



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

NOTICE OF ACCEPTANCE (NOA)

www.miamidade.gov

Millennium Hurricane Shutters and Windows, LLC
1649 S.W. 1st Way (Bay #3)
Deerfield Beach, Florida 33441

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. 07-205, titled "Performance System 2 Accordion Shutter", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated August 07, 2007, signed and sealed by Walter A. Tillit Jr., P.E. bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control 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 #06-804.04 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
10/15/2007

NOA No. 07-0816.04
Expiration Date: 10/16/2011
Approval Date: 10/15/2007

Millennium Hurricane Shutters and Windows, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #06-0804.04

A. DRAWINGS

1. *Drawing No. 06-104, titled " Performance System 1 Accordion Shutter ", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated May 04, 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.*

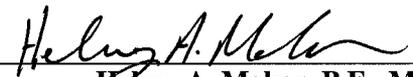
F. STATEMENTS

1. *Release letter issued by the Hurricane Protection Manufacturers Association, dated April 18, 2006, certifying this product to meet the criteria of product tested and approved, and allowing Millennium Hurricane Shutters and Windows, LLC to use the test results approved under Miami- Dade County Approval No. 05-0323, signed by Mr. Jeffrey T. Robinson.*
2. *Acknowledgment letter by Millennium Hurricane Shutters and Windows, LLC, dated June 16, 2006, signed by Mr. Dan Avrahami.*
3. *Letter by Tilteco, Inc., dated July 17, 2006, certifying that the drawing (No. 06-104) prepared for Millennium Hurricane Shutters and Windows, LLC, signed and sealed by Walter A. Tillit Jr., P.E., is engineering wise identical to Hurricane Protection Manufacturers Association, Inc. generic drawing (No. 05-118).*
4. *Acceptance Letter issued to Mr. Dan Avrahami on October 15, 2006, and returned signed by Mr. Dan Avrahami on October 16, 2006, indicating to please issue the proposed Notice of Acceptance as submitted and reviewed.*

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 07-205, titled " Performance System 2 Accordion Shutter ", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated August 07, 2007, signed and sealed by Walter A. Tillit Jr., P.E.*



Helmy A. Makar, P.E., M.S.

Product Control Examiner

NOA No. 07-0816.04

Expiration Date: 10/16/2011

Approval Date: 10/15/2007

Millennium Hurricane Shutters and Windows, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

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

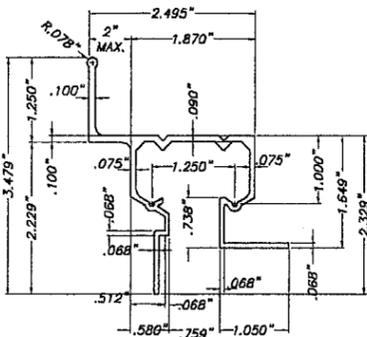
1. *See Association's generic approval under 07-2513.*

F. STATEMENTS

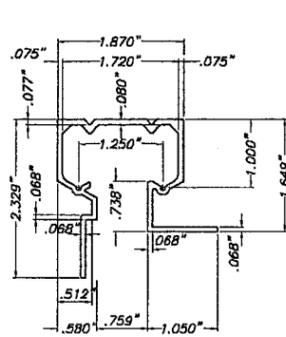
1. *Release letter issued by the Hurricane Protection Manufacturers Association, dated July 18, 2007, certifying this product to meet the criteria of product tested and approved, and allowing Millennium Hurricane Shutters and Windows, LLC to use the test results approved under Miami- Dade County Approval No. 07-2513, signed by Mr. Enrique Revilla.*
2. *Acknowledgment letter by Millennium Hurricane Shutters and Windows, LLC, dated July 18, 2007, signed by Mr. Dan Avrahami.*
3. *Letter by Tilteco, Inc., dated August 09, 2007, certifying that the drawing (No. 07-205) prepared for Millennium Hurricane Shutters and Windows, LLC, signed and sealed by Walter A. Tillit Jr., P.E., is engineering wise identical to Hurricane Protection Manufacturers Association, Inc. generic drawing (No. 06-219).*
4. *Acceptance Letter issued to Mr. Dan Avrahami on October 14, 2007, and returned signed by Mr. Dan Avrahami on October 15, 2007, indicating to please issue the proposed Notice of Acceptance as submitted and reviewed.*



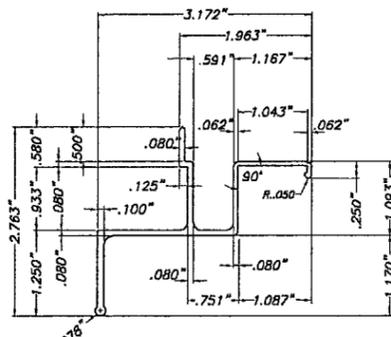
Helmy A. Makar, P.E., M.S.
Product Control Examiner
NOA No. 07-0816.04
Expiration Date: 10/16/2011
Approval Date: 10/15/2007



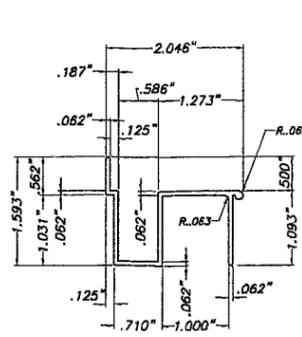
(A) WALL HEADER (& INVERTED)
SCALE: 3/8" = 1"



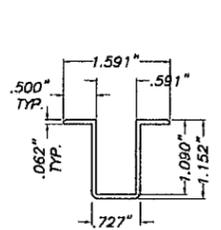
(B) CEILING HEADER
SCALE: 3/8" = 1"



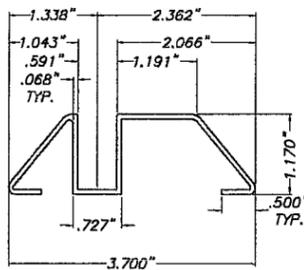
(C) WALL SILL
SCALE: 3/8" = 1"



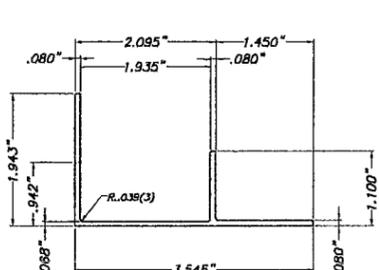
(D) FLOOR SILL
SCALE: 3/8" = 1"



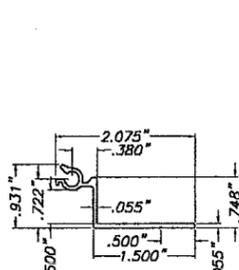
(D1) FLOOR SILL
SCALE: 3/8" = 1"



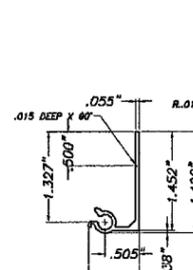
(D2) THRESHOLD TRACK
SCALE: 3/8" = 1"



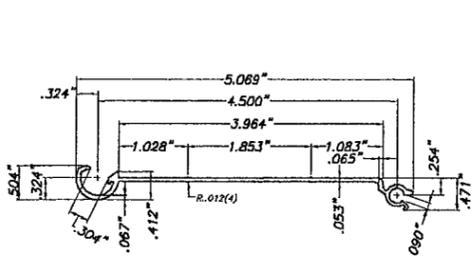
(E) ADJUSTABLE SILL ADAPTOR
SCALE: 3/8" = 1"



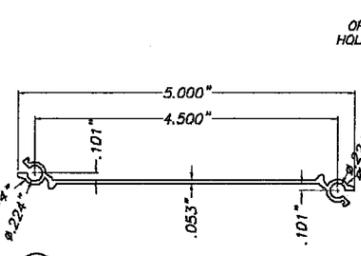
(F) 90° STARTER
SCALE: 3/8" = 1"



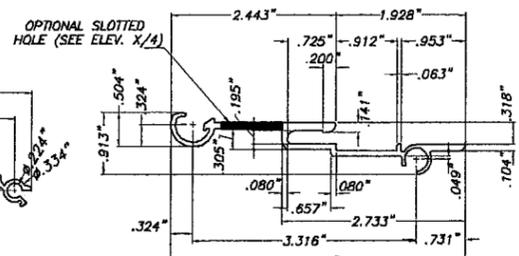
(F1) 180° MALE STARTER
SCALE: 3/8" = 1"



