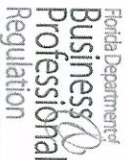


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Product Approval
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[Product Approval Menu](#) > [Product or Application Search](#) > [Application List](#) > [Application Detail](#)

FL #	FL11964-R1
Application Type	Revision
Code Version	2010
Application Status	Approved
Comments	
Archived	

Product Manufacturer	Eastern Metal Supply
Address/Phone/Email	4268 Westroads Drive West Palm Beach, FL 33407 (800) 432-2204 lrodriguez@eastermetal.com

Authorized Signature	Bill Feeley lrodriguez@eastermetal.com
----------------------	---

Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	
Address/Phone/Email	

Category	Shutters
Subcategory	Storm Panels

Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer
	Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report	Walter A. Tillitt, Jr.
Florida License	PE-44167
Quality Assurance Entity	National Accreditation and Management Institute
Quality Assurance Contract Expiration Date	12/31/2013
Validated By	John Henry Kampmann Jr. Validation Checklist - Hardcopy Received

Certificate of Independence	FL11964_R1_COI_EASTERN METAL_Certification of Independence drwg_11-226.pdf
-----------------------------	---

Referenced Standard and Year (of Standard)	<table><tr><th>Standard</th><th>Year</th></tr><tr><td>ASTM E1886</td><td>2002</td></tr><tr><td>ASTM E1996</td><td>2002</td></tr><tr><td>ASTM E330</td><td>2002</td></tr></table>	Standard	Year	ASTM E1886	2002	ASTM E1996	2002	ASTM E330	2002
Standard	Year								
ASTM E1886	2002								
ASTM E1996	2002								
ASTM E330	2002								

Equivalence of Product Standards Certified By	
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Sections from the Code	
------------------------	--

Product Approval Method

Method 1 Option D

Date Submitted
Date Validated
Date Pending FBC Approval
Date Approved

12/16/2011
12/16/2011
01/03/2012
01/31/2012

Summary of Products

Fl. #	Model, Number or Name	Description
11964.1	0.050" Bertha Aluminum Storm Panel (2 inch) - Drawing number 11-221	Corrugated aluminum Storm Panels retained or not by tracks to provide hurricane protection.
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Large missile. Max. span is 13'-0" for +30, -30 p.s.f. ASD and 4'-0" for +90, -130 p.s.f. ASD for retained panels. See sheet 2 of installation drawing for other spans and pressures.		Installation Instructions FL11964 R1 IT EASTERN METAL DRWG 11-221.pdf Verified By: American Test Lab of South Florida Inc. Created by Independent Third Party: Yes Evaluation Reports FL11964 R1 AE EASTERN METAL Product evaluation report drwg 11-221.pdf Created by Independent Third Party: Yes
11964.2	24 Gage Bertha Galvanized Steel Panel (2 inch) - Drawing number 11-226	Corrugated steel storm panels retained or not by tracks to provide hurricane protection.
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Large Missile. Max. span is 9'-10" for +32.6, -32.6 p.s.f. ASD and 2'-8" for +98.0, -58.0 p.s.f. ASD See sheet 2 of installation drawing number 08-149 for other spans and pressures.		Installation Instructions FL11964 R1 IT EASTERN METAL DRWG 11-226.pdf Verified By: American Test Lab of South Florida Inc. Created by Independent Third Party: Yes Evaluation Reports FL11964 R1 AE EASTERN METAL Product evaluation report drwg 11-226.pdf Created by Independent Third Party: Yes

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Contact Us :: 1340 North Monroe Street, Tallahassee FL 32399 Phone: 850-487-1824

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Product Approval Accepts:



GENERAL NOTES:

1. STORM PANEL SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2010 EDITION OF THE FLORIDA BUILDING CODE. THIS STORM PANEL SHALL NOT BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE / BROWARD COUNTIES).

DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE ABOVE MENTIONED CODE, FOR A WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THESE SHUTTERS WILL BE INSTALLED AND FOR A DIRECTIONALITY FACTOR $K_d=0.85$, USING ASCE 7-10 FOR INSTALLATIONS UNDER 2010 FBC AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 2, 7, 9 THRU 17.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER ASCE 7-10 SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO TO COMPARE THESE W/ MAX. (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 2, 7, 9 THRU 17.

IN ORDER TO VERIFY THAT COMPONENTS AND ANCHORS ON THIS P.E.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 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER AMERICAN TEST LAB REPORTS # 0321.01-05, # 0812.01-05 AND # 0119.01-06, PER ASTM E 1886-02, E 1996-02 AND ASTM E-330 STANDARDS, QUALIFIED FOR WIND ZONES 1, 2 AND 3; MISSILE TYPE D (BASIC PROTECTION ONLY) AND FOR INSTALLATION AT NON ESSENTIAL FACILITIES AS DEFINED BY SECTIONS 6.2.1.1 AND 6.2.1.2 OF ASTM E 1996-02.

2. ALL ALUMINUM SHEET METAL PANELS SHALL HAVE 5052-H32 OR 3004-H34 ALLOY.

3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY & TEMPER UNLESS OTHERWISE NOTED. STORM PANEL COMPONENTS (A) STUDDED PLATE AND (B) SNAP CAP ARE PATENT PENDING.

4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 W/ 50 KSI YIELD STRENGTH AND 90 KSI TENSILE STRENGTH & SHALL COMPLY W/ FLORIDA BUILDING CODE SECTION 2411.3.3.4.

5. BOLTS TO BE ASTM A-307 GALVANIZED STEEL OR AISI 304 SERIES STAINLESS STEEL, WITH 35 KSI MINIMUM YIELD STRENGTH.

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

- 1/4" S.G. TAPCONS AS MANUFACTURED BY I.T.W./BUILDEX.
- 1/4" S.G. TAPCONS AS MANUFACTURED BY ITW/ BUILDEX.
- 1/4" PANEL MATES ANCHORS MALE OR TVAS AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
- 1/4" x 3/4" SOLID SET ANCHORS, AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.

NOTES:

- A.1) MINIMUM EMBEDMENT INTO POURED CONCRETE OF TAPCON ANCHORS AND S.G. TAPCONS IS 1 3/4"; FOR ELCO PANELMATE AND ELCO TVAS IS 2".

- A.2) 3/4" SOLID SET 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.

- 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 CONCRETE BLOCK WALL:

- 1/4" S.G. TAPCONS AS MANUFACTURED BY I.T.W./BUILDEX.
- 1/4" S.G. TAPCONS AS MANUFACTURED BY ITW/ BUILDEX.
- 1/4" PANEL MATES ANCHORS MALE OR TVAS AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
- 1/4" x 3/4" SOLID SET ANCHORS, AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.

NOTES:

- B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS, S.G. TAPCONS, ELCO PANELMATE, ELCO TVAS. INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".

- B.2) -3/4" SOLID SET 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.

- 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 IN B.1) & B.2) ABOVE.

- (C) TO EXISTING WOOD FRAME BUILDINGS, SEE SPECIFICATIONS ON SHEETS 12, 13, 14 & 15. ANCHORAGE SHALL BE PERFORMED BEYOND ANY FINISH MATERIAL AT WALL LIKE BRICK VENEER, STUCCO OR ANY OTHER FINISH.

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

7. PANELS MAY ALSO BE INSTALLED HORIZONTALLY FOLLOWING INSTALLATION DETAILS SHOWN ON SECTIONS 1 THRU 13 (SHEET 4 THRU 8) EXCEPT THAT HEADERS 2, 3, 3A & 4 SHALL NOT BE USED.

8. 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.

9. THE INSTALLATION CONTRACTOR IS TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH.

10. (a) THIS P.E.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.E.D.

