.</b> TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 303, VIRGINIA GARDENS, FL 33168 Phone: (305) 871-1530 Fax: (305) 871-1531 EB-0006719 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167		<b>M &amp; F SHUTTERS CORP.</b> (H.P.M.A. # 12) 7975 N.W. 56 STREET DORAL, FLORIDA 33166 PH: (305) 597-6306 FAX: (305) 471-9540		06/08/07 DATE	
		07-156 DRAWING No		SHEET 4 OF 6	
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1	-	-	3	-	-
2	-	-	4	-	-

JUN 12 2007

**MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM SPAN "L" SCHEDULE.**

MAXIMUM DESIGN LOAD "W" (p.s.f.)	MAXIMUM SHUTTER SPAN FOR ALL SECTIONS		MINIMUM SEPARATION TO GLASS (in.) ALL SECTIONS
	Max. PANEL LENGTH L+ (ft.)	Max. PANEL LENGTH L- (ft.)	
40	13'-0"	14'-1"	3"
45	12'-8"	14'-1"	3"
50	12'-4"	14'-1"	3"
55	12'-0"	13'-5"	3"
60	11'-10"	12'-10"	3"
65	11'-6"	12'-4"	3"
70	11'-4"	11'-11"	3"
75	11'-2"	11'-6"	3"
80	11'-0"	11'-2"	3"
85	10'-9"	11'-0"	3"
90	10'-6"	10'-6"	3"
95	10'-2"	10'-3"	2 7/8"
100	9'-11"	9'-11"	2 7/8"
105	9'-9"	9'-8"	2 5/8"
110	9'-6"	9'-6"	2 1/2"
115	9'-3"	9'-3"	2 1/2"
120	9'-1"	9'-1"	2 1/2"
125	8'-10"	8'-10"	2 1/2"
130	8'-6"	8'-6"	2 3/8"
135	-----	8'-2"	2 3/8"
140	-----	7'-11"	2 3/8"
145	-----	7'-7"	2 3/8"
150	-----	7'-4"	2 3/8"
155	-----	7'-1"	2 3/8"
160	-----	6'-11"	2 3/8"
165	-----	6'-8"	2 3/8"
170	-----	6'-6"	2 3/8"
175	-----	6'-4"	2 3/8"
180	-----	6'-1"	2 3/8"
185	-----	5'-11"	2 3/8"
190	-----	5'-10"	2 3/8"
195	-----	5'-8"	2 3/8"

**NOTES:**

(1) L+: MAXIMUM ALLOWABLE PANEL LENGTH FOR A GIVEN POSITIVE DESIGN LOAD.  
 L-: MAX. ALLOWABLE PANEL LENGTH FOR A GIVEN NEGATIVE DESIGN LOAD.

(2) PROCEDURE TO DETERMINE MAXIMUM PANEL LENGTH FOR WALL MOUNTINGS OR FLOOR/CEILING:

GIVEN A POSITIVE DESIGN LOAD, DETERMINE MAXIMUM PANEL LENGTH "L+" FROM SCHEDULE.  
 GIVEN A NEGATIVE DESIGN LOAD, DETERMINE MAXIMUM PANEL LENGTH "L-" FROM SCHEDULE.

FINAL MAXIMUM ALLOWABLE PANEL LENGTH IS EQUAL TO THE MINIMUM DETERMINED PANEL LENGTH BETWEEN "L+" AND "L-".

**MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. +**  
 (VALID FOR SECTION A ON SHEET 2).

MAXIMUM DESIGN LOAD "W" (p.s.f.)	WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)				WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO MASONRY)			
	SHUTTER SPAN				SHUTTER SPAN			
	5'-0" OR LESS	5'-0" TO 8'-6"	8'-6" TO 10'-0"	10'-0" TO MAX. ALLOWED	5'-0" OR LESS	5'-0" TO 8'-6"	8'-6" TO 10'-0"	10'-0" TO MAX. ALLOWED
FROM 40.0 TO 60.0	9	9	9	7	9	7	4	-
	9	9	9	5.5	9	8	4.5	-
	9	9	9	7.5	9	9	6.5	3.5
FROM >60.0 TO 75.0	9	9	7.5	5.5	9	3.5	-	-
	9	8.5	6	4.5	9	4	-	-
	9	9	8	6	9	5.5	4	3
FROM >75.0 TO 90.0	9	7	5	5	9	-	-	-
	9	5.5	4	4	9	-	-	-
	9	7.5	5.5	5	9	3.5	-	-
FROM >90.0 TO 120.0	9	4	3.5	-	4	-	-	-
	9	3.5	3	-	4.5	-	-	-
	9	4.5	4	-	6.5	-	-	-
FROM >120.0 TO 170.0	6	3.5	3.5	-	-	-	-	-
	4.5	3	3	-	-	-	-	-
	6.5	4	4	-	3	-	-	-
FROM >170.0 TO 195.0	4.5	3.5	-	-	-	-	-	-
	3.5	3	-	-	-	-	-	-
	5	4	-	-	-	-	-	-

**MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. +**  
 (VALID FOR SECTIONS C1 ON SHEET 3).

MAXIMUM DESIGN LOAD "W" (p.s.f.)	WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO MASONRY)		
	SHUTTER SPAN			SHUTTER SPAN		
	5'-0" OR LESS	5'-0" TO 8'-6"	8'-6" TO MAX. ALLOWED	5'-0" OR LESS	5'-0" TO 8'-6"	8'-6" TO MAX. ALLOWED
FROM 40.0 TO 60.0	9	9	9	9	9	5
	9	9	9	9	9	5.5
	9	9	9	9	9	8
FROM >60.0 TO 75.0	9	9	9	9	7	4
	9	9	9	9	8	4.5
	9	9	9	9	9	6
FROM >75.0 TO 90.0	9	9	9	9	5	3
	9	9	8	9	5.5	3.5
	9	9	9	9	8	5
FROM >90.0 TO 120.0	9	8.5	7.5	7.5	3	-
	9	7	6	8.5	3	3
	9	9	8.5	9	4.5	4
FROM >120.0 TO 170.0	9	7.5	7.5	4	-	-
	9	6	6	4.5	-	-
	9	8	8	6.5	4	4
FROM >170.0 TO 195.0	9	7.5	-	3	-	-
	7.5	6	-	3.5	-	-
	9	8	-	5	4	-

**MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. +**  
 (VALID FOR SECTIONS B, B1, B2 ON SHEET 2).

MAXIMUM DESIGN LOAD "W" (p.s.f.)	FLOOR/CEILING MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)		
	SHUTTER SPAN		
	5'-0" OR LESS	5'-0" TO 8'-6"	8'-6" TO MAX. ALLOWED
FROM 40.0 TO 60.0	6	6	6.5
	6	6	5.5
	6	6	6
FROM >60.0 TO 75.0	6	6	5.5
	6	6	4.5
	6	6	6
FROM >75.0 TO 90.0	6	6	5
	6	5.5	4.5
	6	6	6
FROM >90.0 TO 120.0	6	4.5	4.5
	6	4	3.5
	6	6	6
FROM >120.0 TO 170.0	5.5	4.5	4.5
	5	3.5	3.5
	6	6	6
FROM >170.0 TO 195.0	5	4.5	-
	4	3.5	-
	6	6	-

**MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. +**  
 (VALID FOR SECTION C ON SHEET 3).

MAXIMUM DESIGN LOAD "W" (p.s.f.)	WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO MASONRY)		
	SHUTTER SPAN			SHUTTER SPAN		
	5'-0" OR LESS	5'-0" TO 8'-6"	8'-6" TO MAX. ALLOWED	5'-0" OR LESS	5'-0" TO 8'-6"	8'-6" TO MAX. ALLOWED
FROM 40.0 TO 60.0	6	6	6	6	6	6
	6	6	6	6	6	6
	6	6	6	6	6	6
FROM >60.0 TO 75.0	6	6	6	6	6	5
	6	6	6	6	6	6
	6	6	6	6	6	6
FROM >75.0 TO 90.0	6	6	6	6	6	4.5
	6	6	6	6	6	5.5
	6	6	6	6	6	6
FROM >90.0 TO 120.0	6	6	6	6	4.5	4
	6	6	6	6	5	4.5
	6	6	6	6	6	6
FROM >120.0 TO 170.0	6	6	-	5.5	4	4
	6	6	-	6	4.5	4.5
	6	6	-	6	6	6
FROM >170.0 TO 195.0	6	6	-	4.5	4	-
	6	6	-	5	4.5	-
	6	6	-	6	6	-

**ANCHORS LEGEND**

ANCHORS TYPE	MINIMUM ANCHOR SPACING
TAPCON OR MAXI-SET TAPCONS 3192 psi. (MIN.) CONCRETE	3.0"
CALK-IN 3000 psi. (MIN.) CONCRETE	2.5"
CRETE-FLEX SS4 3350 psi. (MIN.) CONCRETE	3.0"

TAPCON OR MAXI-SET TAPCONS
CALK-IN
CRETE-FLEX SS4

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 Acceptance No. 07-0619.10  
 Expiration Date 04/05/2012  
 By *Helmut A. Miller*  
 Florida Department of Building & Safety  
 Division

F.B.C. (High Velocity Hurricane Zone)

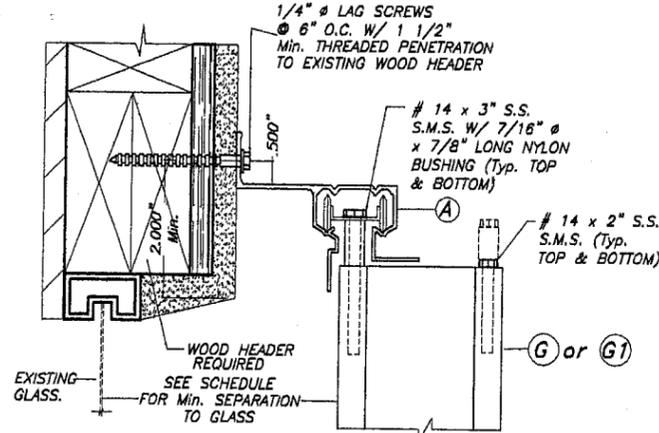
© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION

**TILECO Inc.**

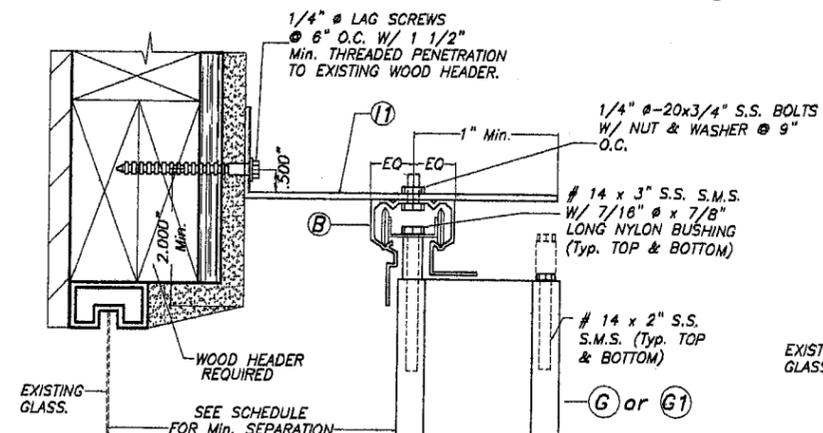
TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33188  
 Phone: (305)871-1530 Fax: (305)871-1531  
 EB-0006719  
 WALTER A. TILLIT, Jr., P. E.  
 FLORIDA Lic. # 44167