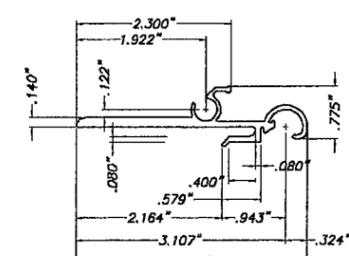
(G) MALE/FEMALE BLADE
SCALE: 3/8" = 1"



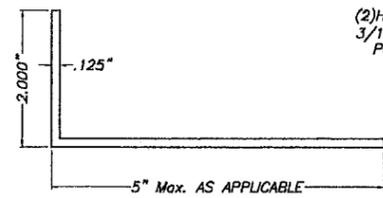
(G1) MALE/MALE BLADE
SCALE: 3/8" = 1"



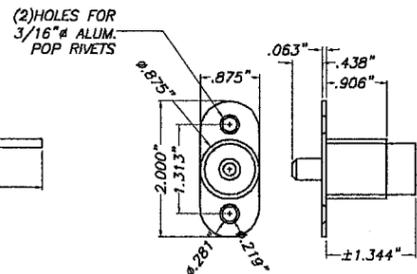
(H) FEMALE CENTERMATE BLADE
SCALE: 3/8" = 1"



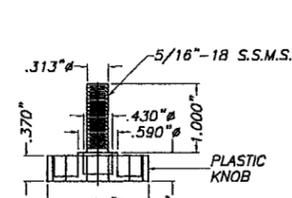
(H1) MALE CENTERMATE BLADE
SCALE: 3/8" = 1"



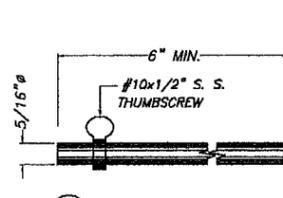
(I) ALUMINUM ANGLE
SCALE: 3/8" = 1"



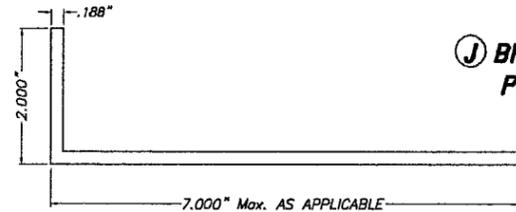
(J) BRASS NICKEL PLATED PUSH BUTTON LOCK



(J1) 5/16" x 1" S.S.M.S. W/PLASTIC KNOB LOCK



(K) LOCKING PIN (OPTIONAL)
SCALE: 3/8" = 1"



(I1) ALUMINUM ANGLE
SCALE: 3/8" = 1"

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. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1620 OF THE ABOVE MENTIONED CODE. 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 1.60 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" Ø TAPCON OR 1/4"Ø MAXI-SET TAPCON, AS MANUFACTURED BY I.T.W. BUILDEX.
 - 1/4" Ø CRETE FLEX SS4 ANCHORS, AS MANUFACTURED BY ELCO TEXTRON.
 - 1/4" Ø 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" Ø-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" Ø TAPCON OR 1/4"Ø MAXI-SET TAPCON, AS MANUFACTURED BY I.T.W. BUILDEX.

- 1/4" Ø CRETE FLEX SS4 ANCHORS, AS MANUFACTURED BY ELCO TEXTRON.

- 1/4" Ø 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" Ø-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 (H)).

ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABEL SHALL READ AS FOLLOWS:

"PERFORMANCE SYSTEM 2 ACCORDION SHUTTER"
MILLENNIUM HURRICANE SHUTTERS & WINDOWS
DEERFIELD BEACH, 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.

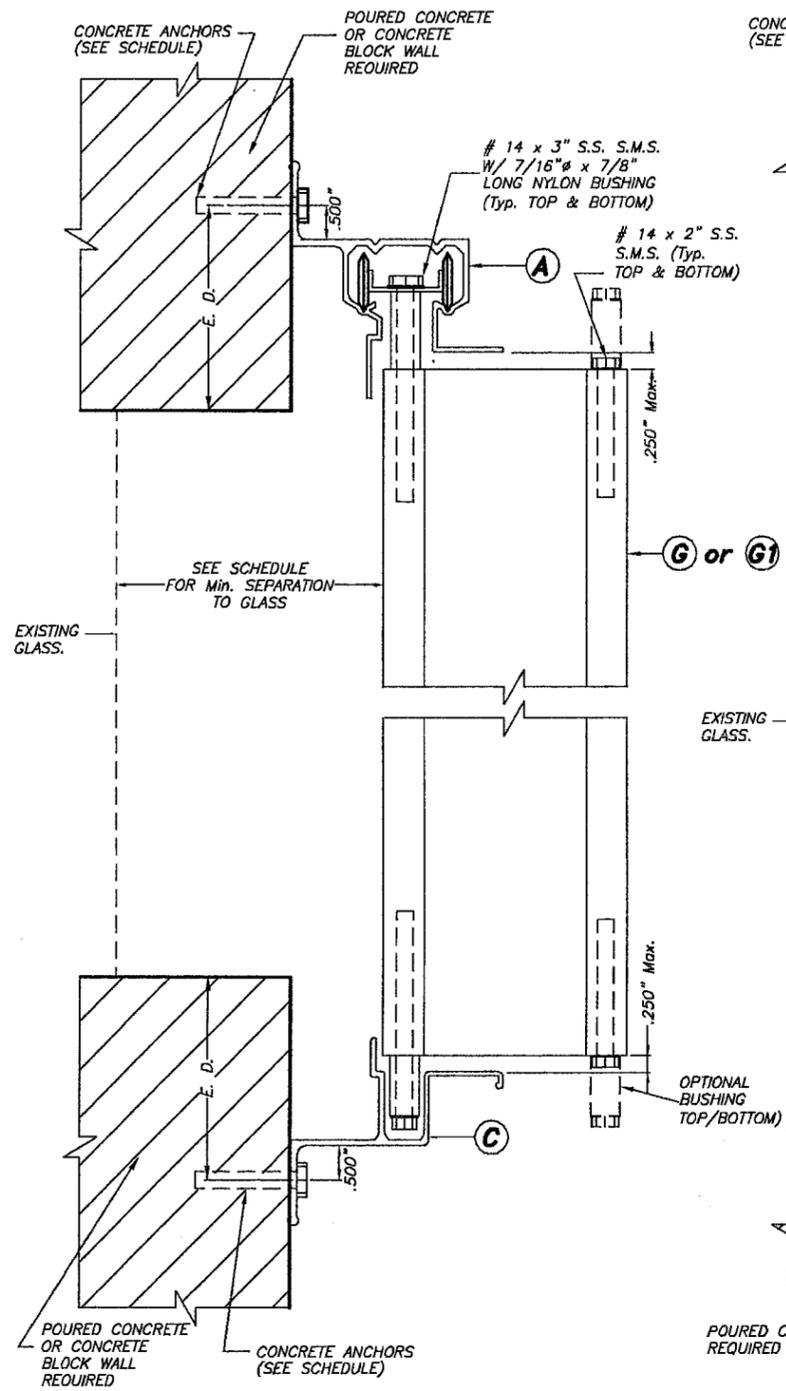
(e) THIS P.A.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER THAT PREPARED IT.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 07-0816.04
Expiration Date 10/16/2011
By *Helmut A. Melzer*
Miami Dade Product Control
Division

