



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)

Alufab Hurricane Shutters, Inc.
 13000 N. W. 38th Avenue
 OPA-LOCKA, Florida 33054

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: 0.0365" (min.) Galvanized Steel Storm Panels Shutter

APPROVAL DOCUMENT: Drawing No. 05-147, titled "0.0365" Thick Steel Storm Panel", sheets 1 through 12 of 12, and sheet 1A of 12, prepared by Tilteco, Inc., dated Sept. 22, 2005, last revision #1 dated Sept. 22, 2005, signed and sealed by Walter A. Tillit Jr., P.E., bearing the Miami-Dade County Product Control Renewal 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 panel 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 **renews NOA # 05-1003.15** and consists of this page 1, evidence submitted pages E-1, E-2, E-3, & E-4 as well as approval document mentioned above.

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



Helmy A. Makar
 07/17/2008

NOA No. 08-0527.08
 Expiration Date: 07/17/2009
 Approval Date: 07/17/2008
 Page 1

Alufab Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVALS

A. DRAWINGS

1. *Drawing No. 96-280, Alufab Hurricane Shutters, Inc., 20 gage Steel Storm Panel, Sheets 1, 2, 3, 4, 5, 6, 7, and 8 of 8, prepared by Tilteco, Inc., dated 06/25/97, signed and sealed by Walter A. Tillit Jr., P.E.*

B. TESTS

1. *Test report on Uniform Static Air Pressure Test, Large Missile Impact Test, and Cyclic Wind Pressure Test of 20 gage (0.036") storm panels, prepared by American Test Lab of South Florida, Report No. ATL # 0822.01-96R, dated Sept. 24, 1996, signed and sealed by Gerard B. Sullivan, P.E.*

C. CALCULATIONS

1. *Storm panel shutter calculations, Sheets 1 through 14L by Tilteco, Inc., signed and sealed by Walter A. Tillit Jr., P.E., dated 09/18/96.*
2. *Storm panel shutter calculations, Sheets 1 through 24 by Tilteco, Inc., signed and sealed by Walter A. Tillit Jr., P.E., dated 05/12/97.*

D. MATERIAL CERTIFICATIONS

1. *Mill Certified Inspection Report, dated 07/10/97, for Hot Dipped Galvanized coating G-60 Steel, ASTM A653 Grade 40 by Robert O'Neil of R & R Metals, Inc., with chemical composition and physical properties.*
2. *Tensile Test Reports from Certified Testing Laboratories, Job No. CTL-766B dated 09/23/96 for galvanized steel, tested per ASTM E8-93, signed and sealed by Ramesh Patel, P.E.*

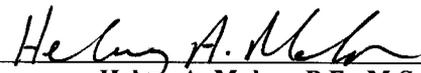
2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #98-0915.03

A. DRAWINGS

1. *Drawing No. 98-210, titled "20 Gage Steel Storm Panel", prepared by Tilteco, Inc., dated August 24, 1998, last revision #1 dated August 24, 1998, sheets 1 through 8 of 8, signed and sealed by Walter A. Tillit Jr., P.E.*

B. TESTS

1. *Test report on Uniform Static Air Pressure Test, Large Missile Impact Test, and Cyclic Wind Pressure Test of 20 gage (0.036") storm panels, prepared by American Test Lab of South Florida, Report No. ATL # 0822.01-96R, revised on August 17, 1998, signed and sealed by Gerard B. Sullivan, P.E.*



Henry A. Makar, P.E., M.S.
Product Control Examiner

NOA No. 08-0527.08

Expiration Date: 07/17/2009

Approval Date: 07/17/2008

Alufab Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

1. *Storm panel shutter calculations, Sheet 1 of 1, dated 08/25/98, by Tilteco, Inc., signed and sealed by Walter A. Tillit Jr., P.E.*

D. MATERIAL CERTIFICATIONS

1. *Mill Certified Test Reports issued by Madison Metal Service, Inc., with chemical composition and mechanical properties of the steel panel.*
2. *Tensile Test Report No. QCMet 8IM-2161, prepared by QC Metallurgical, Inc., dated 09/04/98, signed and sealed by Frank Grate, P.E.*

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #00-0128.04

A. DRAWINGS

1. *None.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. MATERIAL CERTIFICATIONS

1. *None.*

E. OTHERS

1. *Letter from Alufab Hurricane Shutters, Inc., dated February 19, 2000, signed by Bobby Andrade, stating that there is no change from existing drawings.*

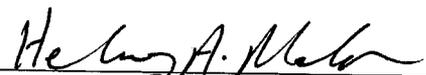
4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #01-0530.01

A. DRAWINGS

1. *Drawing No. 01-045, titled " 20 Gage Steel Storm Panel ", sheets 1 through 12 of 12, total of 13 sheets, including sheet 1A, prepared by Tilteco, Inc., dated February 26, 2001, last revision #2 dated May 30, 2002, signed and sealed by Walter A. Tillit Jr., P.E.*

B. TESTS

1. *Test report on Uniform Static Air Pressure Test, Large Missile Impact Test, and Cyclic Wind Pressure Test of 20 gage (0.0365") storm panels, prepared by Construction Testing Corporation, Report No. 00-036R, dated April 30, 2000, signed and sealed by Christopher G. Tyson, P.E.*



Henry A. Makar, P.E., M.S.
Product Control Examiner
NOA No. 08-0527.08
Expiration Date: 07/17/2009
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Alufab Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

1. *Storm panel shutter calculations, Sheets 1 through 46 of 46, dated 03/06/2001, by Tilteco, Inc., signed and sealed by Walter A. Tillit Jr., P.E.*

D. MATERIAL CERTIFICATIONS

1. *Mill Certified Test Reports issued by Bethlehem Steel Corporation, with chemical composition and mechanical properties of steel panel.*
2. *Tensile Test Report No. CTL-792F, prepared by Certified Testing Laboratories, dated August 28, 2000, signed and sealed by Ramesh Patel, P.E.*

5. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 03-0515.03

A. DRAWINGS

1. *None.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. MATERIAL CERTIFICATIONS

1. *None.*

E. OTHERS

1. *Letter from Alufab Hurricane Shutters, Inc., dated May 1, 2003, signed by Bobby Andrade, stating that there is no change from existing drawings.*
2. *Letter from Tilteco, Inc., dated May 12, 2003, signed and sealed by Walter A. Tillit Jr., P.E., stating that he is still the engineer of record for Alufab Hurricane Shutter, Inc. and he is still in the engineering business.*

6. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #05-1003.15

A. DRAWINGS

1. *Drawing No. 05-147, titled " 0.0365" Thick Steel Storm Panel ", sheets 1 through 12 of 12, and sheet 1A of 12, prepared by Tilteco, Inc., dated Sept. 22, 2005, last revision #1 dated Sept. 22, 2005, signed and sealed by Walter A. Tillit Jr., P.E.*

B. TESTS

1. *None.*



Henry A. Makar, P.E., M.S.
Product Control Examiner
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Alufab Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

1. *Revised Anchor Calculations and details for 0.0365" Thick Steel Storm Panels, dated September 23, 2006, pages 1 through 102, prepared by Tilteco, Inc., signed and sealed by Walter A. Tillit Jr., P.E.*

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. *None.*

7. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. *None.*

B. TESTS

1. *None.*

C. CALCULATIONS

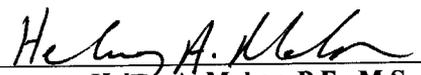
1. *Revised Anchor Calculations and details for 0.0365" Thick Steel Storm Panels, dated May 23, 2005, pages 1 through 88, prepared by Tilteco, Inc., signed and sealed by Walter A. Tillit Jr., P.E.*

D. QUALITY ASSURANCE

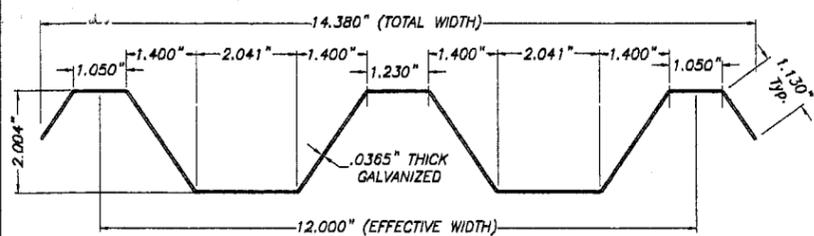
1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

1. *None.*

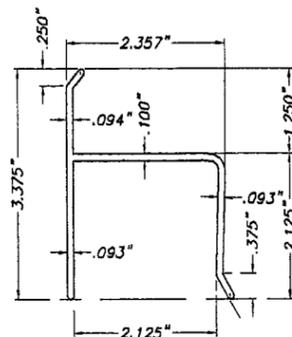


Henry A. Makar, P.E., M.S.
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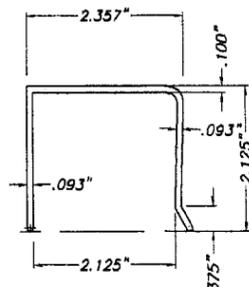
1 PANEL

SCALE: 3/8" = 1"



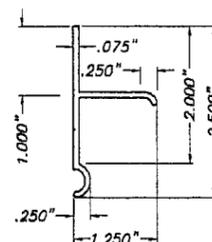
2 HEADER

(6005-T5 ALUMINUM ALLOY)
SCALE: 3/8" = 1"



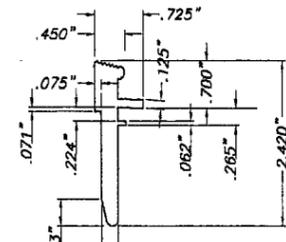
3 HEADER

(6005-T5 ALUMINUM ALLOY)
SCALE: 3/8" = 1"



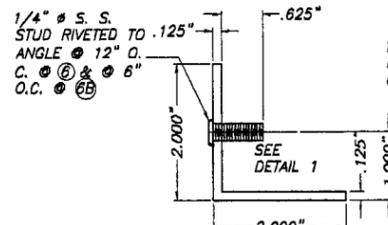
4 T TRACK

SCALE: 3/8" = 1"



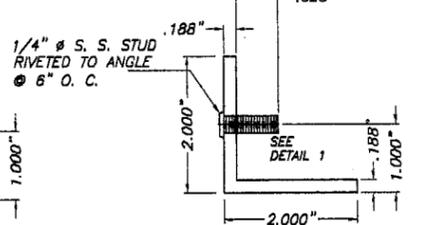
5 WEDGE PIN (1" LONG)

(6005-T5 ALUMINUM ALLOY)
SCALE: 3/8" = 1"



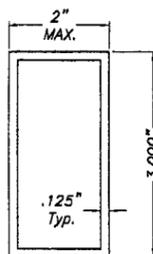
6, 6B ANGLES WITH STUD

SCALE: 3/8" = 1"



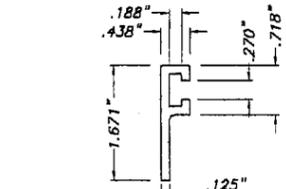
6A ANGLE WITH STUD

SCALE: 3/8" = 1"



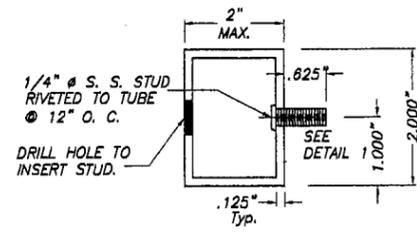
7 TUBE

SCALE: 3/8" = 1"



8 F TRACK

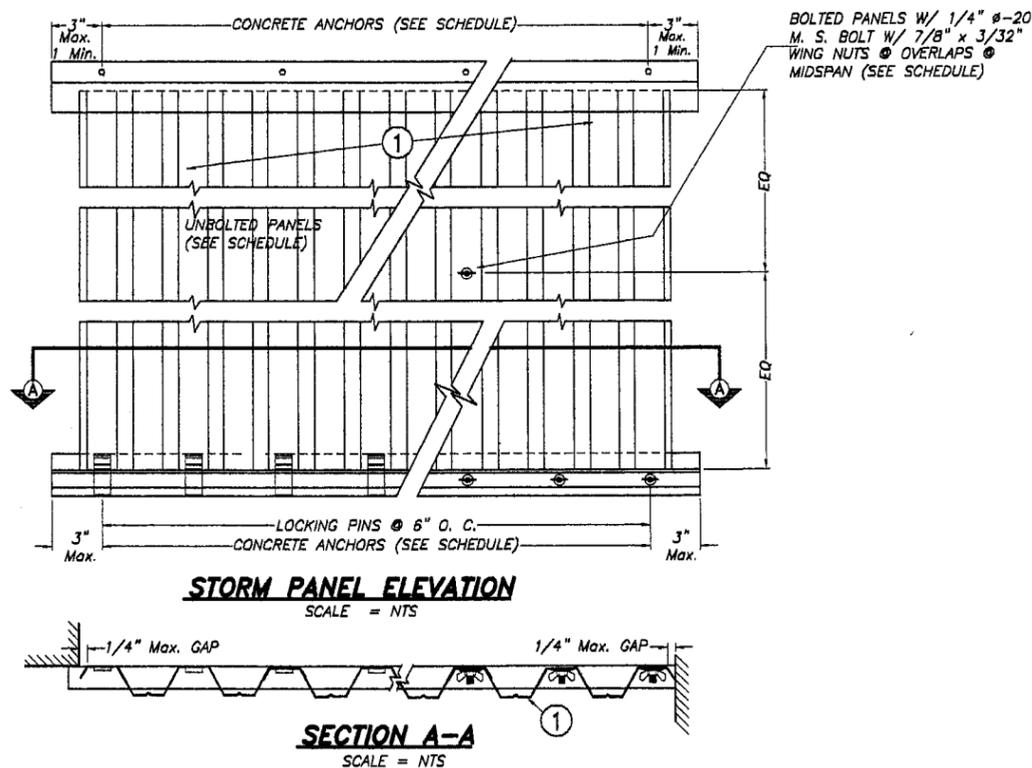
SCALE: 3/8" = 1"



9 TUBE WITH STUD

SCALE: 3/8" = 1"

COMPONENTS



STORM PANEL ELEVATION

SCALE = NTS

SECTION A-A

SCALE = NTS

GENERAL NOTES:

1. STORM PANEL SHOWN ON THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2004 EDITION OF THE FLORIDA BUILDING CODE. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1620 OF THE ABOVE MENTIONED CODE. IN ORDER TO VERIFY THAT COMPONENTS AND ANCHORS ON THIS P.A.D. AS TESTED WERE NOT OVER STRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. A DURATION FACTOR CD=1.60 WAS USED FOR VERIFICATION OF FASTENERS IN WOOD.

STORM PANEL'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.4 OF THE ABOVE MENTIONED CODE AS PER AMERICAN TEST LAB REPORT # 0822.01-96R AND CONSTRUCTION TESTING CORPORATION LAB. REPORT # 00-036R, AS PER TAS-201, TAS-202, TAS-203 PROTOCOLS.

2. ALL STEEL SHEET METAL PANELS SHALL HAVE STRUCTURAL QUALITY ASTM A-653 S0, GRADE 40 G-60 GALVANIZED STEEL DESIGNATION WITH MIN. Fy=44.39 ksi (AFTER ROLLED).

3. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY UNLESS OTHERWISE NOTED.

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. BOLTS TO BE ASTM A-307, GALVANIZED OR AISI 304 SERIES STAINLESS STEEL, WITH 36 ksi MINIMUM YIELD STRENGTH.

6. ANCHORS TO WALL SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)

- (A) TO EXISTING POURED CONCRETE:
 - 1/4" TAPCON ANCHORS AS MANUFACTURED BY ELCO TEXTRON, INC.
 - 1/4" ZAMAC NAILIN ANCHORS AS MANUFACTURED BY POWERS FASTENERS, INC.
 - 1/4" x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY POWERS FASTENERS, INC. AND ELCO TEXTRON, INC. RESPECTIVELY.