PERFORMANCE SYSTEM 2 ACCORDION SHUTTER						DRAWN BY:
<b>M &amp; F SHUTTERS CORP.</b> (H.P.M.A. # 12) 7975 N.W. 56 STREET DORAL, FLORIDA 33166 PH: (305) 597-6308 FAX: (305) 471-9540						F.P.
						06/08/07 DATE
						07-156
						DRAWING No
						SHEET 5 OF 6
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	
1	-	-	3	-	-	
2	-	-	4	-	-	

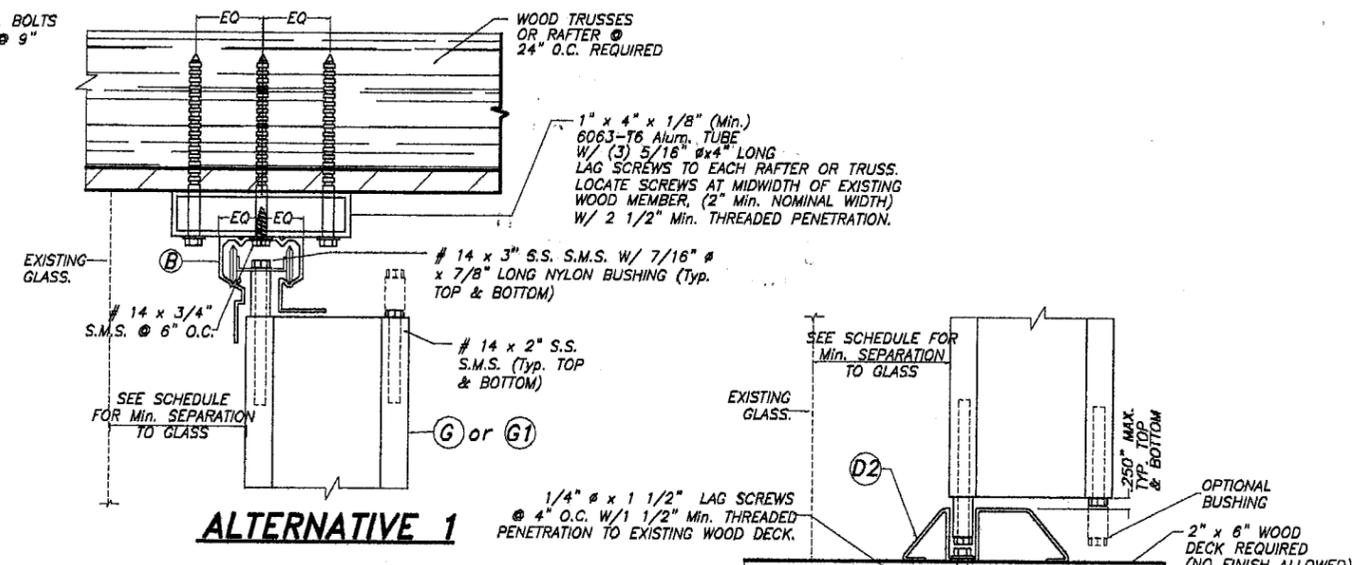
JUN 12 2007