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

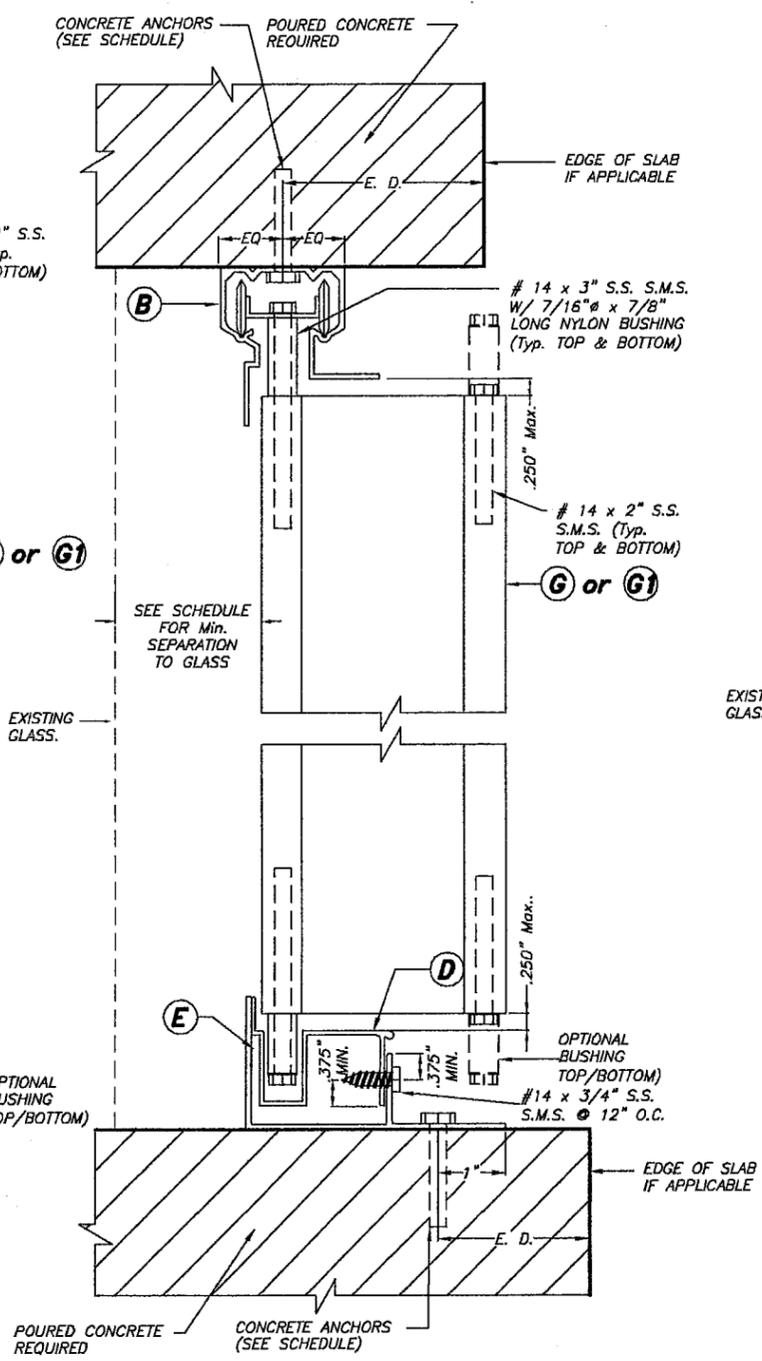
© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION		PERFORMANCE SYSTEM 2 ACCORDION SHUTTER		DRAWN BY: F.P.	
 TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33416 Phone: (305)871-1530 - Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167		MILLENNIUM HURRICANE SHUTTERS & WINDOWS (H.P.M.A. # 11) 1649 S.W. 1 WAY # 3 DEERFIELD BEACH, FL 33441 PH: (954) 725-6175 FAX: (954) 725-6176		08/07/07 DATE	
				07-205 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

AUG 09 2007



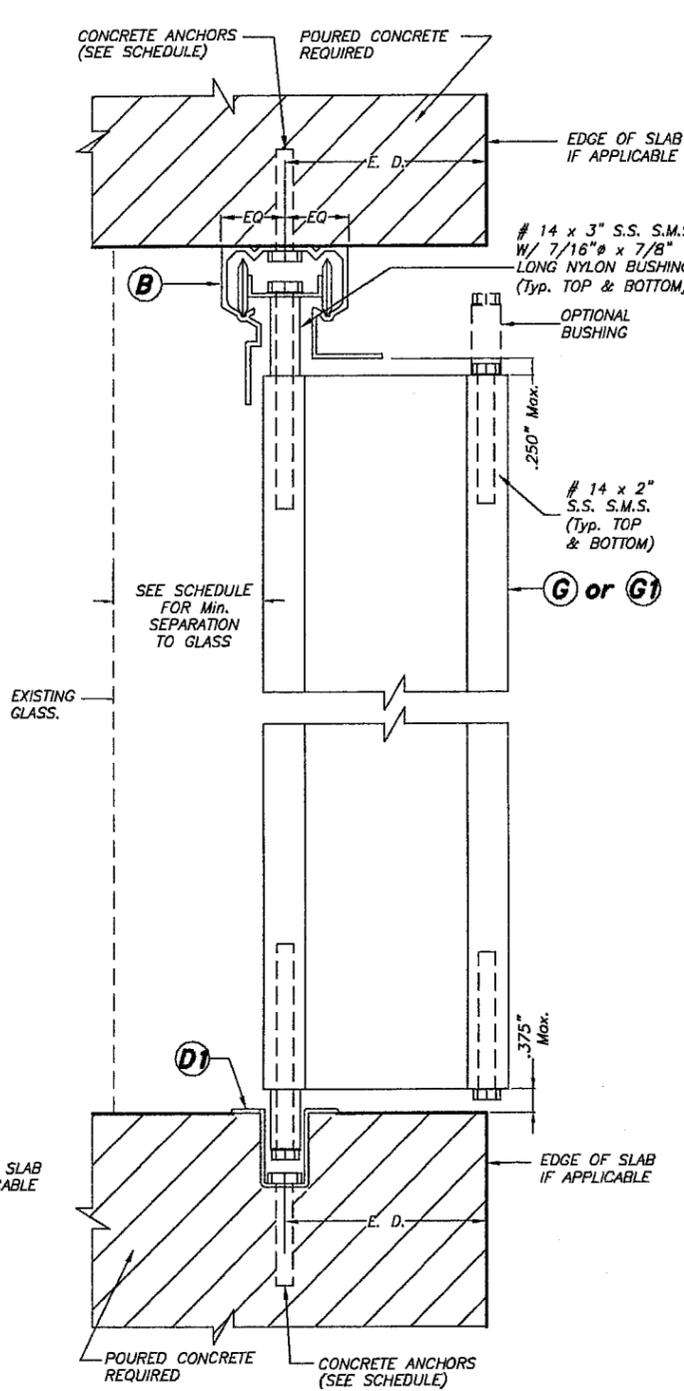
**WALL MOUNTING
INSTALLATION
SECTION A**

SCALE : 3/8" = 1"



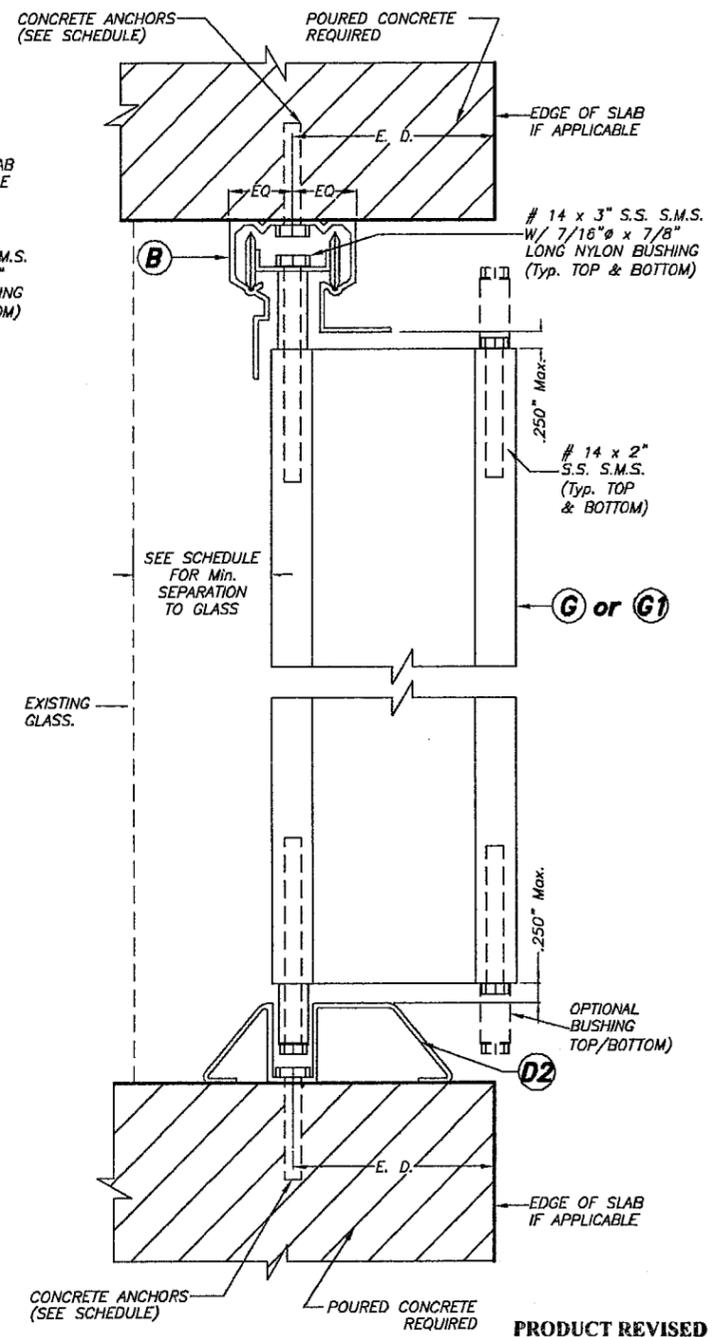
**CEILING & FLOOR
MOUNTING INSTALLATION
SECTION B**

SCALE : 3/8" = 1"