NOTES:

A.1) MINIMUM EMBEDMENT INTO POURED CONCRETE OF TAPCON ANCHORS IS 1 3/4", FOR ZAMAC NAILIN IS 1 3/4", AND FOR ELCO PANELMATES 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 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO. SCREWS SHALL HAVE 3/4" HEAD FOR DIRECT MOUNTED PANELS, AND 3/4" OR 9/16" HEAD FOR ALL TRACKS OR PLATES.

A.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR 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 ASTM C-90 CONCRETE BLOCK WALL:

- 1/4" TAPCON ANCHORS AS MANUFACTURED BY ELCO TEXTRON, INC.
- 1/4" ZAMAC NAILIN ANCHORS AS MANUFACTURED BY POWERS FASTENERS, INC.
- 1/4" x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY POWERS FASTENERS, INC. AND ELCO TEXTRON, INC. RESPECTIVELY.

NOTES:

B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS, ZAMAC NAILIN & ELCO PANELMATE 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 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO. SCREWS SHALL HAVE 3/4" HEAD FOR DIRECT MOUNTED PANELS, AND 3/4" OR 9/16" HEAD FOR ALL TRACKS OR PLATES.

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 1 1/4" MINIMUM FOR ANCHORS MENTIONED IN B.1) & 7/8" FOR ANCHORS MENTIONED IN B.2).

(C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

7. PANELS WITH LENGTHS OVER 9'-0" SHALL BE BOLTED WITH 1/4"-20 BOLT AND WING NUT AT OVERLAP AND MIDLENGTH.

8. PANELS MAY ALSO BE INSTALLED HORIZONTALLY FOLLOWING INSTALLATION DETAILS SHOWN ON SECTIONS 1 THRU 10 (SHEET 2, 3 AND 4 OF 12) EXCEPT THAT HEADERS 2 & 3 SHALL NOT BE USED.

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. SHUTTER MANUFACTURER'S LABEL SHALL BE PLACED ON THE EXPOSED SURFACE OF THE CENTER FLANGE OF EVERY PANEL APPROXIMATELY 4" ABOVE THE BOTTOM OF SUCH PANEL. LABEL SHALL READ AS FOLLOWS:
ALUFAB HURRICANE SHUTTERS, INC.
OPA LOCKA, FL.
MIAMI-DADE COUNTY PRODUCT 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 PROFESSIONAL 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 A 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 ENGINEER OF RECORD THAT PREPARED IT.

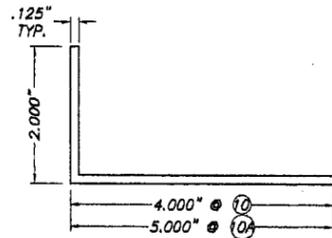
F.B.C. (High Velocity Hurricane Zone)

PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No 08-0527-08
Expiration Date 07/17/2009
By Helmy A. Mela
Miami Dade Product Control
Division

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 05-1003.15
Expiration Date 07/17/2008
By Helmy A. Mela
Miami Dade Product Control
Division

<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>		0.0365" THICK STEEL STORM PANEL		DRAWN BY: J.J.V.	
		ALUFAB HURRICANE SHUTTERS, INC.		9/22/05 DATE	
		13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)881-4701, FAX:(305)881-4604		05-147 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 01-045	9/22/05	3	-	-
2	-	-	4	-	-

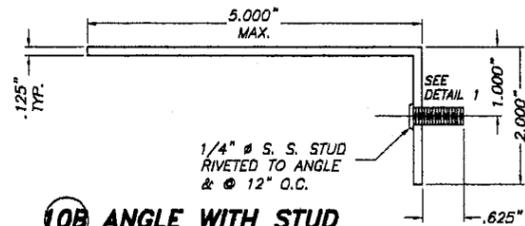
Handwritten signature and date: 9/23/05



10 2"x4"(Max.)x.125" ANGLE

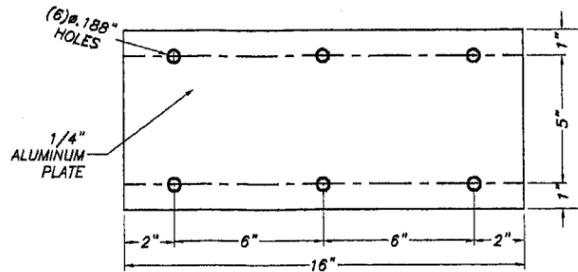
10A 2"x5"(Max.)x.125" ANGLE

SCALE: 3/8" = 1"



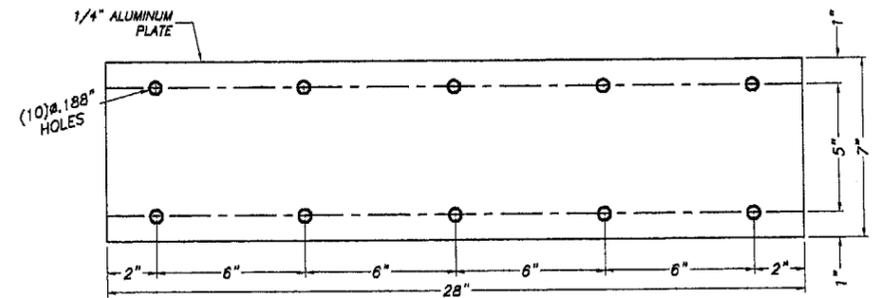
10B ANGLE WITH STUD

SCALE: 3/8" = 1"



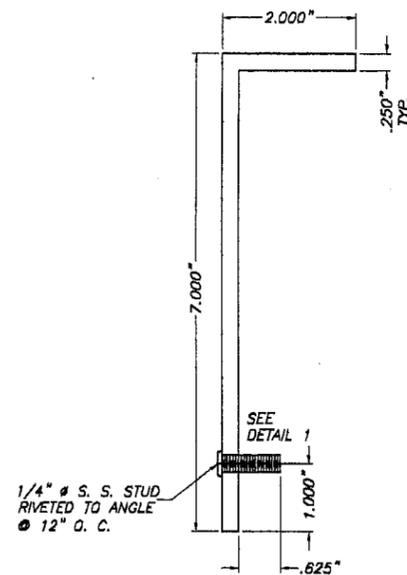
11 1/4"x7"x16" PLATE

SCALE: 3/8" = 1"



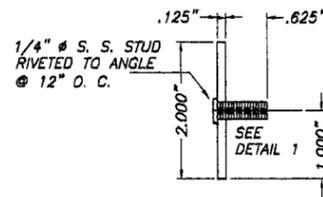
11A 1/4"x7"x28" PLATE

SCALE: 3/8" = 1"



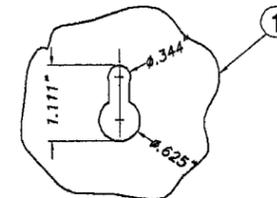
12 2" x 7" x 1/4" ALUMINUM ANGLE

SCALE: 3/8" = 1"

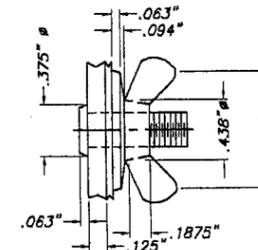


13 1/8"x2"xCONT. PLATE

SCALE: 3/8" = 1"



14 KEY HOLE AT PANEL



DETAIL 1:

STUD W/ WING NUT
SCALE: 1/2" = 1"

COMPONENTS

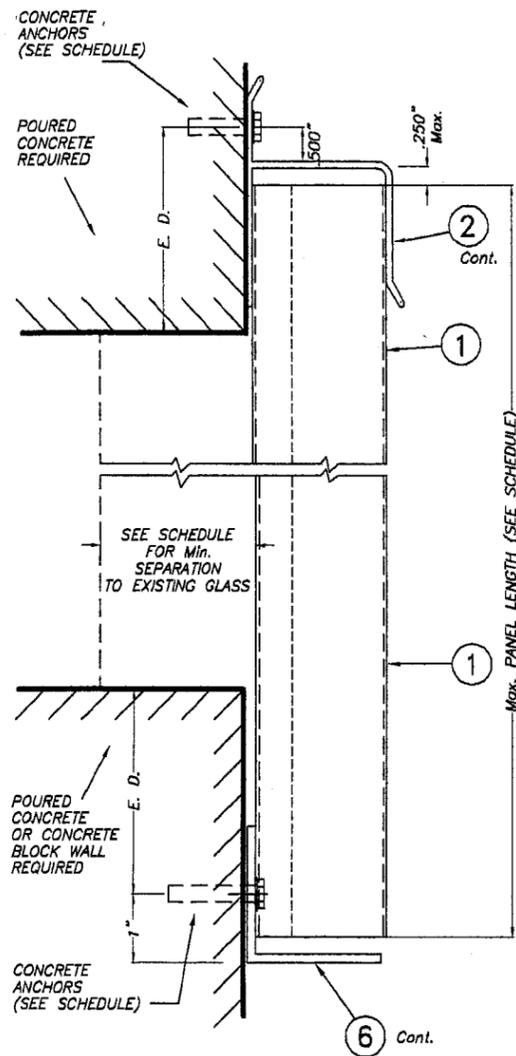
PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No. 08-0527.08
Expiration Date 07/17/2009
By Helmy A. Maher
Miami Dade Product Control
Division

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 05-1003.15
Expiration Date 07/17/2008
By Helmy A. Maher
Miami Dade Product Control
Division

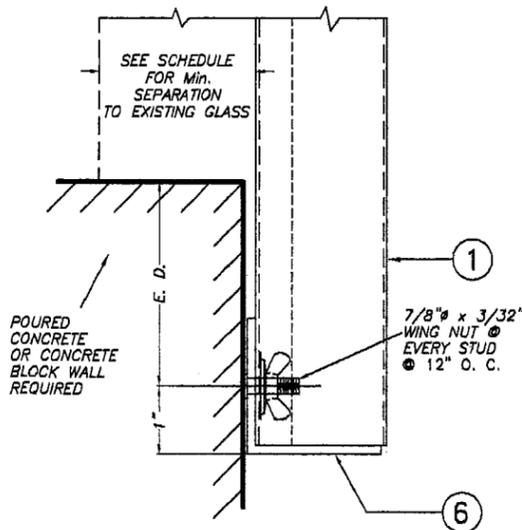
F.B.C. (High Velocity Hurricane Zone)

 TILTECO 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		0.0365" THICK STEEL STORM PANEL		DRAWN BY: J.J.V.	
		ALUFAB HURRICANE SHUTTERS, INC. 1300G NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)881-4701, FAX:(305)881-4804		9/22/05 DATE	
				05-147 DRAWING No	
				SHEET 1A OF 12	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 01-045	9/22/05	3	-	-
2	-	-	4	-	-

Handwritten signature
9/23/05



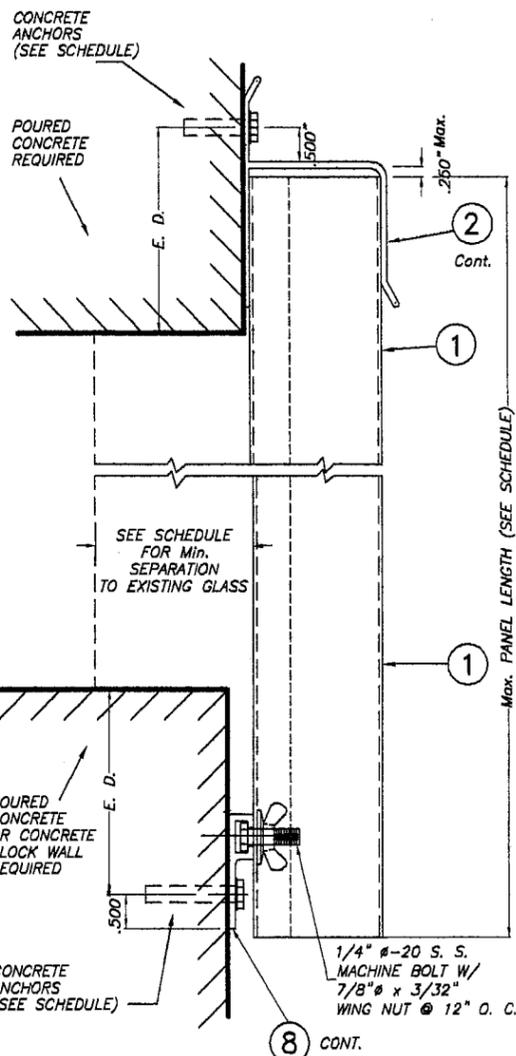
SECTION @ ANCHOR



SECTION @ STUD

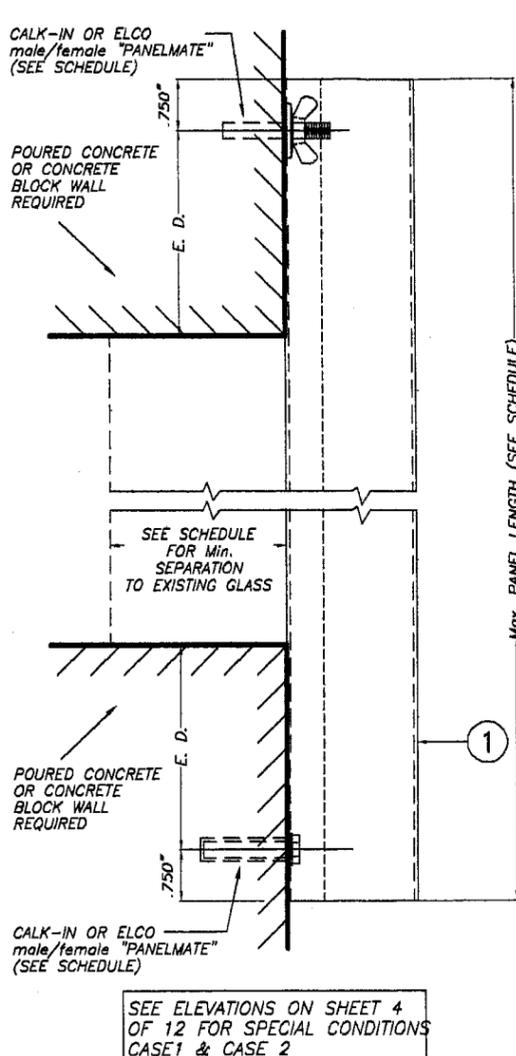
WALL MOUNT. INSTALL. - SECTION 1

SCALE: 3/8" = 1"



WALL MOUNTING INSTALLATION - SECTION 2

SCALE: 3/8" = 1"



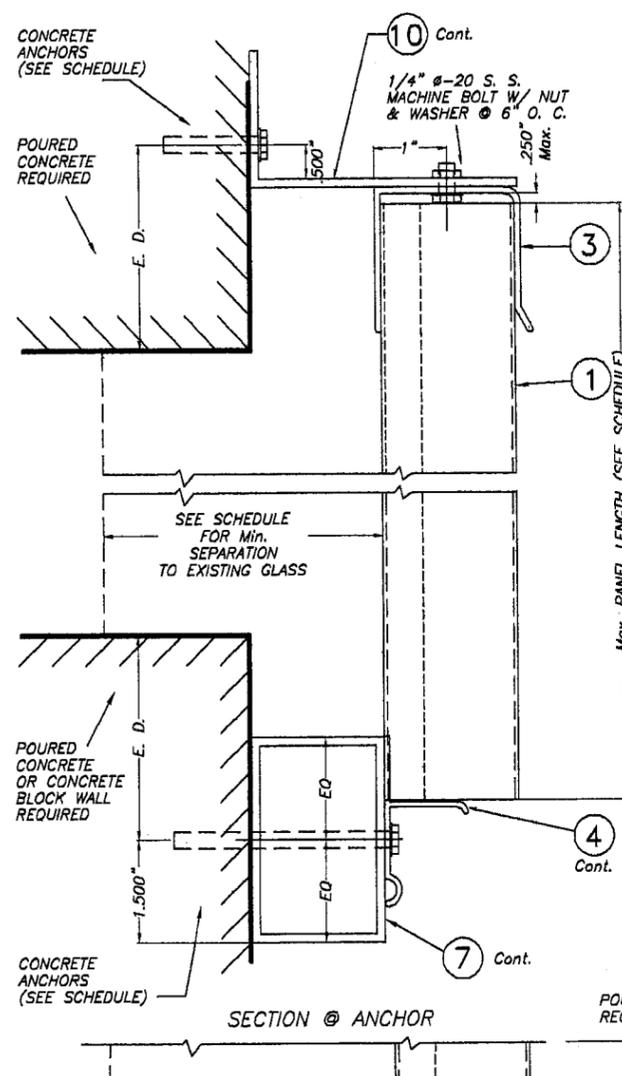
WALL MOUNTING INSTALLATION (D. M.) - SECTION 3