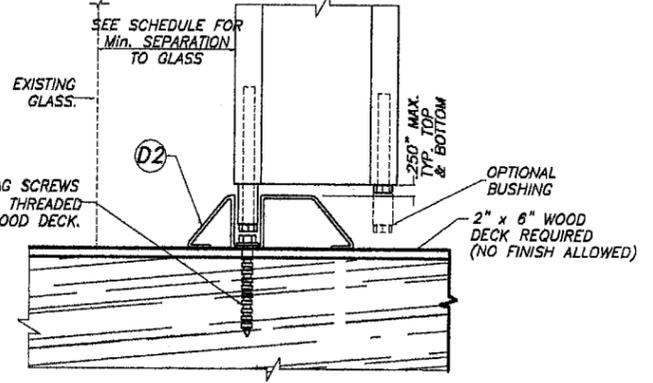
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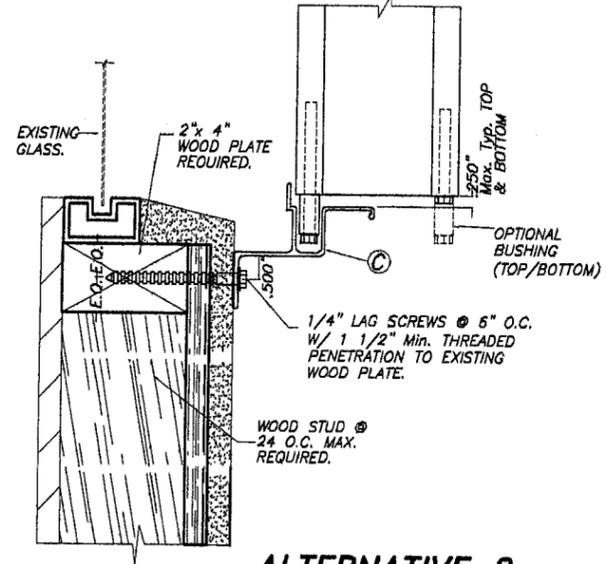
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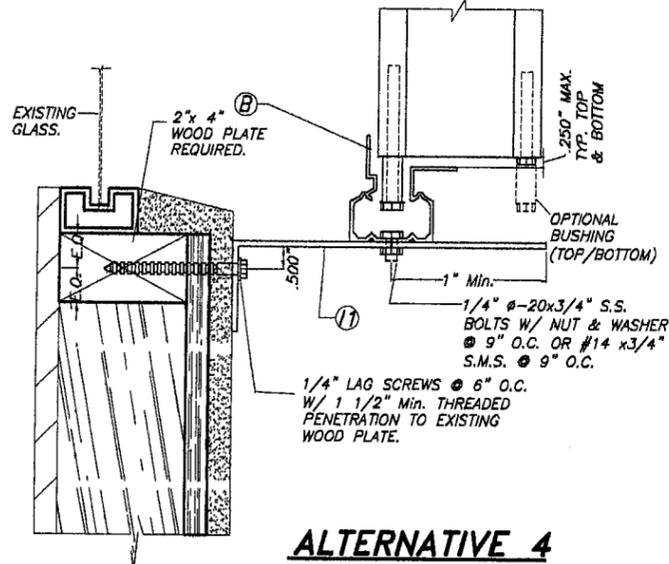
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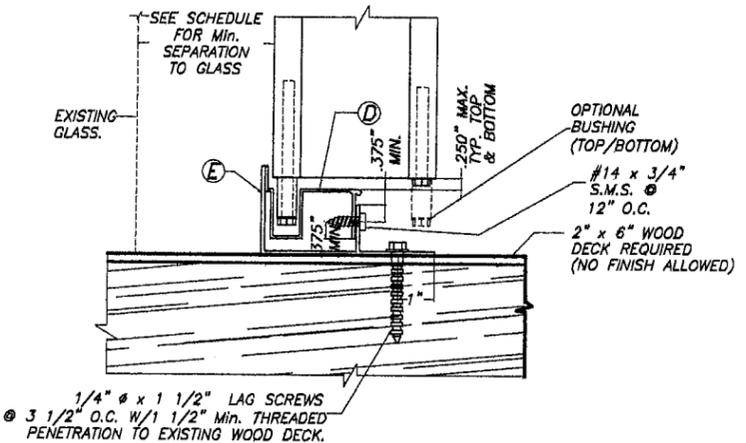
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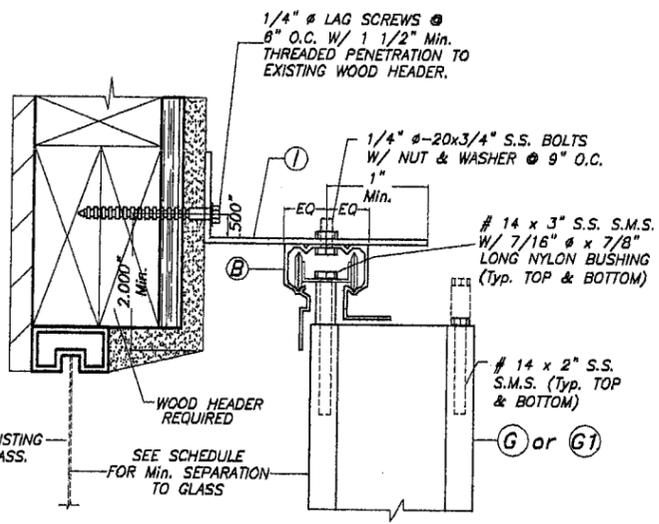
**ALTERNATIVE 2**