**CEILING & FLOOR
MOUNTING INSTALLATION
SECTION B1**

SCALE : 3/8" = 1"



**CEILING & FLOOR
MOUNTING INSTALLATION
SECTION B2**

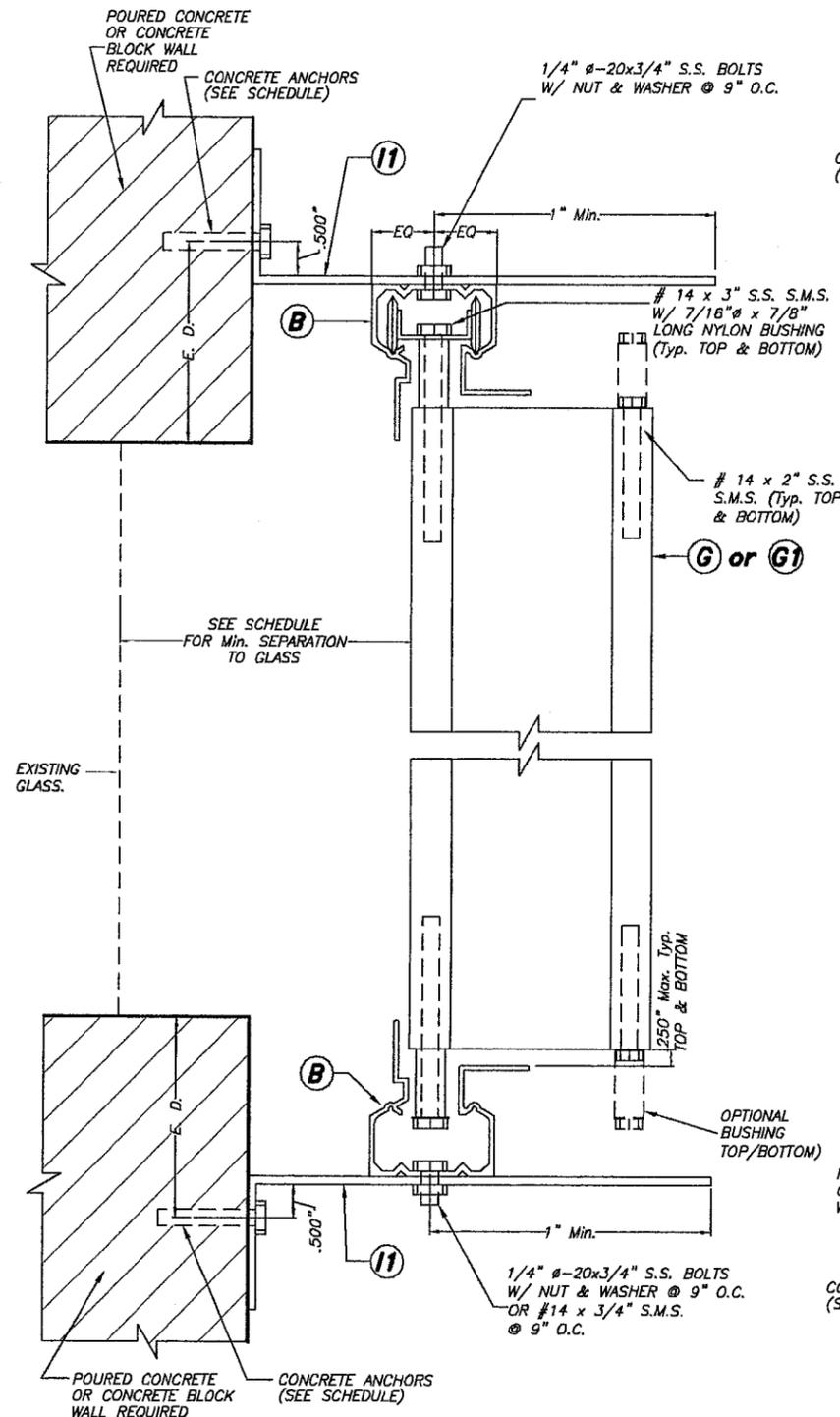
SCALE : 3/8" = 1"

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 07-0816.04
Expiration Date 10/16/2011
By *Healy A. Mel...*
Miami Code Product Control
Division

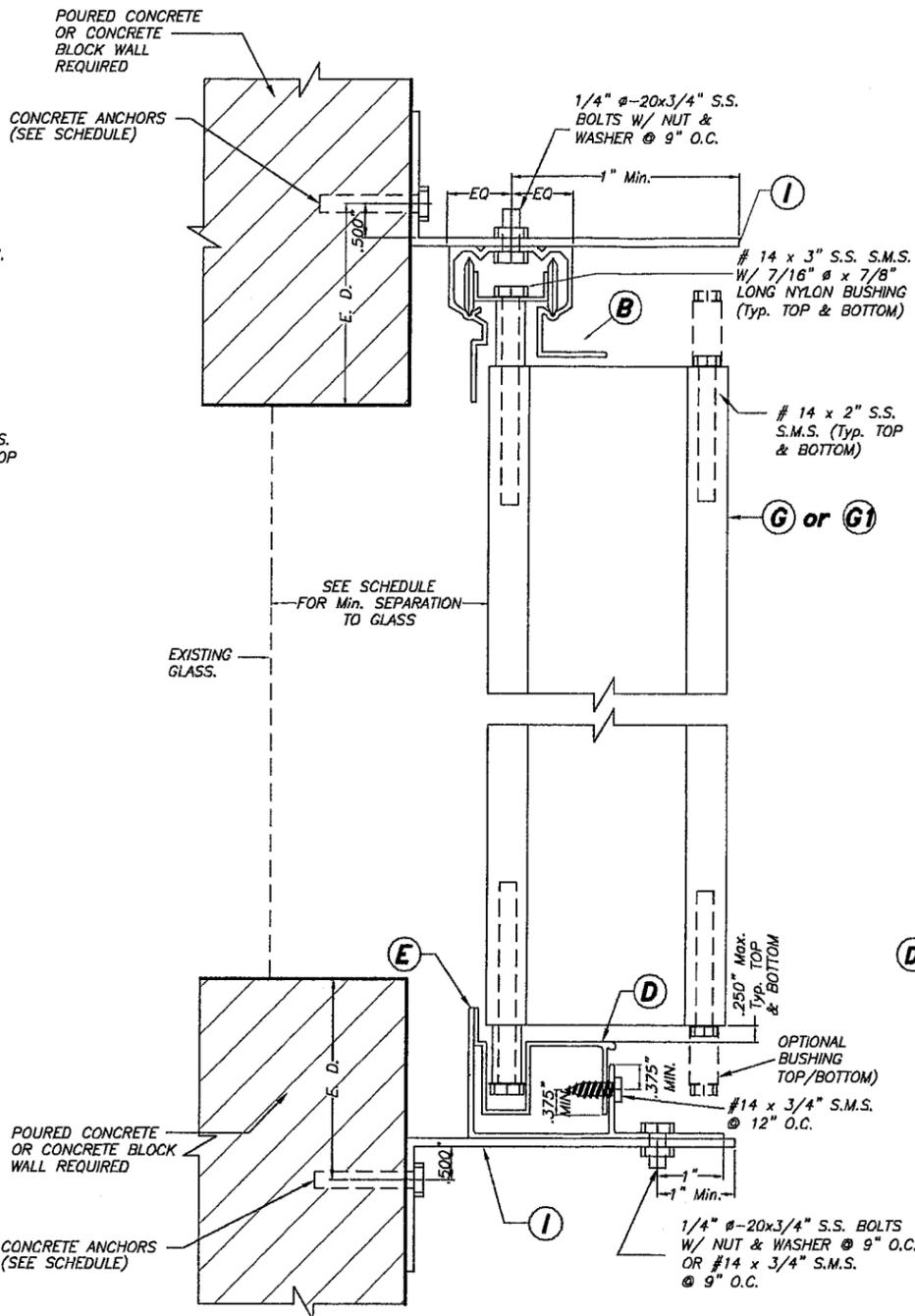
F.B.C. (High Velocity Hurricane Zone)

© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION		PERFORMANCE SYSTEM 2 ACCORDION SHUTTER		DRAWN BY: F.P.	
 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		MILLENNIUM HURRICANE SHUTTERS & WINDOWS (H.P.M.A. # 11) 1649 S.W. 1 WAY # 3 DEERFIELD BEACH, FL 33441 PH: (954) 725-6175 FAX: (954) 725-6176		08/07/07 DATE	
		1 2		07-205 DRAWING No	
				SHEET 2 OF 6	

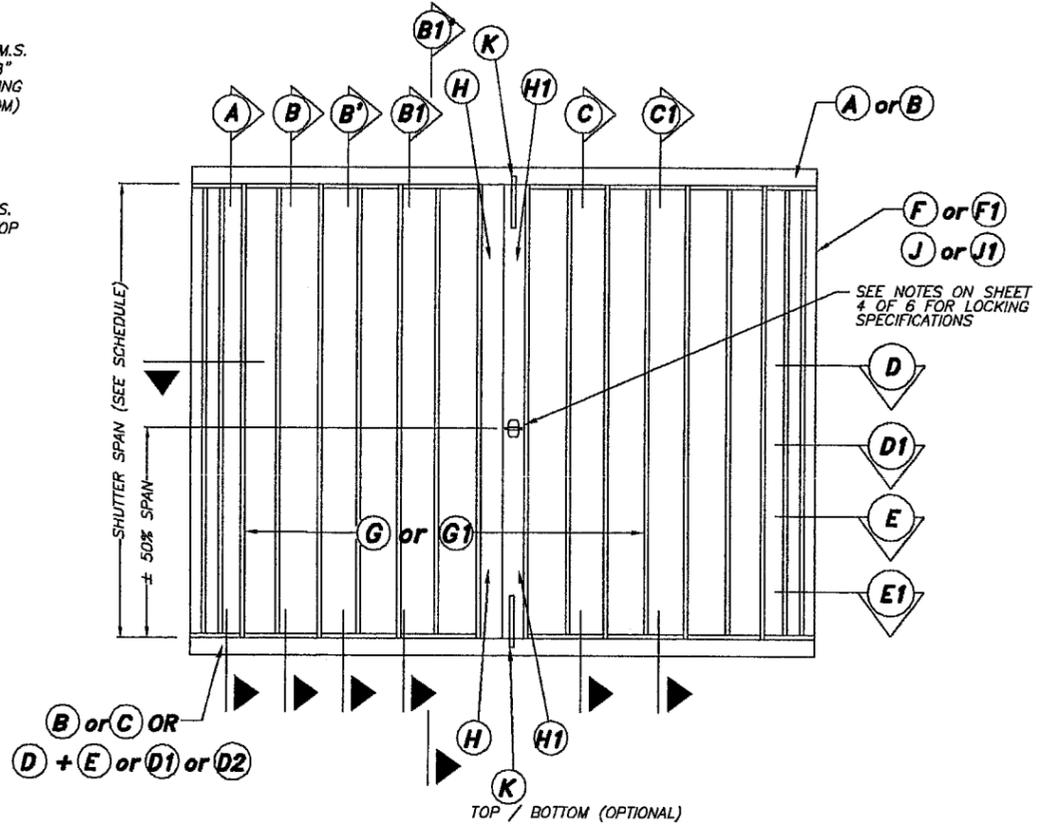
AUG 09 2007



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
 Building Code
 Acceptance No. 07-0816.04
 Expiration Date 10/16/2011
 By *Helmut A. Meier*
 Miami Dade Product Control
 Division

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

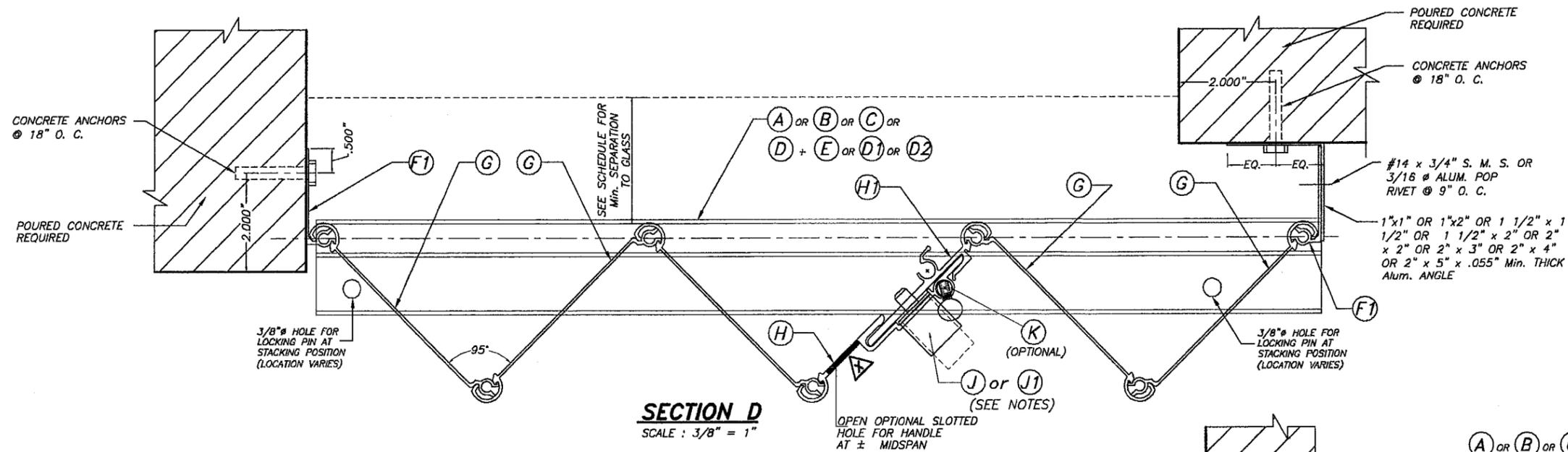
© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION

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: F.P.			
MILLENUM HURRICANE SHUTTERS & WINDOWS (H.P.M.A. # 11) 1649 S.W. 1 WAY # 3 DEERFIELD BEACH, FL 33441 PH: (954) 725-6175 FAX: (954) 725-6176		08/07/07 DATE			
		07-205			
		DRAWING No			
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-
		SHEET 3 OF 6			

AUG 09 2007



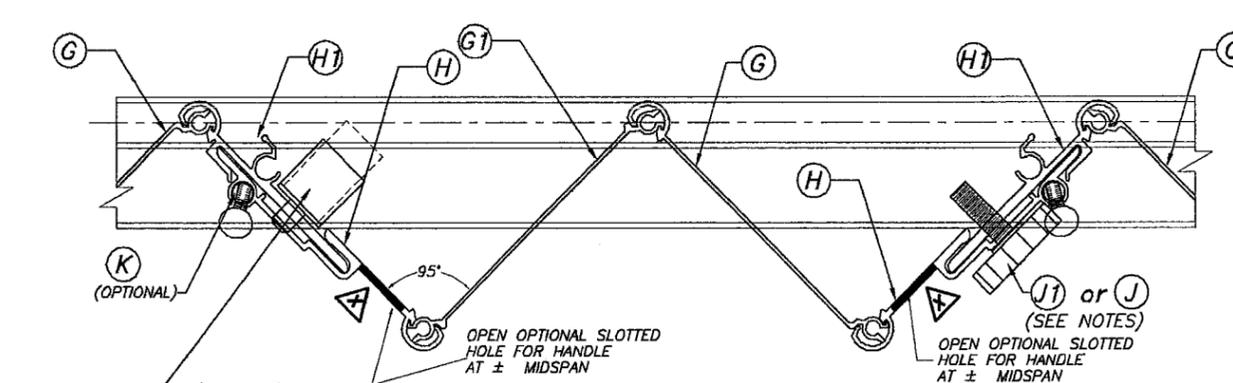
SECTION D
SCALE: 3/8" = 1"