SCALE: 3/8" = 1"

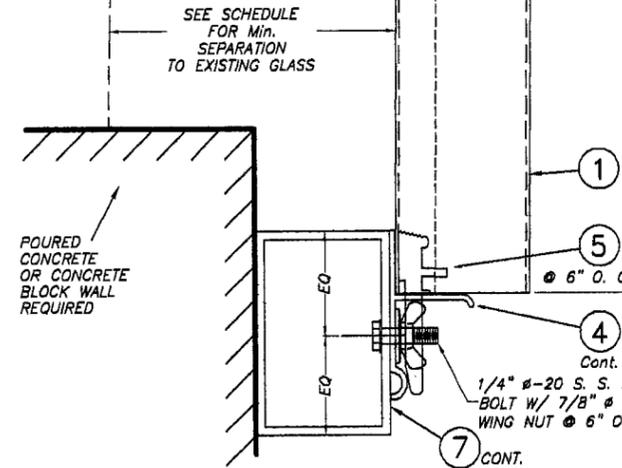
PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 08-0527.08
Expiration Date 07/17/2009
By *Helmy A. Mohr*
Miami Dade Product Control Division

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON SHEETS 7 & 8 OF 12)

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



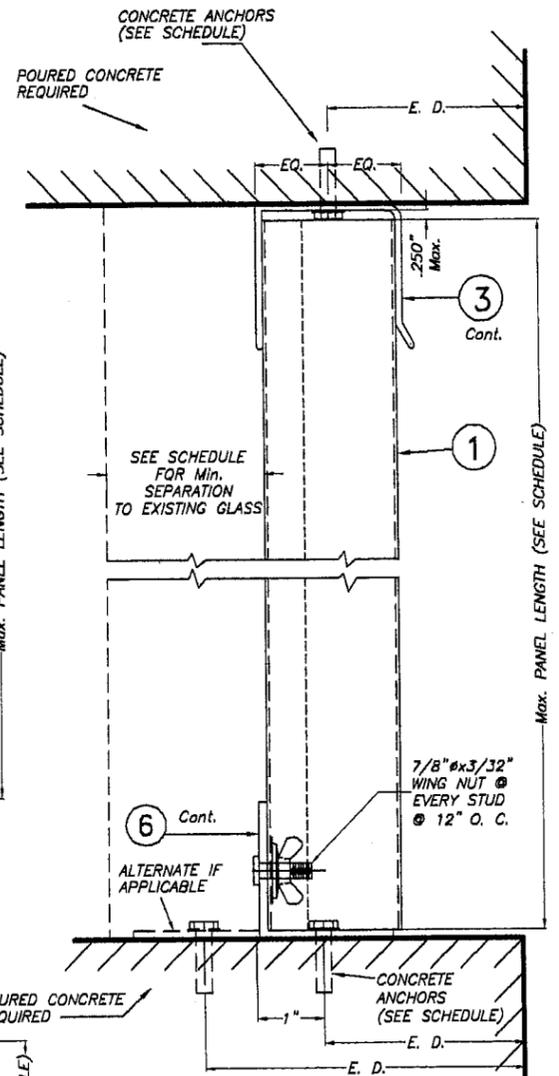
SECTION @ ANCHOR



SECTION @ MACHINE BOLT

BUILD-OUT INSTALLATION - SECTION 4

SCALE: 3/8" = 1"



FLOOR/CEILING MOUNTING INSTALLATION - SECTION 5

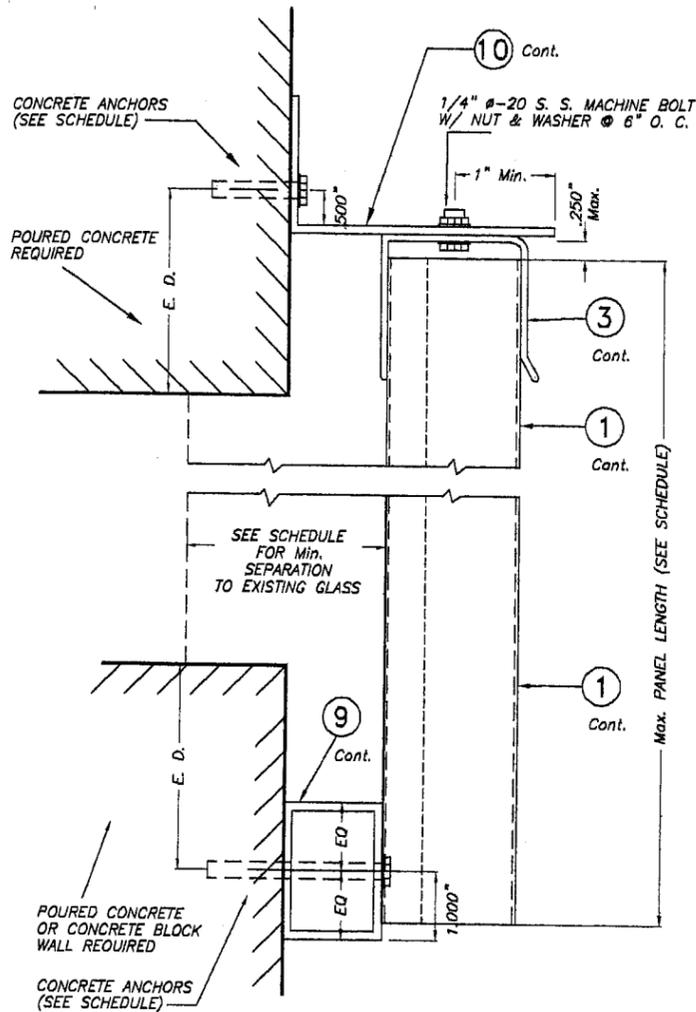
SCALE: 3/8" = 1"

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 05-1003.15
Expiration Date 07/17/2008
By *Helmy A. Mohr*
Miami Dade Product Control Division

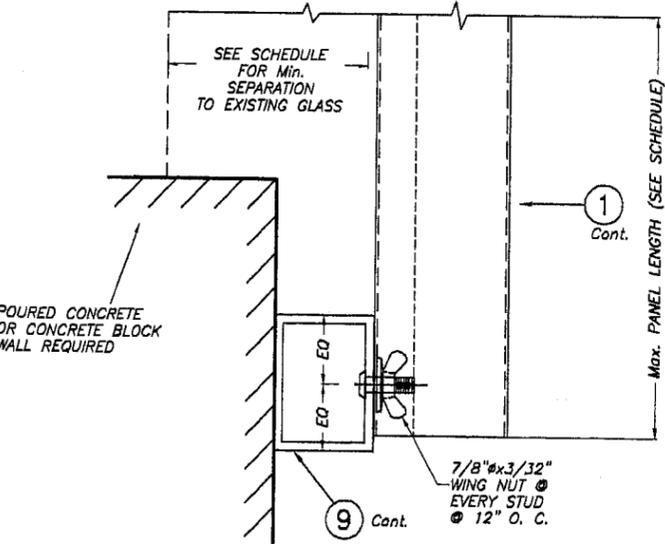
F.B.C. (High Velocity Hurricane Zone)

 TILTECO 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		0.0365" THICK STEEL STORM PANEL		DRAWN BY: J.J.V.	
		ALUFAB HURRICANE SHUTTERS, INC. 13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)681-4701, FAX:(305)681-4804		9/22/05 DATE	
				05-147 DRAWING No	
				SHEET 2 OF 12	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 01-045	9/22/05	3	-	-
2	-	-	4	-	-

Helmy A. Mohr
9/23/05



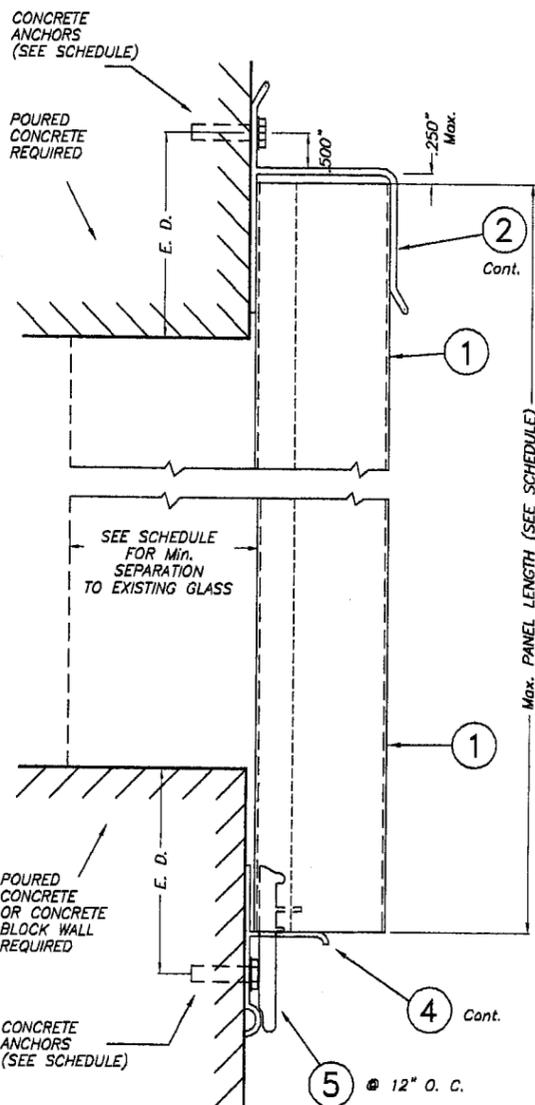
SECTION @ ANCHOR



SECTION @ STUD

BUILD-OUT INSTALLATION

- SECTION 6 SCALE: 3/8" = 1"

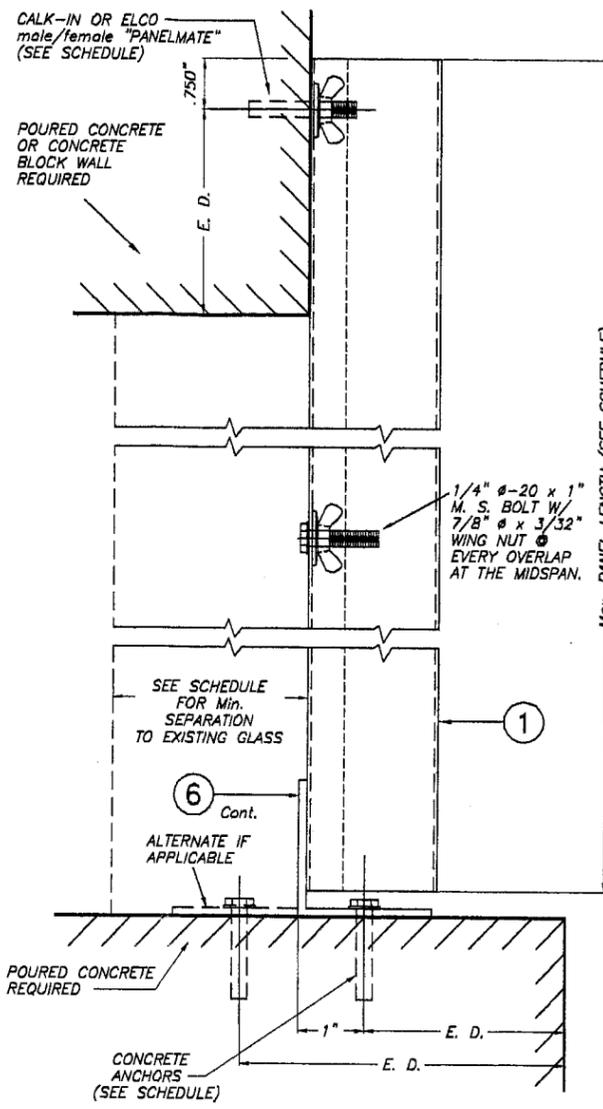


WALL MOUNT. INSTALL. - SECTION 7

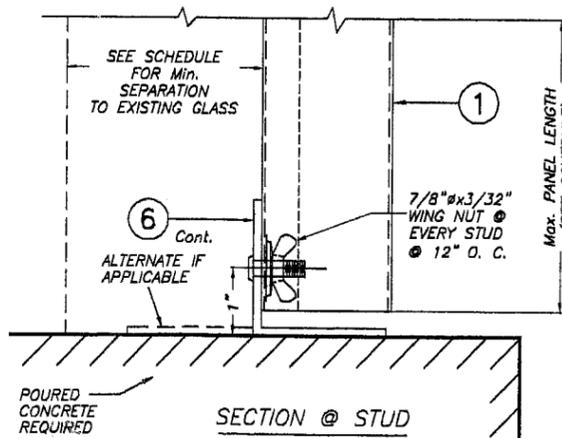
SCALE: 3/8" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 7 & 8 OF 12)

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



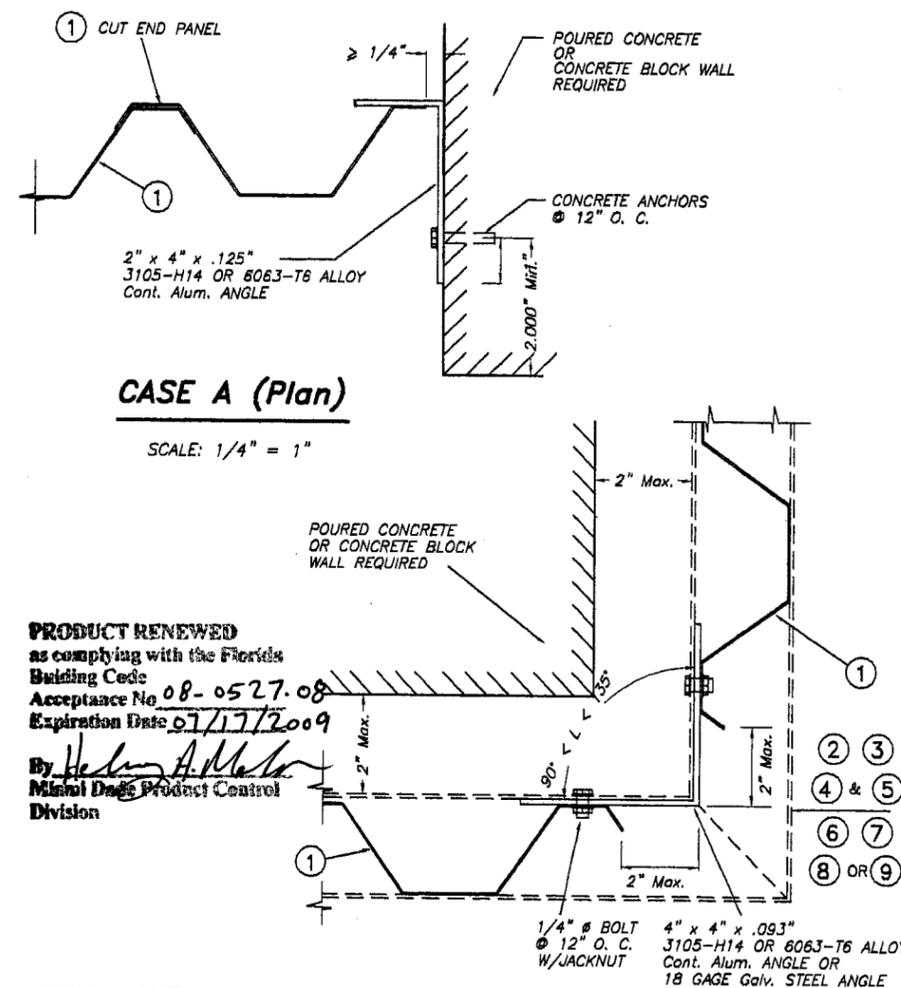
SECTION @ ANCHOR



SECTION @ STUD

**WALL/FLOOR MOUNTING
INSTALLATION - SECTION 8**

SCALE: 3/8" = 1"