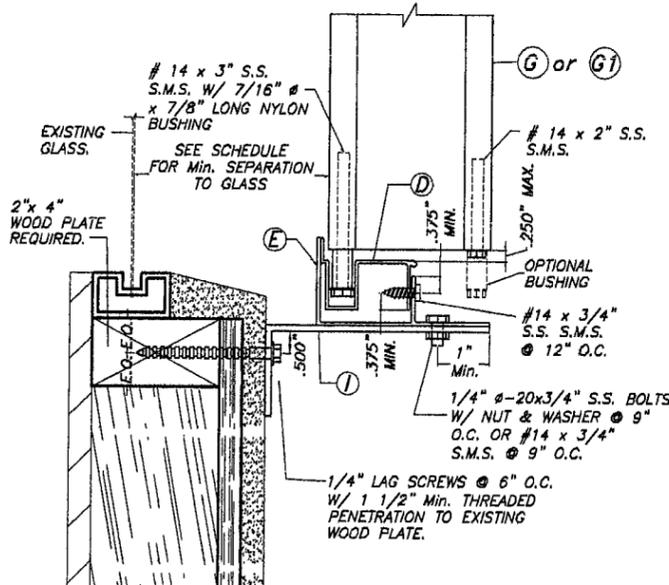
**ALTERNATIVE 4**



**ALTERNATIVE 2**



**ALTERNATIVE 5**



**ALTERNATIVE 6**

**WALL MOUNTING INSTALLATION (OFFSET)**  
**SECTIONS B**  
SCALE: 1/4"=1"

**NOTE:**  
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

- NOTES:**
- INSTALLATIONS ARE ONLY VALID FOR INSTALLATIONS WITH DESIGN WIND LOADS LESS THAN OR EQUAL TO 75 p.s.f. AND 9'-0" Max. SHUTTER SPAN.
  - FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

**PRODUCT REVISED**  
as complying with the Florida Building Code  
Acceptance No. 07-0619.10  
Expiration Date 04/05/2012  
By: *Heather A. Blaker*  
Miami Code Product Control Division

**WALL MOUNTING INSTALLATION (OFFSET)**  
**SECTIONS A**  
SCALE: 1/4"=1"  
**INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS**

JUN 12 2007

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<p><b>TILECO INC.</b> TILLIT TESTING &amp; ENGINEERING COMPANY 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL 33188 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT, Jr., P. E. FLORIDA Lic. # 44167</p>		<p><b>M &amp; F SHUTTERS CORP.</b> (H.P.M.A. # 12) 7975 N.W. 56 STREET DORAL, FLORIDA 33166 PH: (305) 597-6306 FAX: (305) 471-9540</p>		DATE 06/08/07	
				DRAWING No 07-156	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1			3		
2			4		
					SHEET 6 OF 6

F.B.C. (High Velocity Hurricane Zone)