NOTES FOR LOCKING OF (H) & (H1)

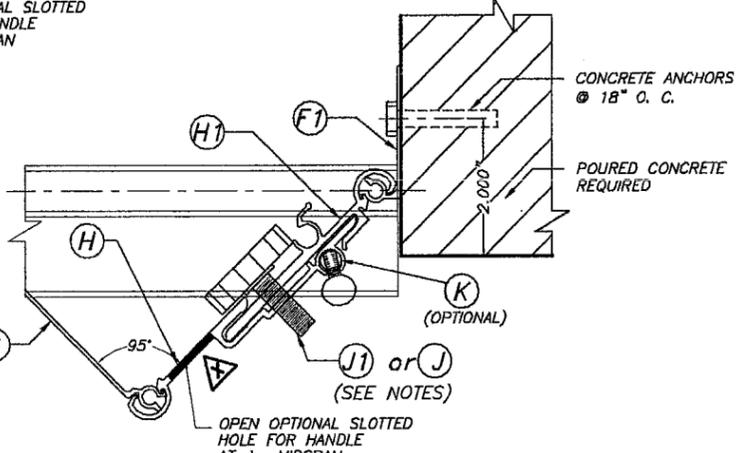
1-PUSH BOTTOM LOCK (J) MAY BE USED FOR INSTALLATIONS SECURED FROM THE OUTSIDE OR INSIDE OF SHUTTER. WHEN INSTALLING (J) FROM THE OUTSIDE, A 7/8" Ø HOLE SHALL BE DRILLED AT (H) AND (J) MUST BE RIVETED FROM THE BACK OF (H) TO THE FRONT W/ (2) 3/16" Ø ALUM. POP RIVETS. A 3/8" Ø HOLE MUST THEN BE DRILLED 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" Ø ALUM. POP RIVETS. A 3/8" Ø 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 ALTERNATELY TO (J) LOCK FOR INSTALLATIONS SECURED FROM THE OUTSIDE OR INSIDE OF SHUTTER. IN THIS CASE, A 5/16" Ø HOLE SHALL BE DRILLED THRU (H) AND (H1). HOLE DRILLED TO (H) SHALL BE TAPPED TO ACCEPT 18 THREADS PER INCH MACHINE SCREW.

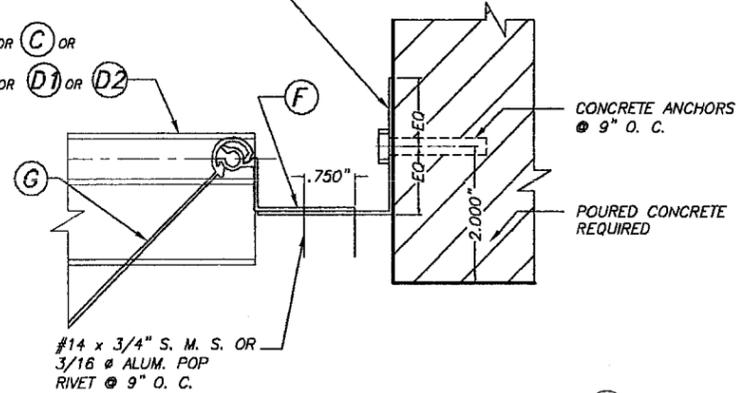
1"x1" OR 1"x2" OR 1 1/2" x 1 1/2" OR 1 1/2" x 2" OR 2" x 2" OR 2" x 3" OR 2" x 4" OR 2" x 5" x .055" Min. THICK Alum. ANGLE



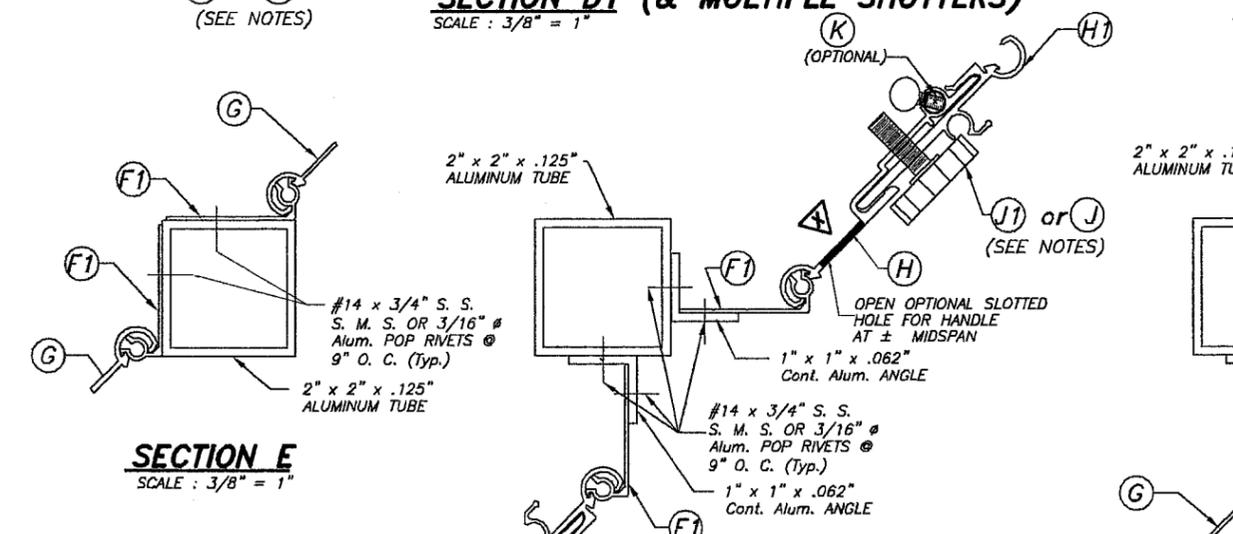
SECTION D1 (& MULTIPLE SHUTTERS)
SCALE: 3/8" = 1"



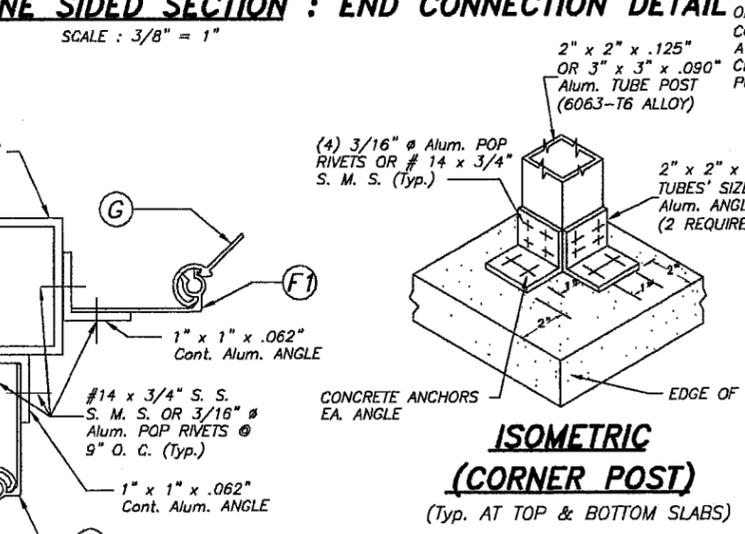
ONE SIDED SECTION: END CONNECTION DETAIL
SCALE: 3/8" = 1"



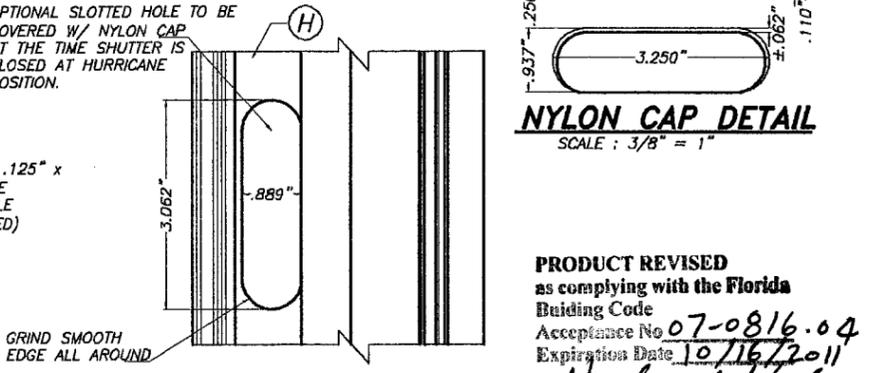
ALTERNATE CLOSURE DETAIL W / (F)
SCALE: 3/8" = 1"