CASE A (Plan)

SCALE: 1/4" = 1"

CASE B (Plan)

SCALE: 1/4" = 1"

PRODUCT RENEWED
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By *Heung A. Makin*
Miami Dade Product Control
Division

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By *Heung A. Makin*
Miami Dade Product Control
Division

CASE C (Plan)

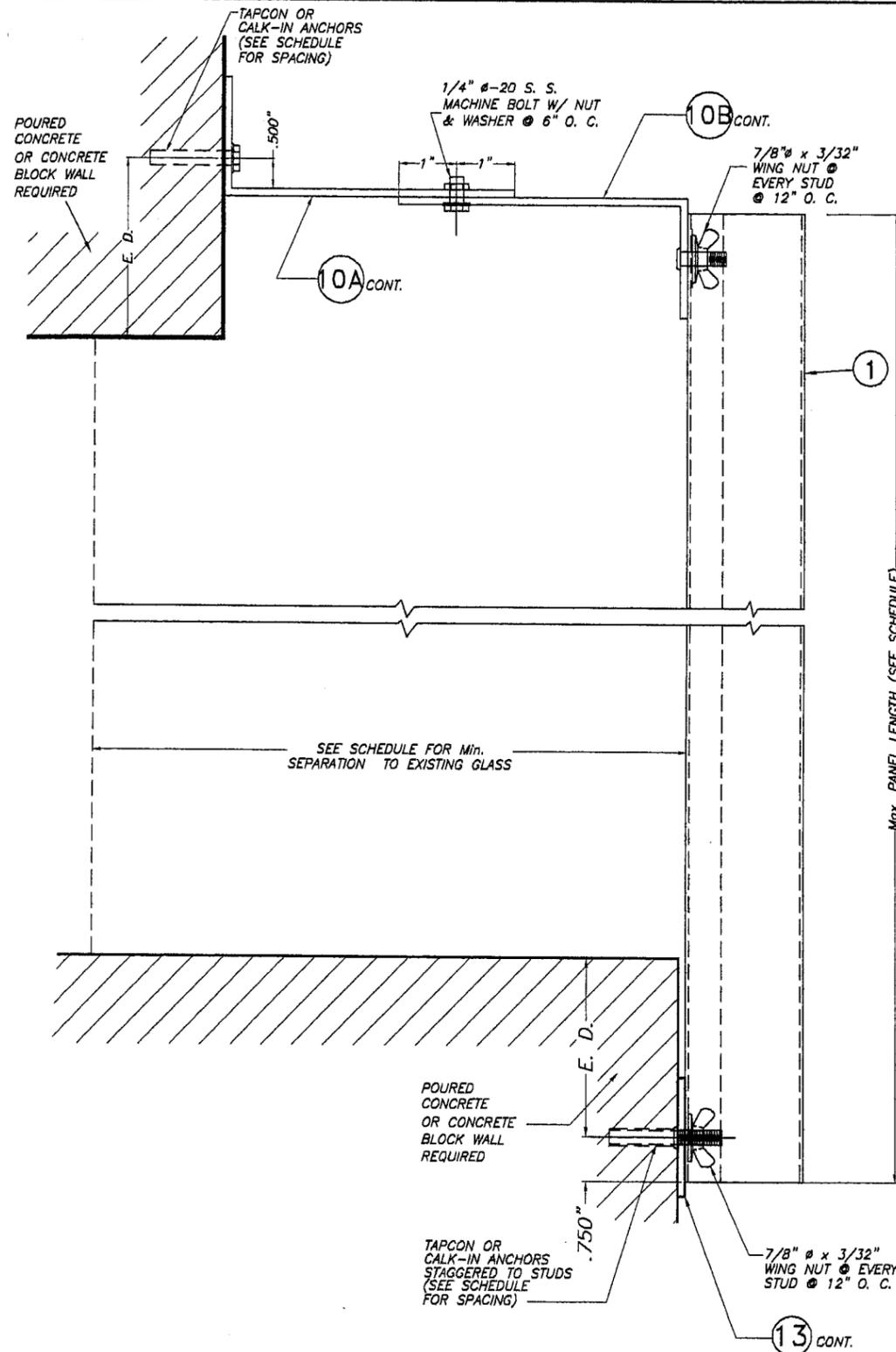
SCALE: 1/4" = 1"

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

Handwritten signature and date: e/23/05

TILTECO 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

0.0365" THICK STEEL STORM PANEL						DRAWN BY: J.J.V.	
ALUFAB HURRICANE SHUTTERS, INC.						9/22/05 DATE	
13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)681-4701, FAX:(305)681-4604						05-147 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE	SHEET 3 OF 12	
1	OLD 01-045	9/22/05	3	-	-		
2	-	-	4	-	-		

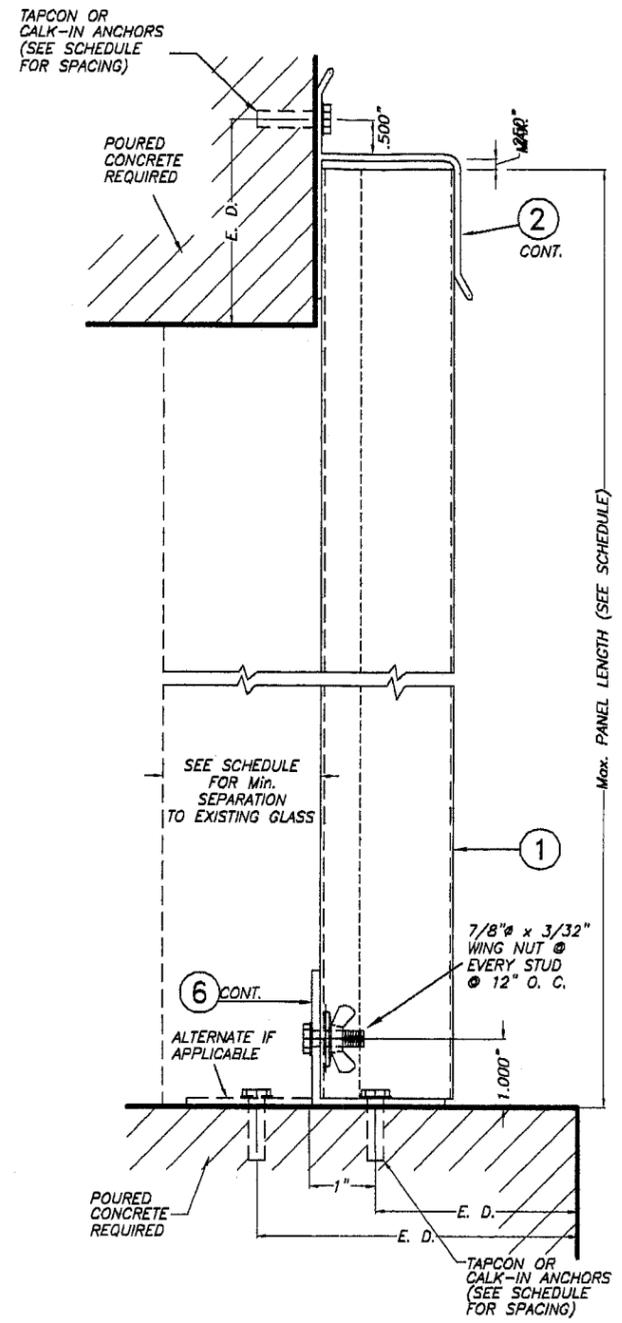


BUILD-OUT/WALL MOUNTING - SECTION 9

SCALE: 3/8" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 7 & 8 OF 12)

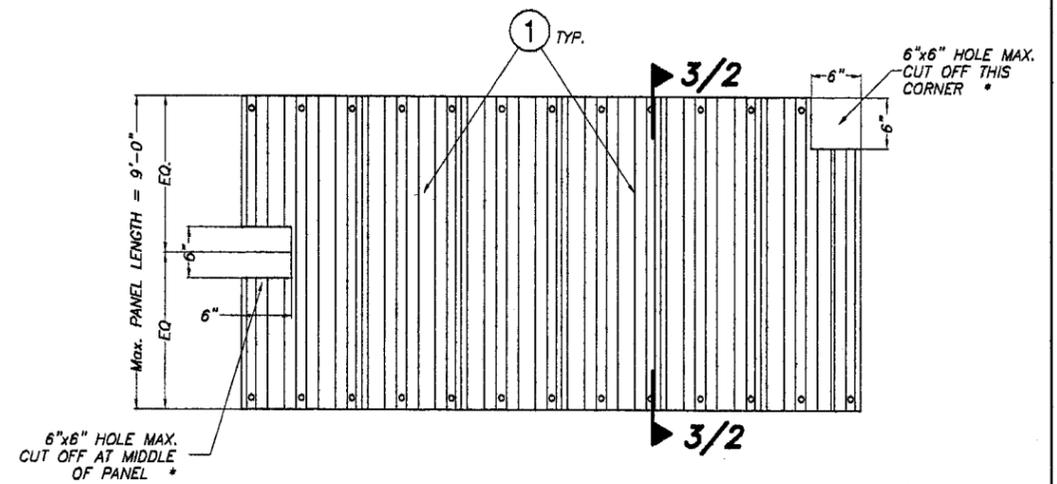
NOTE FOR COMBINATION OF SECTIONS :
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



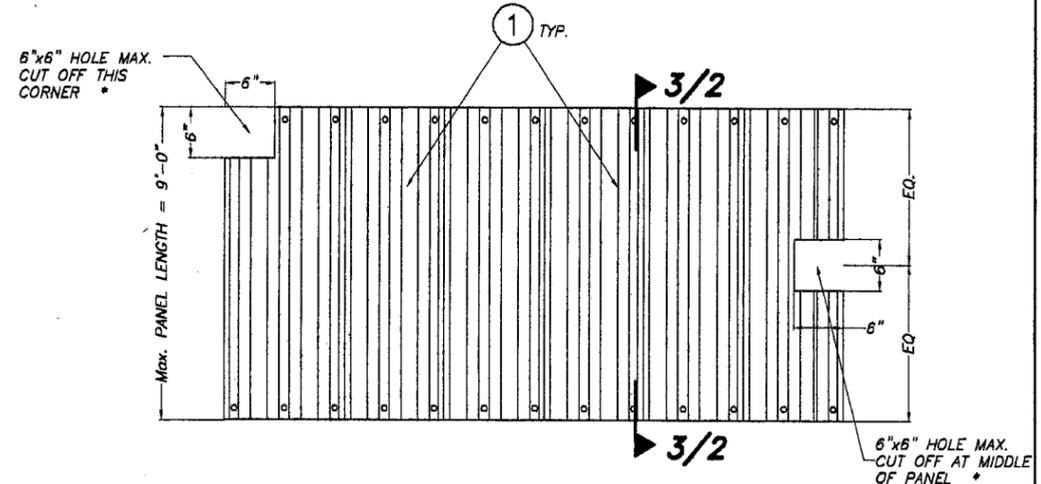
**WALL/FLOOR MOUNTING
INSTALLATION - SECTION 10**

SCALE: 3/8" = 1"

[Signature]
9/23/05



ELEVATION CASE 1



ELEVATION CASE 2

**MAX. ALLOWABLE NOTCH TO BE MADE
ON DIRECT MOUNTED END PANELS
W/9'-0" MAX. PANEL LENGTH AND
+60. -72 psf. PRESSURE RATING**

* NOTCHES ON END PANELS CAN ONLY BE
AS SHOWN W/ ONE NOTCH MAX. PER PANEL

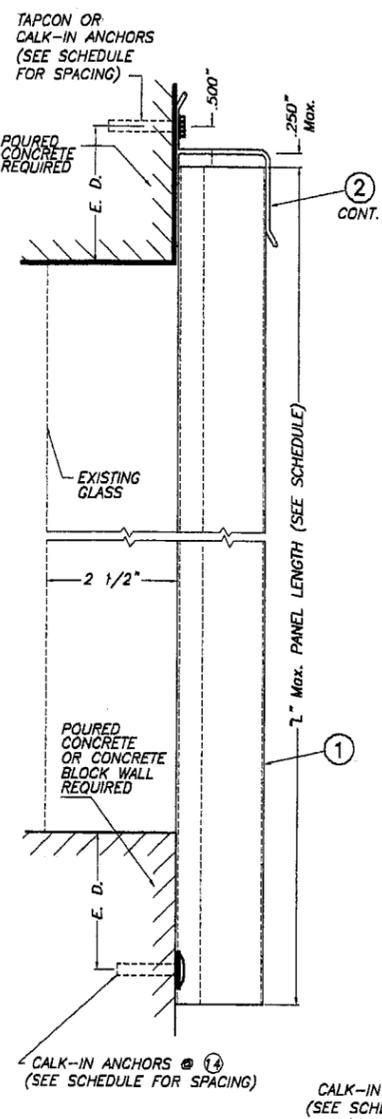
PRODUCT RENEWED
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Expiration Date 07/17/2009
By *Helmy A. Makhadmeh*
Miami Dade Product Control
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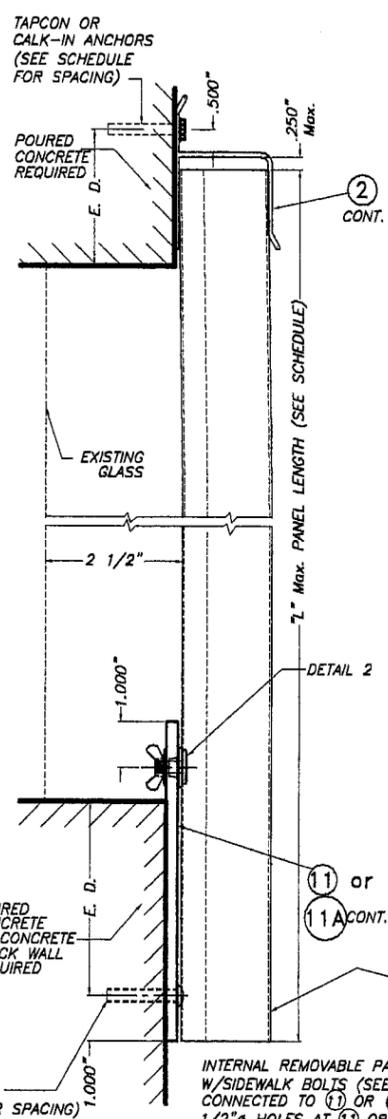
TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone: (305)871-1530, Fax: (305)871-1531
EB-0006719
WALTER A. TILLIT Jr., P. E.
FLORIDA Lic. 44167

0.0365" THICK STEEL STORM PANEL		DRAWN BY: J.J.V.	
ALUFAB HURRICANE SHUTTERS, INC.		9/22/05 DATE	
13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)681-4701, FAX:(305)681-4604		05-147 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No
1	OLD 01-045	9/22/05	3
2	-	-	4
		SHEET 4 OF 12	

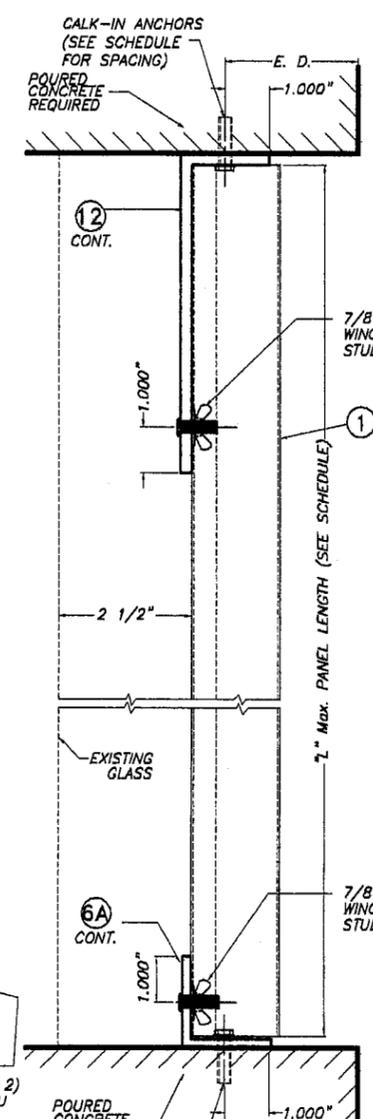


SECTION 11A
WALL MOUNTING INSTALLATIONS

SECTIONS 11
SCALE: 1/4" = 1"

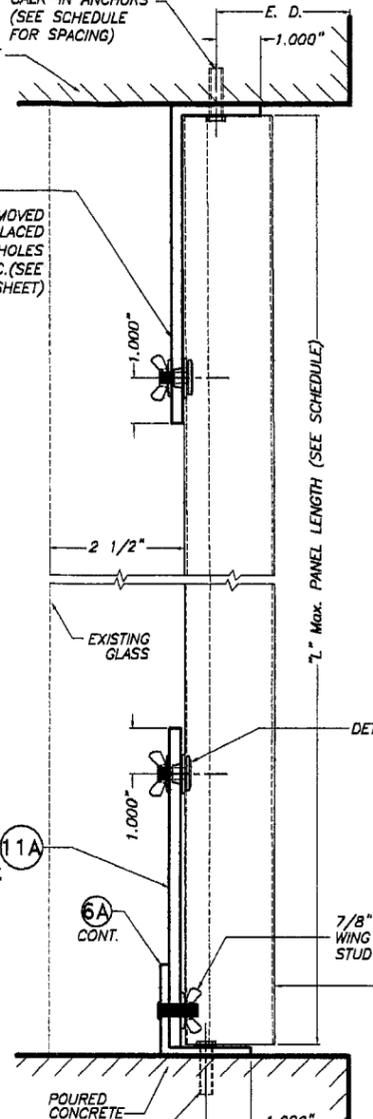


SECTION 11B *
WALL MOUNTING INSTALLATIONS

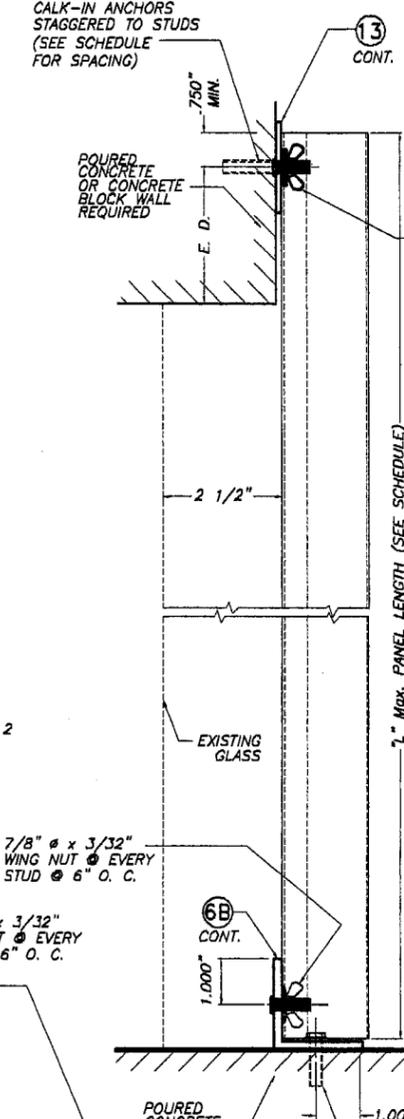


SECTION 12A
WALL AND FLOOR MOUNTING INSTALLATIONS

SECTIONS 12
SCALE: 1/4" = 1"

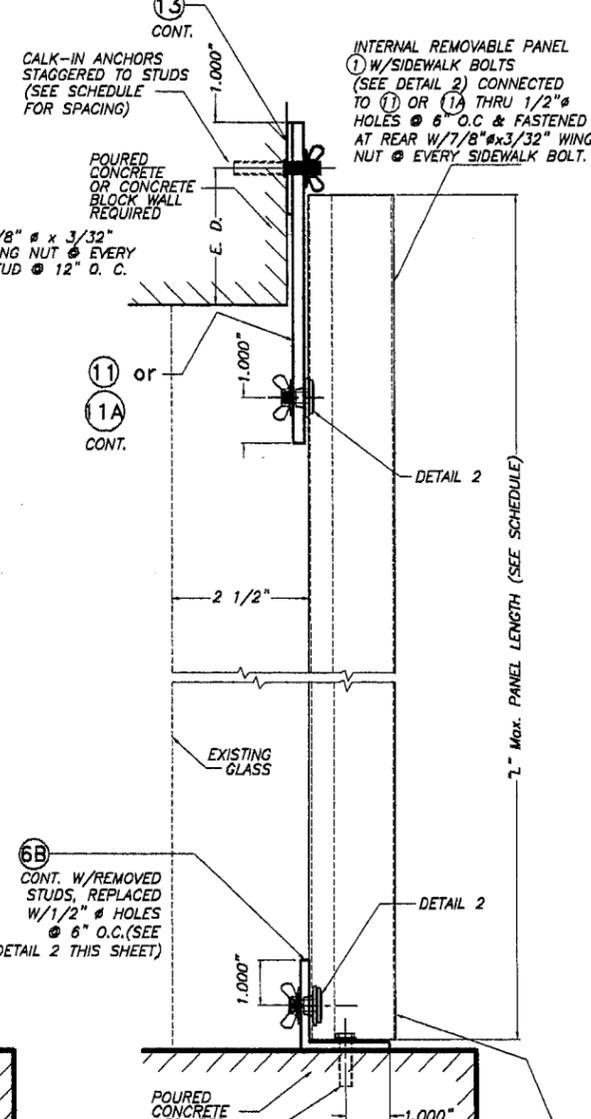


SECTION 12B *

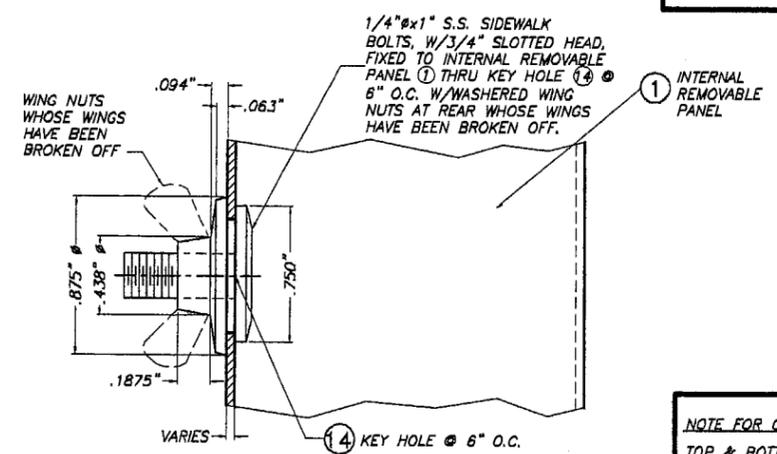


SECTION 13A
WALL MOUNTING INSTALLATIONS

SECTIONS 13
SCALE: 1/4" = 1"



SECTION 13B *



DETAIL 2 - INSTALLATION OF 1/4"x1" SIDEWALK BOLTS @ REMOVABLE PANEL
SCALE: 1" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON SHEETS 7 & 8 OF 12)

NOTE FOR COMBINATION OF SECTIONS:
TOP & BOTTOM INSTALLATIONS INDICATED FOR SECTIONS 11, 12, 13 CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

*** NOTE:**
INTERNAL REMOVABLE PANELS SHOWN ON SECTIONS 11B, 12B & 13B SHALL ALWAYS BE INSTALLED IN BETWEEN REGULAR PANELS MOUNTED AS SHOWN ON SECTIONS 11A, 12A & 13A.

(VALID ONLY FOR UP TO +60.0, -66.0 p.s.f. PRESSURE RATING)

INSTALLATIONS VALID ONLY FOR REGULAR 20 GAGE STEEL PANELS USED JOINTLY WITH 20 GAGE STEEL INTERNAL REMOVABLE PANEL

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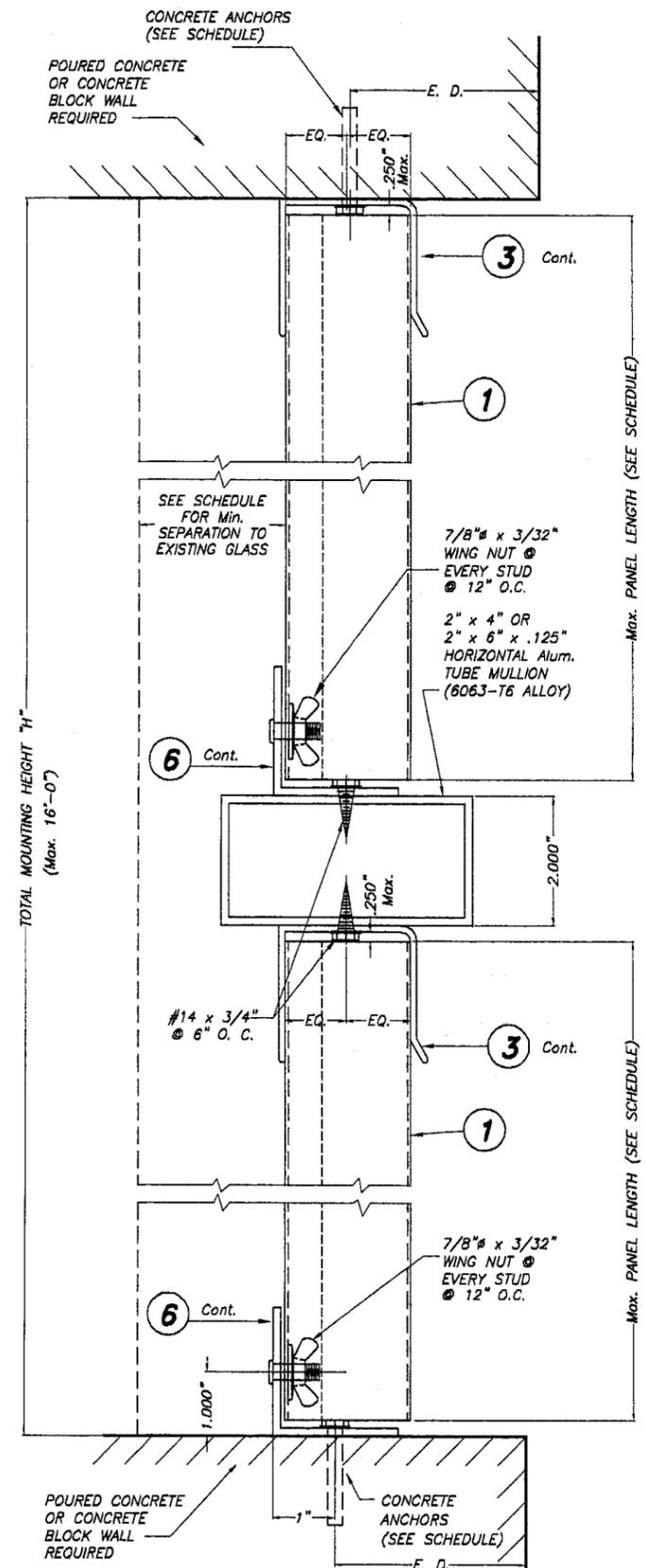
F.B.C. (High Velocity Hurricane Zone)

TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 38th 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

0.0365" THICK STEEL STORM PANEL
ALUFAB HURRICANE SHUTTERS, INC.
13000 NW 38th AVE.
OPA-LOCKA, FLORIDA 33054
PH:(305)681-4701, FAX:(305)681-4604

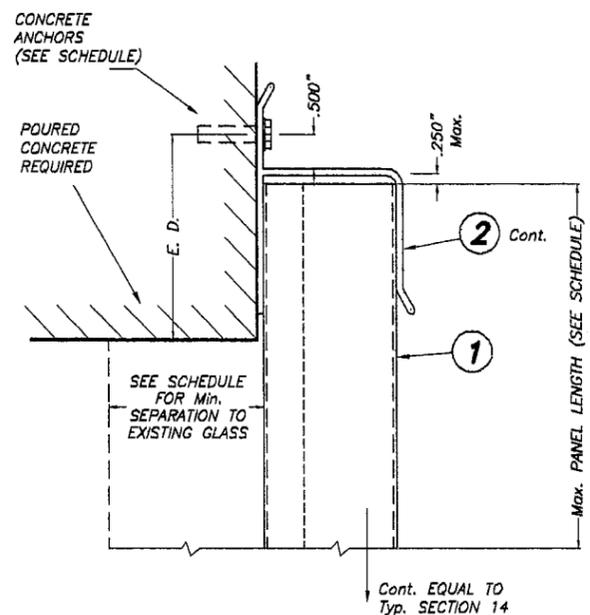
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 01-045	9/22/05	3	-	-
2	-	-	4	-	-

DRAWN BY: J.J.V.
9/22/05 DATE
05-147 DRAWING No
SHEET 5 OF 12



ALTERNATIVE 1
SPLIT PANEL MOUNTING INSTALLATION
- SECTION 14
 SCALE: 3/8" = 1"

NOTE:
 FLOOR & CEILING MOUNT INSTALLATIONS SHOWN. FOR
 DIFFERENT MOUNTING INSTALLATIONS SEE TYPICAL
 SECTIONS ON SHEET 2, 3 & 4 OF 12.

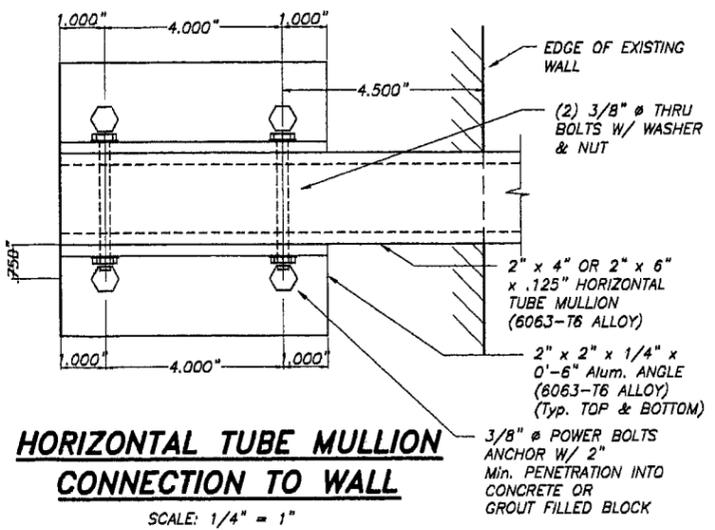


ALTERNATIVE 2 (TOP)

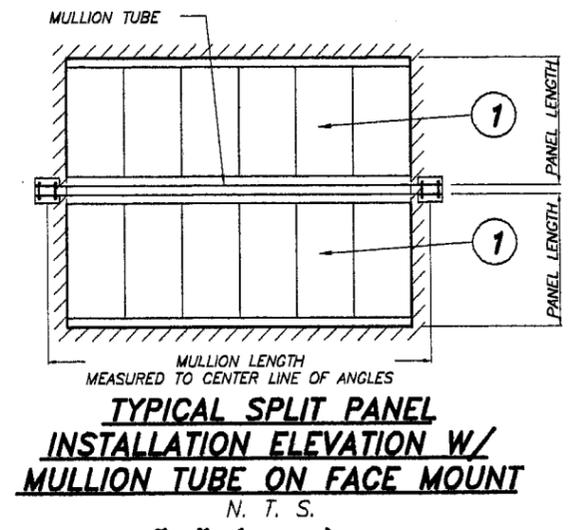
MAXIMUM MULLION SPAN (HORIZONTALLY)
SCHEDULE FOR SPLIT PANEL INSTALLATION

MAXIMUM DESIGN LOAD "W" (p.s.f.)	TOTAL MOUNTING HEIGHT "H"				2"x4" TUBE	2"x6" TUBE
	≤ 10'-0"	10' < H < 12'	12' < H < 14'	14' < H < 16'		
50	7'-0"	6'-7"	6'-3"	6'-0"		
	9'-11"	9'-3"	8'-7"	8'-0"		
60	6'-7"	6'-3"	5'-11"	5'-6"		
	9'-3"	8'-5"	7'-10"	7'-4"		
66	6'-4"	5'-11"	5'-7"	5'-3"		
	8'-10"	8'-1"	7'-6"	7'-0"		

E. D. = EDGE DISTANCE
 (SEE SCHEDULE ON
 SHEETS 7 & 8 OF 12)



HORIZONTAL TUBE MULLION
CONNECTION TO WALL
 SCALE: 1/4" = 1"



TYPICAL SPLIT PANEL
INSTALLATION ELEVATION W/
MULLION TUBE ON FACE MOUNT
 N. T. S.