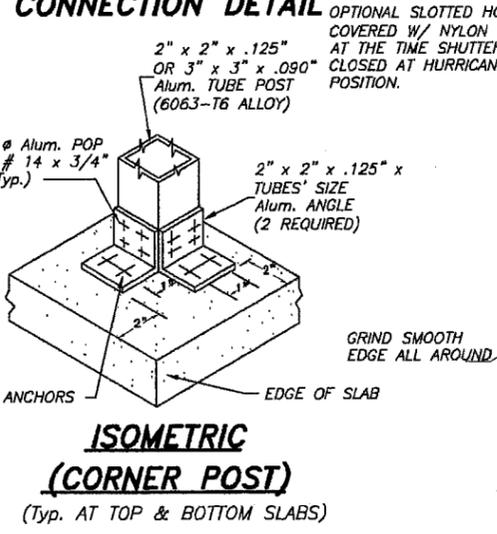
SECTION E
SCALE: 3/8" = 1"



SECTION E2
SCALE: 3/8" = 1"



NYLON CAP DETAIL
SCALE: 3/8" = 1"



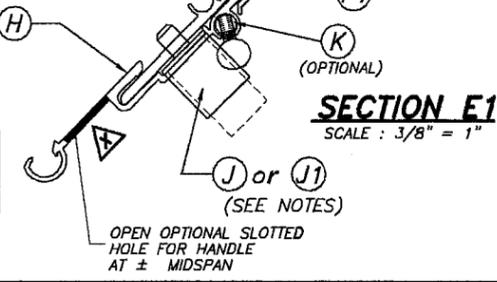
ISOMETRIC (CORNER POST)
(Typ. AT TOP & BOTTOM SLABS)

ELEVATION X

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 07-0816.04
Expiration Date 10/16/2011
By *Helmut A. Miller*
Miami Dade Product Control Division

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

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



SECTION E1
SCALE: 3/8" = 1"

© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION		PERFORMANCE SYSTEM 2 ACCORDION SHUTTER		DRAWN BY: F.P.	
<p>TILECO Inc. 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</p>		<p>MILLENNIUM HURRICANE SHUTTERS & WINDOWS (H.P.M.A. # 11) 1649 S.W. 1 WAY # 3 DEERFIELD BEACH, FL 33441 PH: (954) 725-6175 FAX: (954) 725-6176</p>		08/07/07 DATE	
		<p>07-205 DRAWING No</p>		SHEET 4 OF 6	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

AUG 09 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	8	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 ANCHOR SPACINGS ARE VALID FOR 3" EDGE DISTANCE. FOR E. D. LESS THAN 3", REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (NOTE : Min. E. D. FOR CALK-IN ANCHORS IS 2 1/2"). FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.

ACTUAL E. D.	FACTOR
2 1/2"	.86
2"	.75

AUG 09 2007

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 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	-

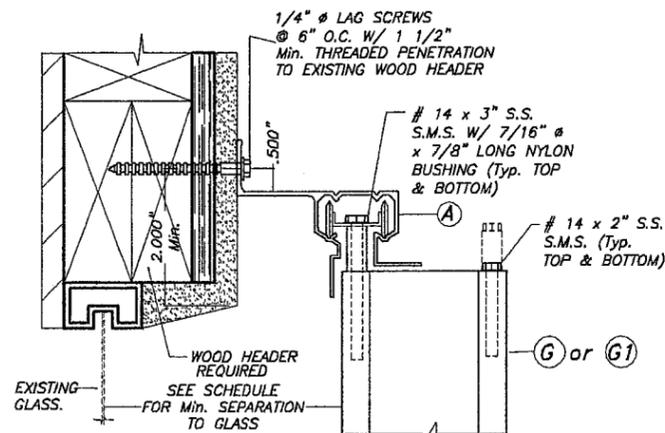
ANCHORS LEGEND

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

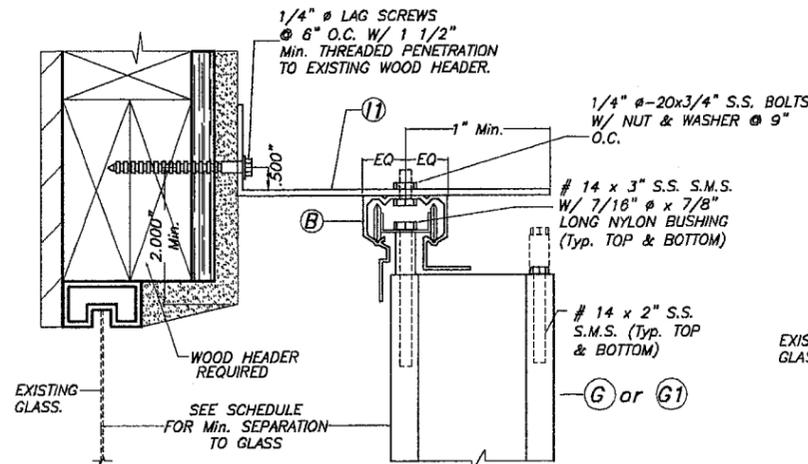
PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 07-0816-04
Expiration Date: 10/16/2011
By: *Helmut A. Weber*
Miami Dade Product Control Division

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

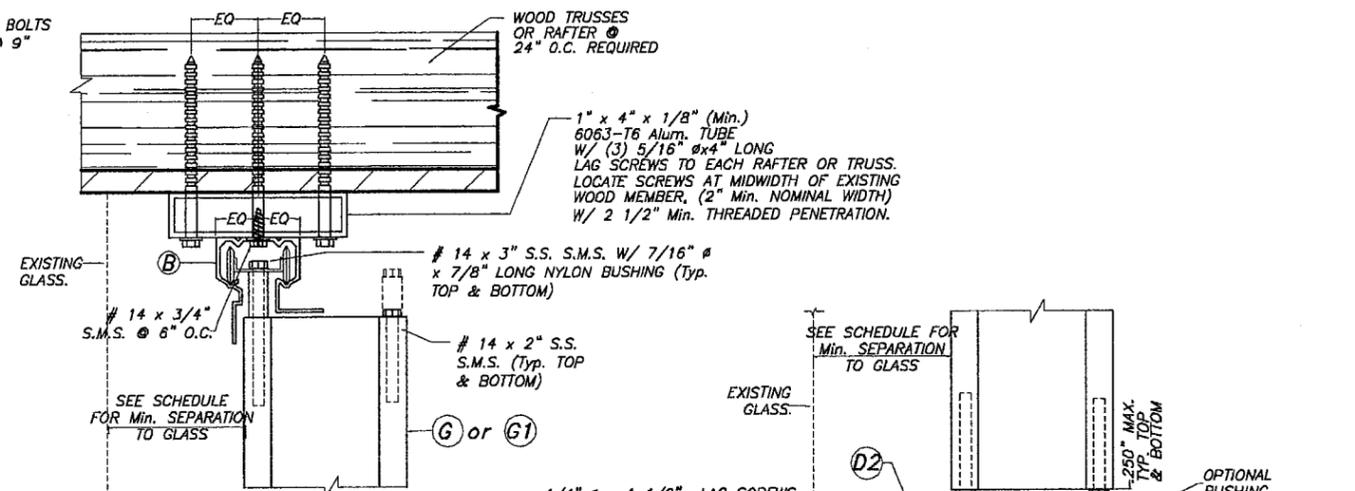
© 2007 HURRICANE PROTECTION MANUFACTURERS ASSOCIATION		PERFORMANCE SYSTEM 2 ACCORDION SHUTTER		DRAWN BY: F.P.	
TILECO Inc. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33186 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167		MILLENUM HURRICANE SHUTTERS & WINDOWS (H.P.M.A. # 11) 1649 S.W. 1 WAY # 3 DEERFIELD BEACH, FL 33441 PH: (954) 725-6175 FAX: (954) 725-6176		08/07/07 DATE	
		REV. No. DESCRIPTION DATE 1 - - - - - 2 - - - - -		07-205 DRAWING No SHEET 5 OF 6	