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND
CORRESPONDING MAXIMUM REGULAR PANEL LENGTH "L" SCHEDULE

MAXIMUM DESIGN PRESSURE RATING W (p.s.f.)	Max. PANEL LENGTH L (ft.) (SEE SECTIONS)	MINIMUM SEPARATION TO GLASS	PANEL CONDITION	APPLICABLE TO SECTION # AND ANY COMBINATION OF THEM
+55.5, -66.0	9'-0" OR LESS	2 3/4"	UNBOLTED	1 THRU 8 EXCEPT SECTION 3
+35.0, -55.0	>9'-0" TO 12'-8"	2 5/8"	BOLTED *	1 THRU 8
+68.0, -72.0	6'-0" OR LESS	2"	UNBOLTED	1, 2, & 7
+60.0, -72.0	9'-0" OR LESS	2 13/16"	UNBOLTED	3
+60.0, -72.0	9'-0" OR LESS	2 5/16"	UNBOLTED	9
+50.0, -60.0	11'-0" OR LESS	2"	UNBOLTED	10

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND
CORRESPONDING MAXIMUM INT. REMOVABLE PANEL LENGTH "L" SCHEDULE

MAXIMUM DESIGN PRESSURE RATING W (p.s.f.)	Max. PANEL LENGTH L (ft.) (SEE SECTIONS)	MINIMUM SEPARATION TO GLASS	PANEL CONDITION	APPLICABLE TO SECTION # AND ANY COMBINATION OF THEM
+60.0, -72.0	9'-0" OR LESS	2 1/2"	UNBOLTED	11
+60.0, -72.0	9'-0" OR LESS	2 1/4"	UNBOLTED	12
+60.0, -72.0	9'-0" OR LESS	2 1/2"	UNBOLTED	13

* BOLTED W/ 1/4" #20 S. S. M. S. & WINGNUT AT OVERLAP & MIDLENGTH OF PANEL.

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 Miami Dade Product Control
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 as complying with the Florida
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REV. NO. DESCRIPTION DATE REV. NO. DESCRIPTION DATE
 1 OLD 01-045 9/22/05 3 - -
 2 - - - 4 - -

DRAWN BY: J.J.V.
 DATE: 9/22/05
 DRAWING No: 05-147
 SHEET 6 OF 12

Handwritten signature and date: 9/23/05

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS INTO CONCRETE AND MASONRY STRUCTURES *

MAXIMUM DESIGN LOAD W (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **								APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	TAPCONS		ZAMAC NAILIN		CALK-IN		PANELMATES			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+55.5, -66.0	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	8'-0" OR LESS
	12"	9"	12"	11"	12"	10"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	12"	9"	12"	11"	12"	10"	12"	12"	2 (BOTTOM)	
	N/A	N/A	N/A	N/A	12"	10"	12"	12"	3 (TOP/BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	4 (TOP)	
	6"	6"	6"	6"	6"	6"	6"	6"	4 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	5 (TOP)	
	10 1/2"	N/A	7"	N/A	8 1/2"	N/A	7"	N/A	5 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6 (TOP)	
	6"	6"	6"	6"	6"	6"	6"	6"	6 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	7 (TOP)	
	8"	6"	8"	7"	8"	8"	8"	8"	7 (BOTTOM)	
	N/A	N/A	N/A	N/A	12"	10"	12"	12"	8 (TOP)	
10 1/2"	N/A	7"	N/A	8 1/2"	N/A	7"	N/A	8 (BOTTOM)		
+60.0, -72.0	N/A	N/A	N/A	N/A	12"	6"	N/A	N/A	3 (TOP)	9'-0" OR LESS
	N/A	N/A	N/A	N/A	12"	6"	N/A	N/A	3 (BOTTOM)	
	12"	7 1/2"	N/A	N/A	12"	8"	N/A	N/A	9 (TOP)	
	12"	7 1/2"	N/A	N/A	12"	8"	N/A	N/A	9 (BOTTOM)	
	10 1/2"	N/A	N/A	N/A	10 1/2"	N/A	N/A	N/A	11A (TOP)	
	N/A	N/A	N/A	N/A	12"	6"	N/A	N/A	11A (BOTTOM)	
	10 1/2"	N/A	N/A	N/A	10 1/2"	N/A	N/A	N/A	11B (TOP)	
	N/A	N/A	N/A	N/A	6"	6"	N/A	N/A	11B (BOTTOM)	
	N/A	N/A	N/A	N/A	2 1/2" +	N/A	N/A	N/A	12A (TOP)	
	N/A	N/A	N/A	N/A	7"	N/A	N/A	N/A	12A (BOTTOM)	
	N/A	N/A	N/A	N/A	2 1/2" +	N/A	N/A	N/A	12B (TOP)	
	N/A	N/A	N/A	N/A	2 1/2" +	N/A	N/A	N/A	12B (BOTTOM)	
	N/A	N/A	N/A	N/A	12"	8"	N/A	N/A	13A (TOP)	
	N/A	N/A	N/A	N/A	7"	N/A	N/A	N/A	13A (BOTTOM)	
N/A	N/A	N/A	N/A	6"	6"	N/A	N/A	13B (TOP)		
N/A	N/A	N/A	N/A	7"	N/A	N/A	N/A	13B (BOTTOM)		

E. D. = EDGE DISTANCE

* SEE SHEET 9, 10, 11 & 12 OF 12 FOR ANCHORS TYPE & SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

** MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E. D. LESS THAN 3 1/2", 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	
	TAPCON/ZAMAC NAILIN/PANELMATES	CALK-IN
3"	.86	.75
2 1/2"	.71	.50
2"	.50	-

ANCHORS LEGEND

ANCHORS TYPE	ANCHOR MIN. SPACING
TAPCON	3.0"
ZAMAC NAILIN	3.0"
CALK-IN	2.5"
PANELMATES	3.0"

+ ANCHORS SPACING ONLY VALID UP TO +60.0, -66.0 p.s.f. PRESSURE RATING

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 08-0527.08
Expiration Date 07/17/2009
By Helmut A. Nelson
Miami Dade Product Control Division

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 05-1003.15
Expiration Date 07/17/2008
By Helmut A. Nelson
Miami Dade Product Control Division

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

 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	0.0365" THICK STEEL STORM PANEL	DRAWN BY: J.J.V.
	ALUFAB HURRICANE SHUTTERS, INC. 13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH: (305)681-4701, FAX: (305)681-4604	9/22/05 DATE
		05-147 DRAWING No
		SHEET 7 OF 12

[Handwritten Signature]
9/23/05

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 01-045	9/22/05	3	-	-
2	-	-	4	-	-

MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS INTO CONCRETE AND MASONRY STRUCTURES *

MAXIMUM DESIGN LOAD W (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **								APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	TAPCONS		ZAMAC NAILIN		CALK-IN		PANELMATES			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+55.5, -66.0	12"	N/A	8 1/2"	N/A	12"	N/A	8"	N/A	1 (TOP)	>8'-0" TO 9'-0"
	12"	8"	11 1/2"	9 1/2"	12"	8 1/2"	11"	10 1/2"	1 (BOTTOM)	
	12"	N/A	8 1/2"	N/A	12"	N/A	8"	N/A	2 (TOP)	
	12"	8"	11 1/2"	9 1/2"	12"	8 1/2"	11"	10 1/2"	2 (BOTTOM)	
	N/A	N/A	N/A	N/A	12"	6"	6"	6"	3 (TOP/BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	4 (TOP)	
	6"	6"	6"	6"	6"	6"	6"	6"	4 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	5 (TOP)	
	9 1/2"	N/A	6"	N/A	7 1/2"	N/A	6"	N/A	5 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6 (TOP)	
	6"	6"	6"	6"	6"	6"	6"	6"	6 (BOTTOM)	
	12"	N/A	8 1/2"	N/A	12"	N/A	8"	N/A	7 (TOP)	
8"	5 1/2"	8"	6 1/2"	8"	6 1/2"	7 1/2"	7 1/2"	7 (BOTTOM)		
N/A	N/A	N/A	N/A	12"	6"	6"	6"	8 (TOP)		
9 1/2"	N/A	6"	N/A	7 1/2"	N/A	6"	N/A	8 (BOTTOM)		
+35.0, -55.0	6"	6"	6"	6"	6"	6"	6"	6"	8 (TOP)	>9'-0" TO 12'-8"
	6"	N/A	5 1/2"	N/A	6"	N/A	5"	N/A	8 (BOTTOM)	
+68.0, -72.0	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	6'-0" OR LESS
	12"	9"	12"	11"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	12"	9"	12"	11"	12"	12"	12"	12"	2 (BOTTOM)	
	N/A	N/A	N/A	N/A	12"	12"	12"	12"	3 (TOP/BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	7 (TOP)	
+50.0, -60.0	10"	N/A	N/A	N/A	9 1/2"	N/A	N/A	N/A	10 (TOP)	11'-0" OR LESS
	8 1/2"	N/A	N/A	N/A	7"	N/A	N/A	N/A	10 (BOTTOM)	

E. D. = EDGE DISTANCE

* SEE SHEET 9, 10, 11 & 12 OF 12 FOR ANCHORS TYPE & SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

** MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E. D. LESS THAN 3 1/2", 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	
	TAPCON/ZAMAC NAILIN/PANELMATES	CALK-IN
3"	.86	.75
2 1/2"	.71	.50
2"	.50	-

ANCHORS LEGEND

ANCHORS TYPE	ANCHOR MIN. SPACING
TAPCON	3.0"
ZAMAC NAILIN	3.0"
CALK-IN	2.5"
PANELMATES	3.0"

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 08-0527.08
Expiration Date 07/17/2009

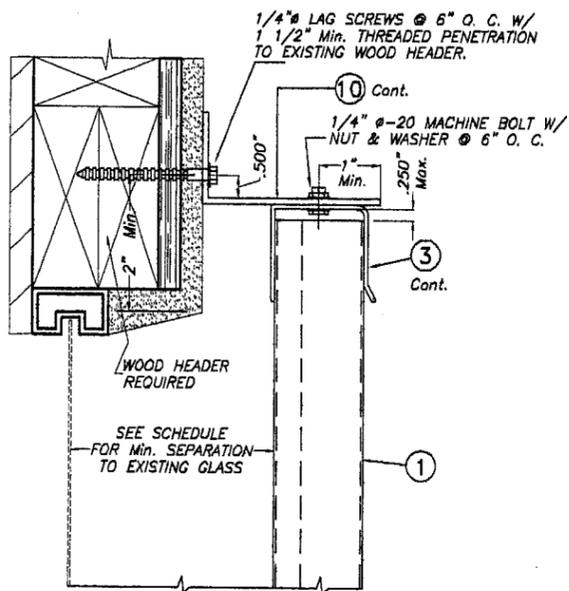
PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 05-1003.15
Expiration Date 07/17/2008

By: *Helmut A. Mahr*
Miami Dade Product Control Division

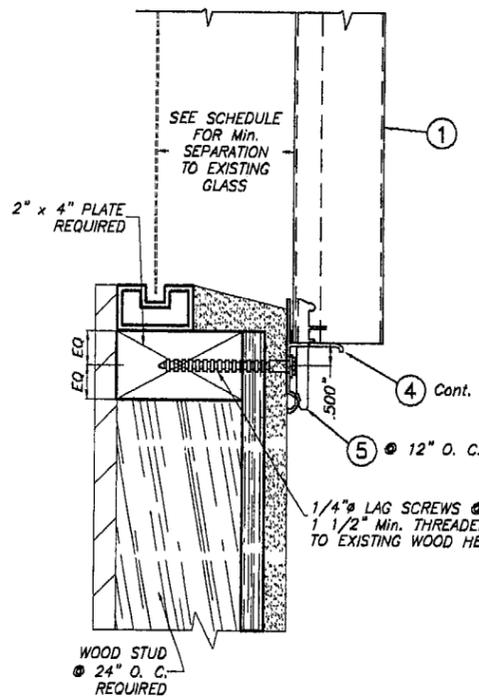
F.B.C. (High Velocity Hurricane Zone)

[Signature]
2/23/05

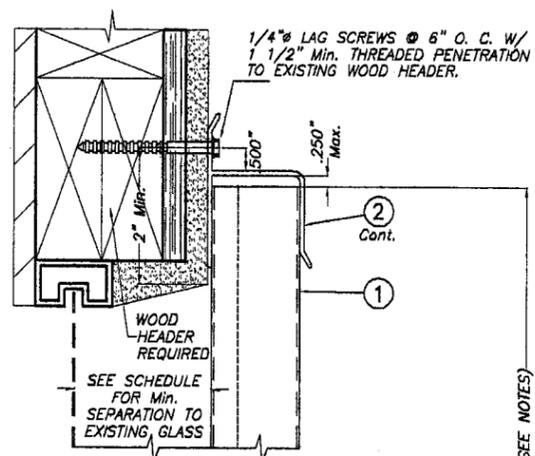
 TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530, Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. 44167	0.0365" THICK STEEL STORM PANEL ALUFAB HURRICANE SHUTTERS, INC. 13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)881-4701, FAX:(305)881-4804	DRAWN BY: J.J.V. 9/22/05 DATE 05-147 DRAWING No																		
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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE															
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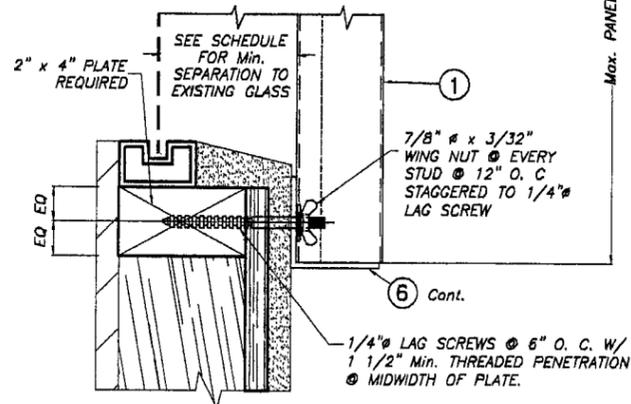
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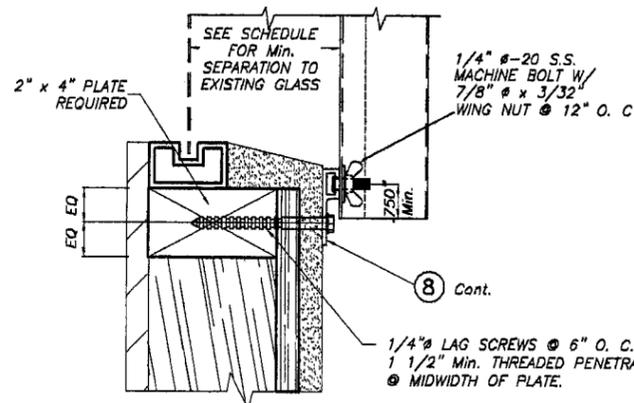
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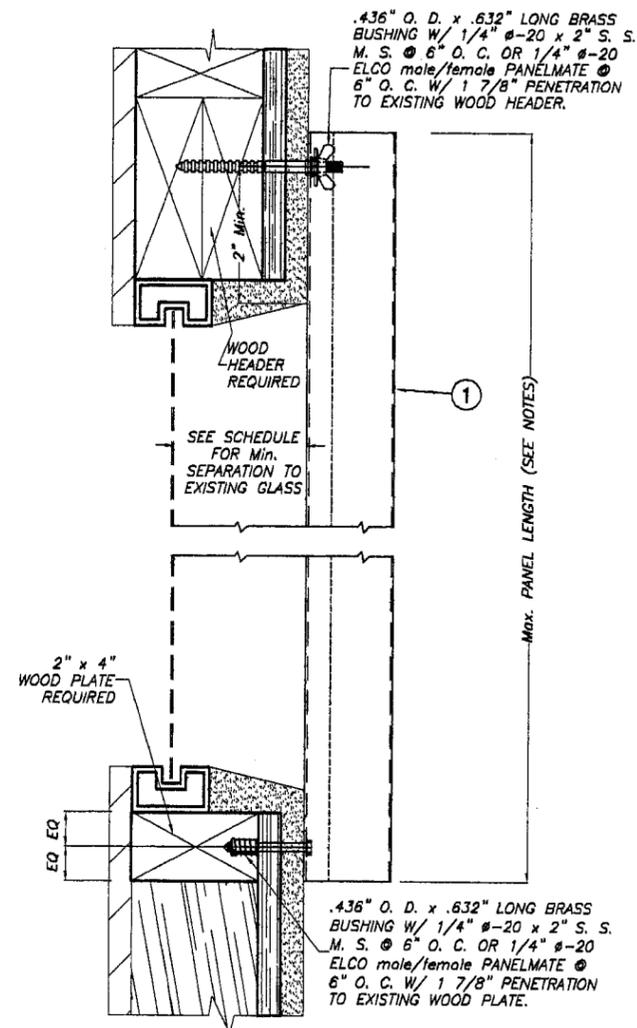
ALTERNATIVE 3



ALTERNATIVE 4



ALTERNATIVE 5



ALTERNATIVE 6

SEE ELEVATIONS ON SHEET 12 OF 12 FOR SPECIAL CONDITIONS CASE 1 AND CASE 2

WALL MOUNTING INSTALLATIONS - SECTION A

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

NOTES:

- INSTALLATIONS ARE VALID ONLY FOR BUILDINGS WITH DESIGN LOADS UP TO 66.0 psf AND PANEL LENGTHS UP TO 9'-0" AND FOR 72.0 psf DESIGN LOADS AND PANEL LENGTHS UP TO 6'-0" VALID FOR ALL ALTERNATIVES SHOWN ON THIS SHEET, EXCEPT ALTERNATIVE # 1 WHICH IS VALID FOR DESIGN LOADS UP TO 66.0 psf AND PANEL LENGTH UP TO 9'-0". ADDITIONALLY ALTERNATIVE #6 IS VALID FOR UP TO 9'-0" MAX. PANEL LENGTH AND 72.0 psf DESIGN LOAD.
- FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

NOTE FOR COMBINATION OF SECTIONS:

WALL MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

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2/23/05

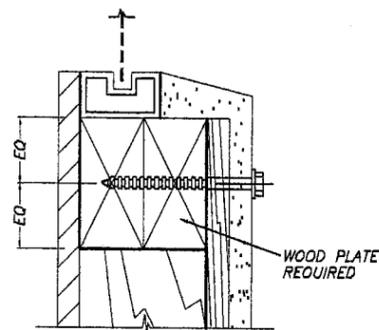
PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 08-0527-08
Expiration Date 07/17/2009

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 05-1003.15
Expiration Date 07/17/2008

By *[Handwritten Signature]*
Miami Dade Product Control Division

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

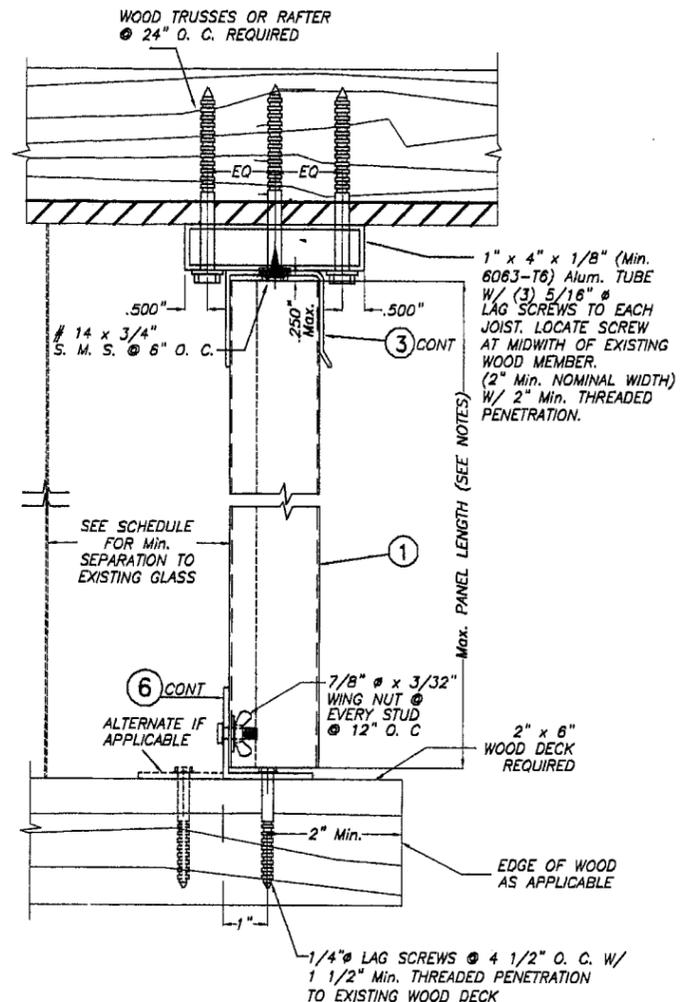
 TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 8355 N.W. 36th St., Ste. 305 VIRGINIA GARDENS, FL 33188 Phone: (305)871-1530 Fax: (305)871-1531 EB-006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. 44167		0.0365" THICK STEEL STORM PANEL		DRAWN BY: J.J.V.	
		ALUFAB HURRICANE SHUTTERS, INC. 13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)681-4701, FAX:(305)681-4604		9/22/05 DATE	
		05-147		DRAWING No	
		SHEET 9 OF 12			



**ALTERNATIVE WOOD FRAME CONDITION
& ANCHOR LOCATION AT BOTTOM**

SCALE: 1/4" = 1"

NOTE: SHUTTER TRACKS NOT SHOWN FOR CLARITY



ALTERNATIVE 1

FLOOR/CEILING MOUNTING INSTALLATIONS

SECTIONS B

SCALE: 1/4" = 1"

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

NOTE FOR COMBINATION OF SECTIONS:

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

NOTES:

- INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH DESIGN LOADS UP TO 86 psf AND PANEL LENGTHS UP TO 9'-0".
- FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No. 08-0527.08
Expiration Date 07/17/2009
By *Helmut A. Weber*
Miami Dade Product Control Division

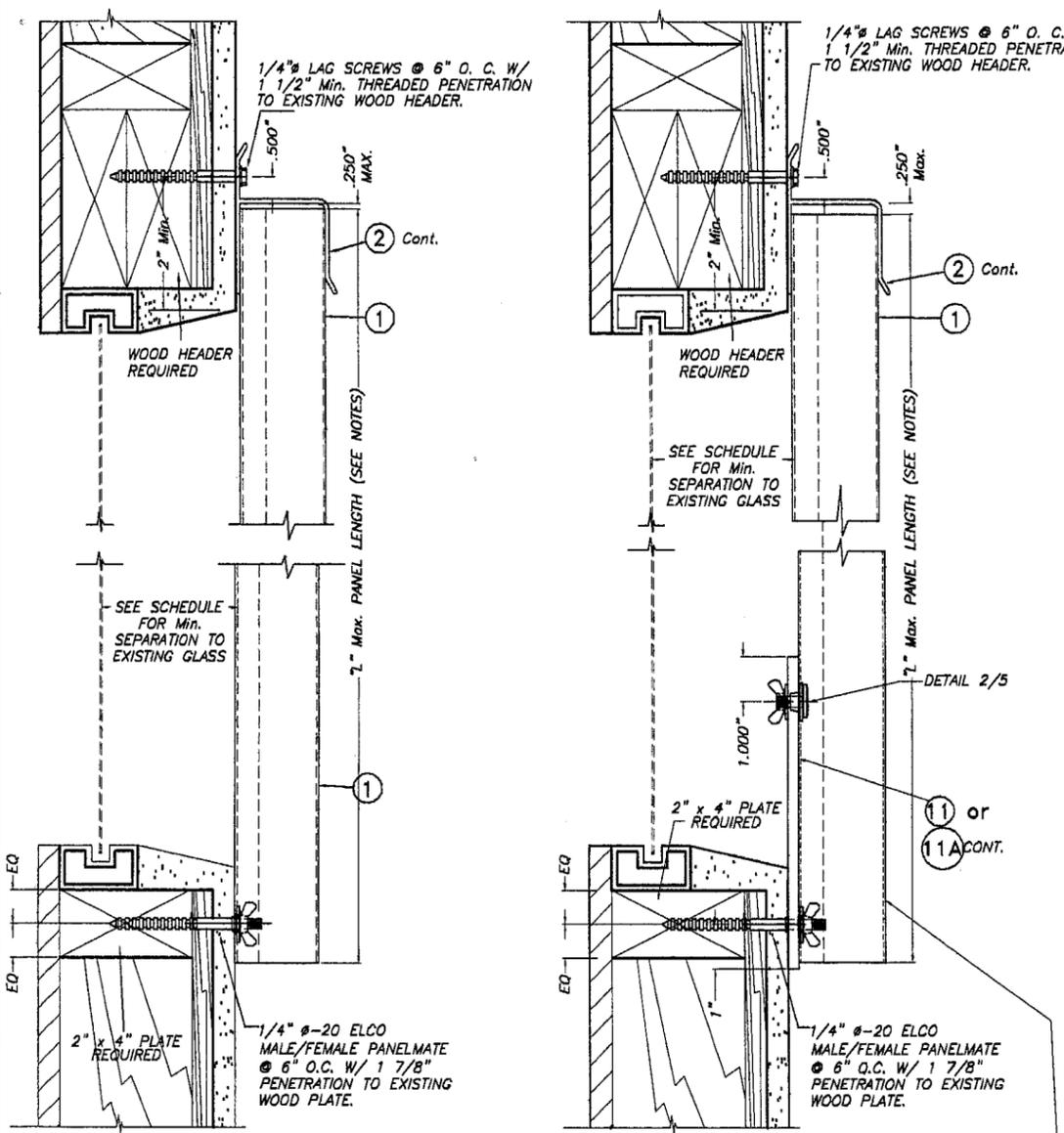
PRODUCT ADVISED
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By *Helmut A. Weber*
Miami Dade Product Control Division

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

W.A.T.
9/23/05

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

0.0365" THICK STEEL STORM PANEL						DRAWN BY: J.J.V.
ALUFAB HURRICANE SHUTTERS, INC.						9/22/05 DATE
13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)681-4701, FAX:(305)681-4604						05-147 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 10 OF 12
1	OLD 01-045	9/22/05	3	-	-	
2	-	-	4	-	-	

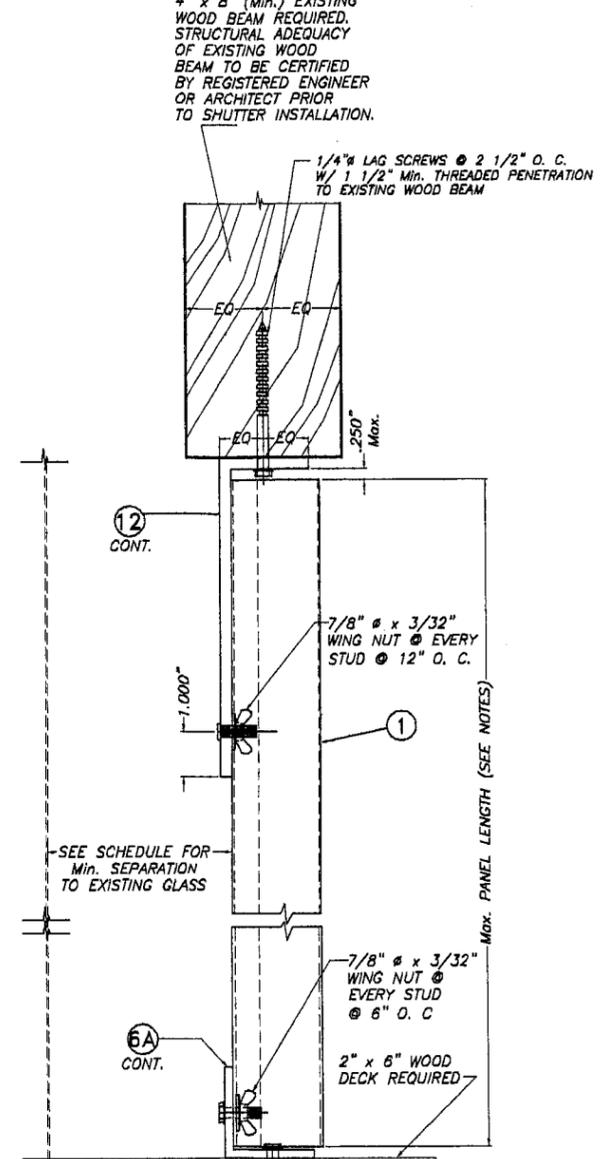
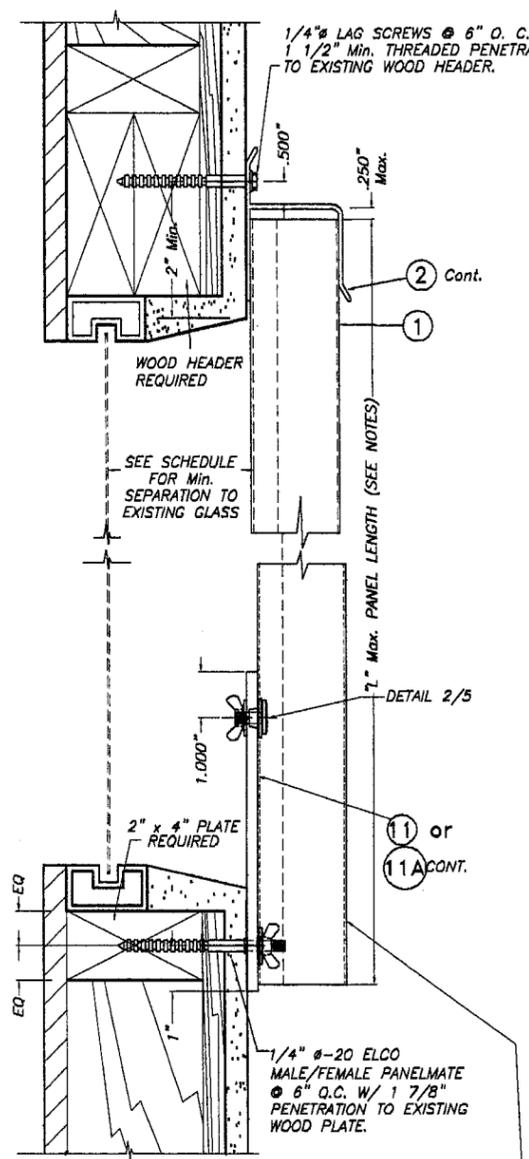


SECTION 11A
SECTION 11B
WALL MOUNTING INSTALLATIONS

SECTIONS 11
SCALE: 1/4" = 1"

NOTE FOR COMBINATION OF SECTIONS:
WALL MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

NOTES:
1. INSTALLATIONS ARE VALID ONLY FOR BUILDINGS WITH DESIGN LOADS UP TO 72.0 psf AND PANEL LENGTHS UP TO 9'-0".
2. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