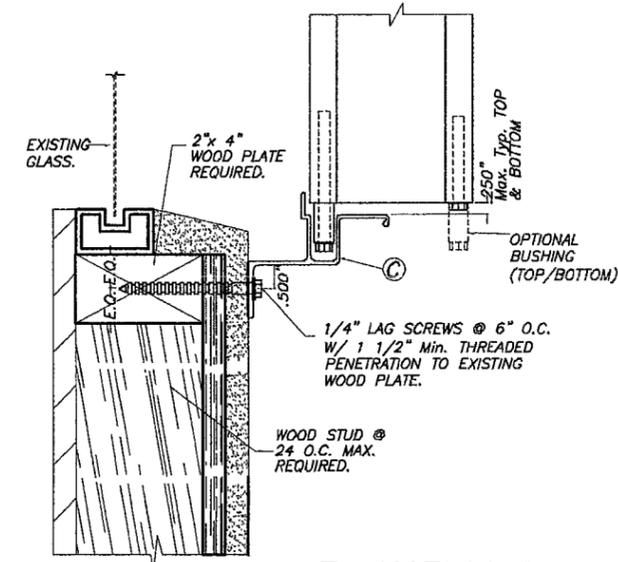
ALTERNATIVE 1



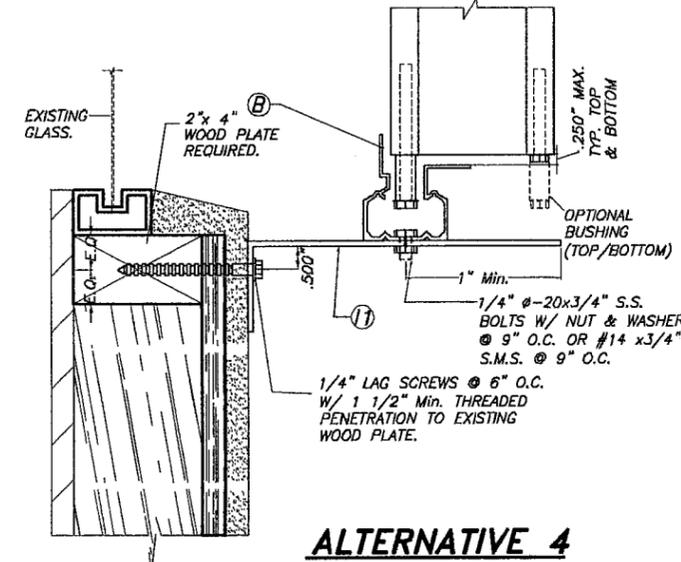
ALTERNATIVE 3



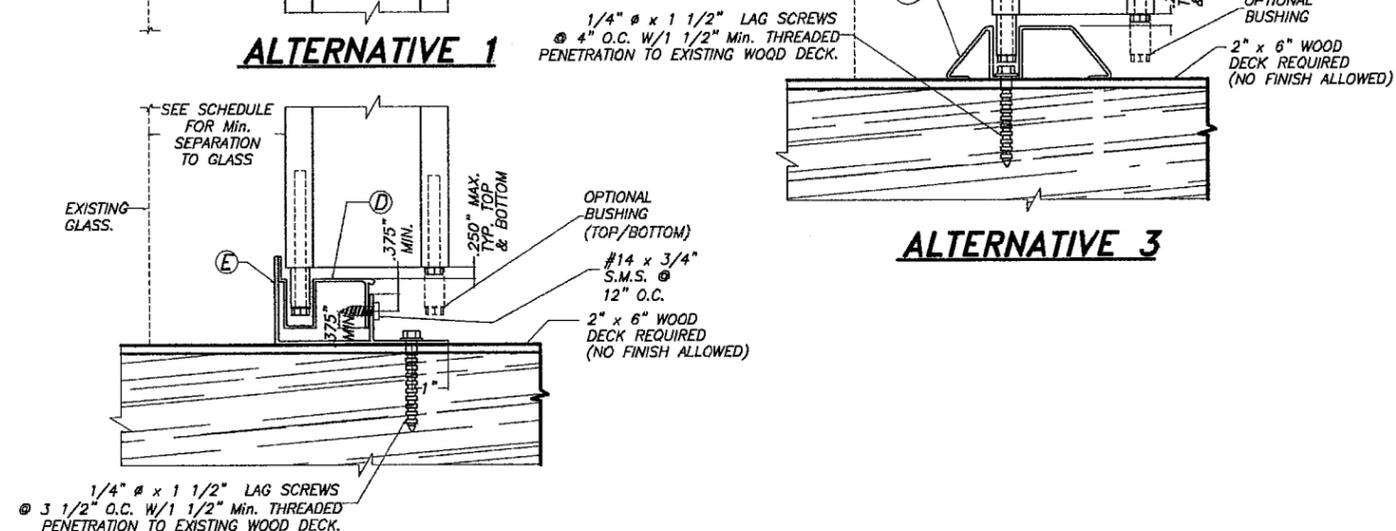
ALTERNATIVE 1



ALTERNATIVE 2



ALTERNATIVE 4

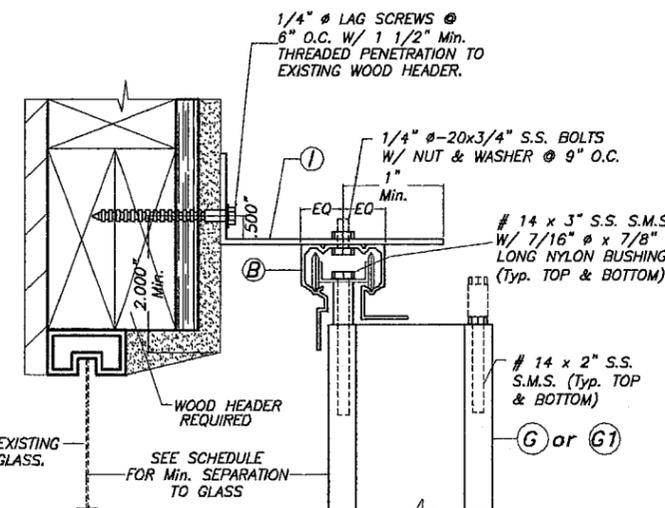


ALTERNATIVE 2

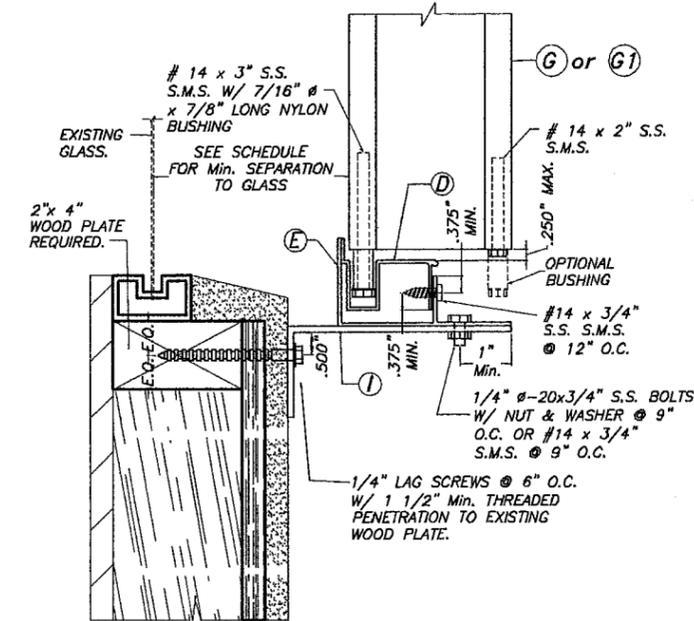
WALL MOUNTING INSTALLATION (OFFSET)

SECTIONS B

SCALE: 1/4"=1"



ALTERNATIVE 5



ALTERNATIVE 6

WALL MOUNTING INSTALLATION (OFFSET)

SECTIONS A

SCALE: 1/4"=1"

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

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 07-0816.04
Expiration Date 10/16/2011
By *Helmut A. Miller*
Miami Dade Product Control Division

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

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<p>TILECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167</p>		<p>MILLENNIUM HURRICANE SHUTTERS & WINDOWS (H.P.M.A. # 11) 1649 S.W. 1 WAY # 3 DEERFIELD BEACH, FL 33441 PH: (954) 725-6175 FAX: (954) 725-6176</p>		08/07/07 DATE	
				07-205 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-
					SHEET 6 OF 6

AUG 09 2007