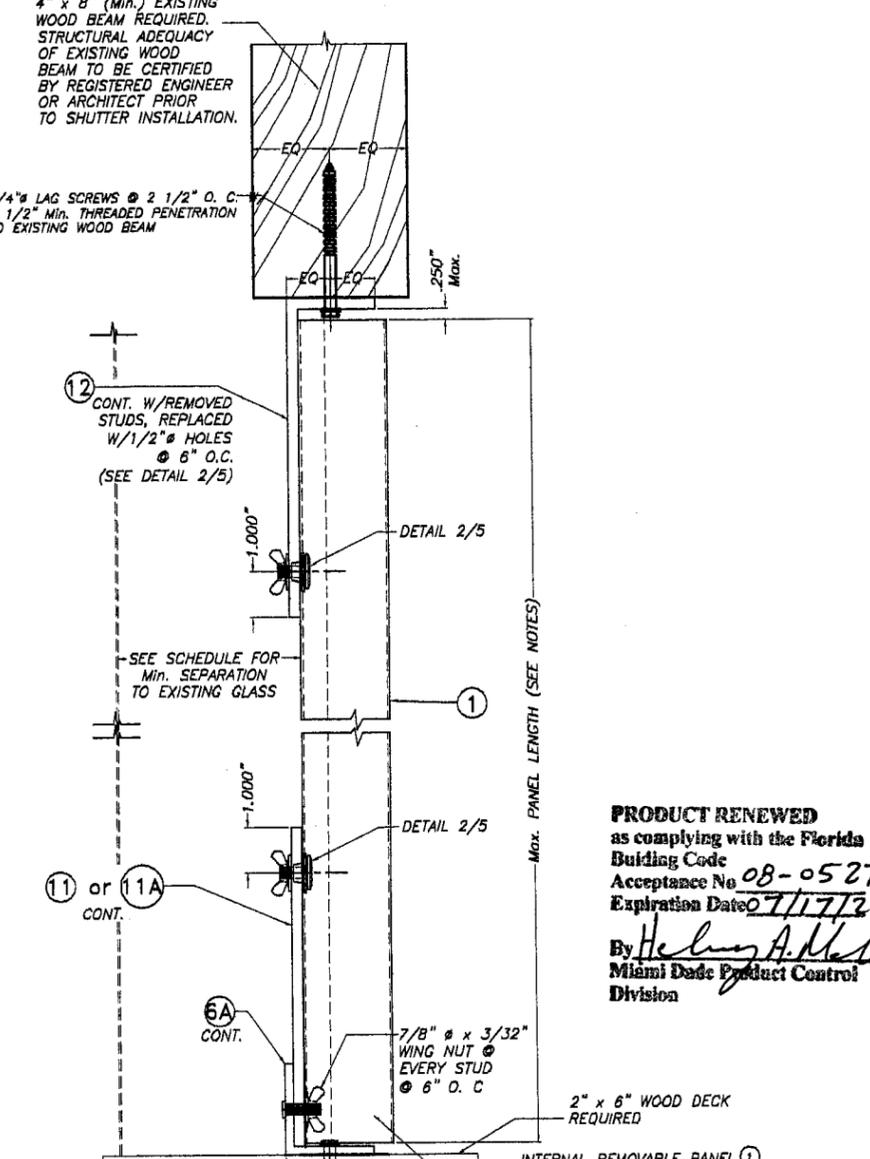


SECTION 12A
SECTION 12B
CEILING & FLOOR MOUNTING INSTALLATION

SECTIONS 12
SCALE: 1/4" = 1"

INSTALLATIONS VALID ONLY FOR REGULAR 20 GAGE STEEL PANELS USED JOINTLY WITH 20 GAGE STEEL INTERNAL REMOVABLE PANEL

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS



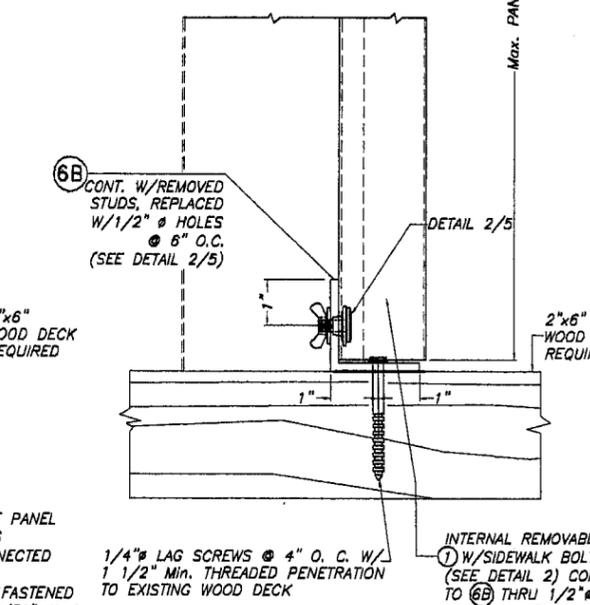
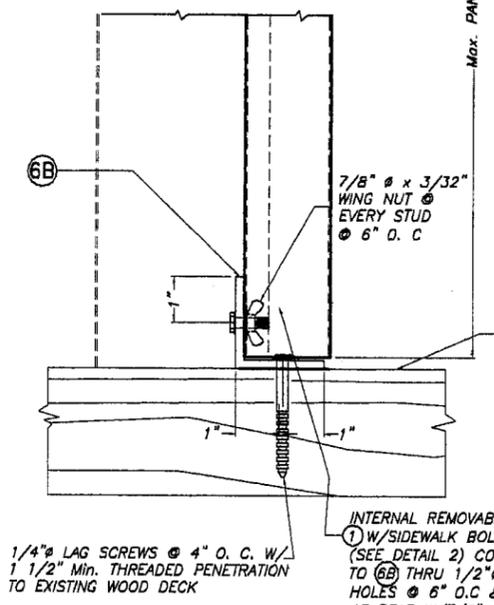
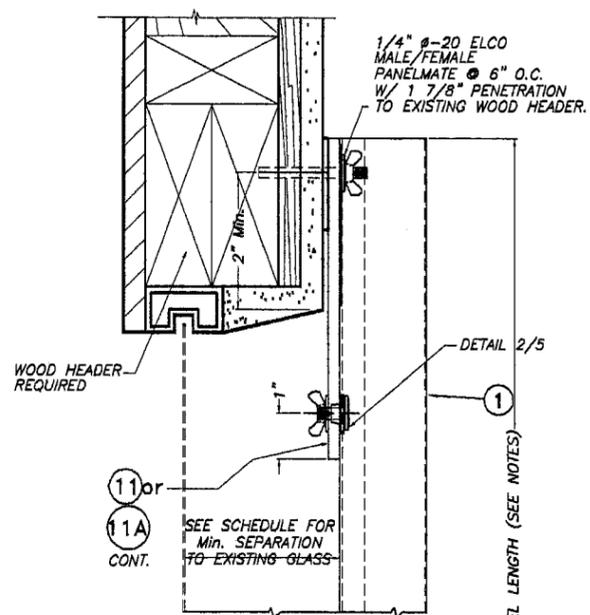
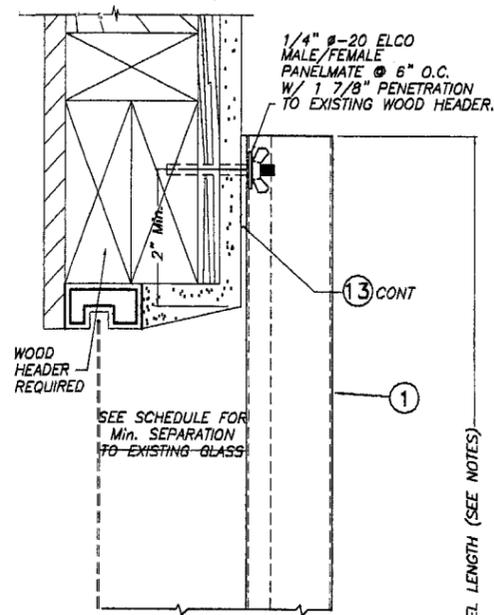
PRODUCT RENEWED
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Acceptance No. 08-0527.08
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Miami Dade Product Control Division

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 TILTECO 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	0.0365" THICK STEEL STORM PANEL ALUFAB HURRICANE SHUTTERS, INC. 13000 NW 38th AVE. OPA-LOCKA, FLORIDA 33054 PH:(305)681-4701, FAX:(305)681-4604	DRAWN BY: J.J.V. 9/22/05 DATE 05-147 DRAWING No SHEET 11 OF 12																	
	<table border="1"> <thead> <tr> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>OLD 01-045</td> <td>9/22/05</td> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> <td>4</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	1	OLD 01-045	9/22/05	3	-	-	2	-	-	4	-	-
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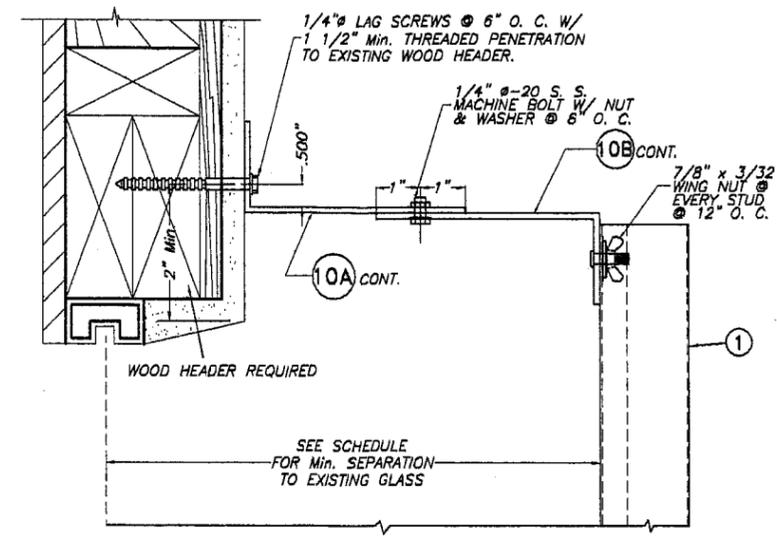
SECTION 13A

SECTION 13B

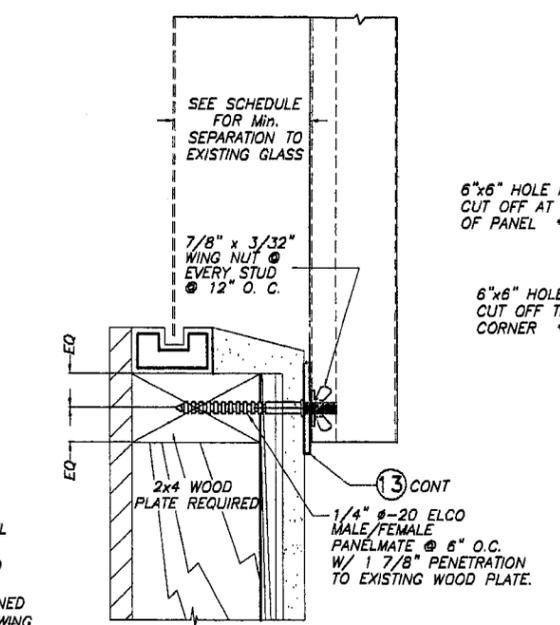
WALL/FLOOR MOUNTING INSTALLATIONS

SECTIONS 13

SCALE: 1/4" = 1"



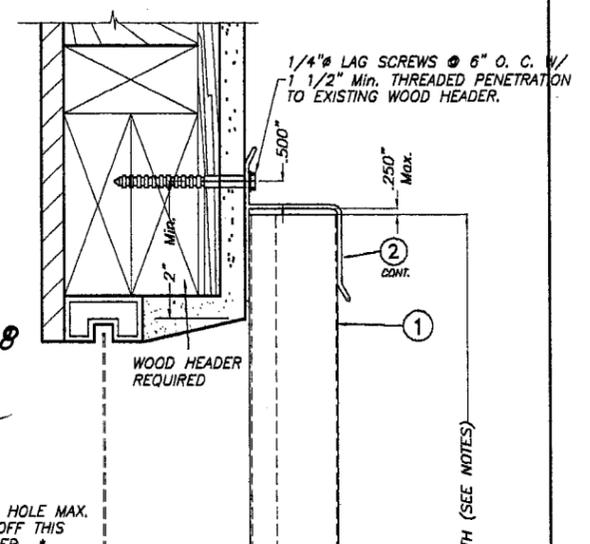
ALTERNATIVE 14



**ALTERNATIVE 15
BUILD-OUT/WALL
MOUNTING INSTALLATIONS**

SCALE: 1/4" = 1"

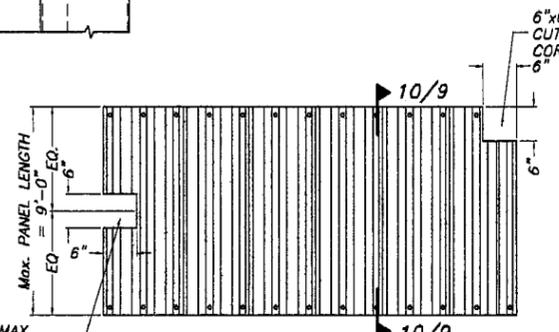
PRODUCT RENEWED
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Building Code
Acceptance No. 08-0527.08
Expiration Date 07/17/2009
By Helmut A. Mehn
Miami Dade Product Control
Division



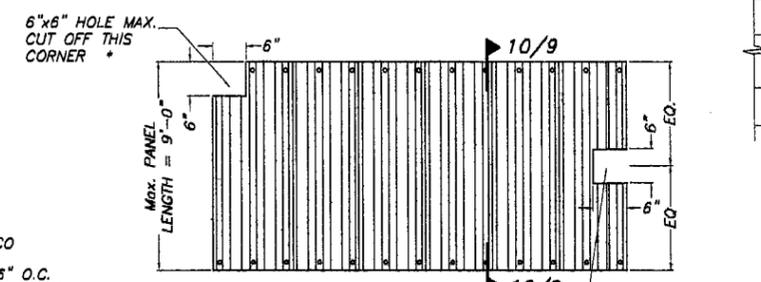
ALTERNATIVE 16

**WALL/FLOOR
MOUNTING INSTALLATIONS**

SCALE: 1/4" = 1"



ELEVATION CASE 1



ELEVATION CASE 2

**MAX. ALLOWABLE NOTCH TO BE
MADE ON DIRECT MOUNTED END
PANELS W/9'-0" MAX. PANEL
LENGTH AND +60. -72 psf.
PRESSURE RATING**

* NOTCHES ON END PANELS CAN ONLY BE
AS SHOWN W/ ONE NOTCH MAX. PER PANEL

PRODUCT RENEWED
as complying with the Florida
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Acceptance No. 05-1003.15
Expiration Date 07/17/2008
By Helmut A. Mehn
Miami Dade Product Control
Division

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

NOTE FOR COMBINATION OF SECTIONS:
WALL MOUNTING SECTIONS CAN BE COMBINED
IN ANY WAY TO SUIT ANY INSTALLATION.

NOTES:
1. INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH DESIGN LOADS UP
TO 72.0 psf AND PANEL LENGTHS UP TO 9'-0" FOR SECTIONS 13,
ALTERNATIVE 14, ALTERNATIVE 15, AND 60.0 psf DESIGN LOADS AND
PANEL LENGTHS UP TO 11'-0" VALID FOR ALTERNATIVE 16.
2. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN
PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

**INSTALLATIONS VALID ONLY FOR REGULAR 20 GAGE STEEL PANELS
USED JOINTLY WITH 20 GAGE STEEL INTERNAL REMOVABLE PANEL
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS**

Handwritten signature and date: 9/23/05

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.
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0.0365" THICK STEEL STORM PANEL

ALUFAB HURRICANE SHUTTERS, INC.
13000 NW 38th AVE.
OPA-LOCKA, FLORIDA 33054
PH: (305)681-4701, FAX: (305)681-4604

REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
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2	-	-	4	-	-

DRAWN BY: J.J.V.
DATE: 9/22/05
DRAWING No: 05-147
SHEET 12 OF 12