- (b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS P.E.D. PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

- (c) THIS P.E.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

- (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.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

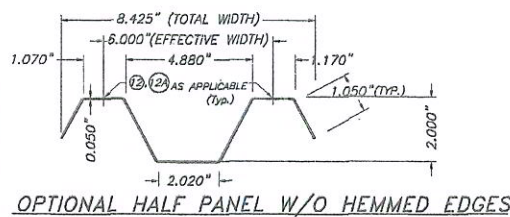
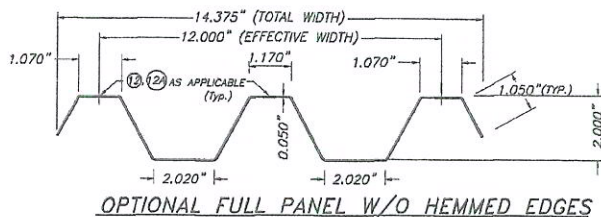
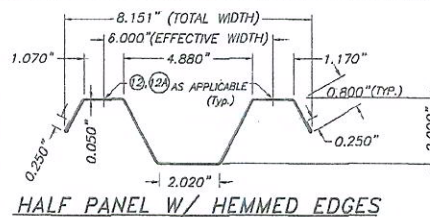
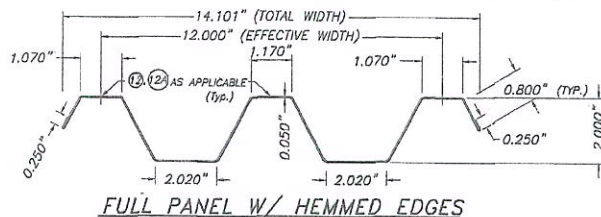
- (e) THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT STORM PANEL IN ACCORDANCE WITH SECTION 1715.8.3 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1715.8.2 OF THE FLORIDA BUILDING CODE.



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

© 2011 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		M.C.V./R.E./A.G. DRAWN BY:	
TILTECO INC. TILIT TESTING & ENGINEERING COMPANY 8325 N.W. 36th St., Ste. 205, VIRGINIA GARDENS, FL 33156 Phone: (305)871-1530, Fax: (305)871-1531 E8-C006719		EASTERN METAL SUPPLY, INC 4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)841-1715		12/06/11 DATE:	
WALTER A. TILLIT JR., P.E. FLORIDA Lic. 44167				11-221 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 03-146	12/05/11	3		
1			4		
				SHEET 1 OF 17	



① STORM PANEL
SCALE: 1/4" = 1"

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND
CORRESPONDING MAXIMUM PANEL LENGTH "L" SCHEDULE**

**PANELS RETAINED AT BOTH
ENDS WITH TRACKS
①②③④⑤⑥⑦⑧⑨⑩⑪⑫
OR DIRECT MOUNTED ***

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	Max. PANEL LENGTH L (ft.)
+30.0, -30.0	13'-0"
+35.0, -35.0	12'-8"
+40.0, -40.0	12'-4"
+45.0, -45.0	12'-0"
+50.0, -50.0	11'-0"
+55.0, -55.0	10'-0"
+60.0, -60.0	9'-4"
+70.0, -70.0	8'-0"
+80.0, -80.0	7'-0"
+90.0, -90.0	6'-3"
+90.0, -100.0	5'-7"
+90.0, -110.0	5'-1"
+90.0, -120.0	4'-8"
+90.0, -130.0	4'-0"

**PANELS RETAINED AT LEAST
IN ONE OF THEIR ENDS
WITH TRACKS
③④⑤ OR ④***

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	Max. PANEL LENGTH L (ft.)
+30.0, -30.0	13'-0"
+35.0, -35.0	12'-0"
+40.0, -40.0	11'-3"
+45.0, -45.0	10'-0"
+50.0, -50.0	9'-0"
+55.0, -55.0	8'-2"
+60.0, -60.0	7'-8"
+70.0, -70.0	6'-5"
+80.0, -80.0	5'-8"
+90.0, -90.0	5'-0"
+90.0, -100.0	5'-0"
+90.0, -110.0	5'-0"
+90.0, -120.0	4'-9"
+90.0, -130.0	4'-4 1/2"

* NOTE:
MAX. A.S.D. DESIGN PRESSURE RATING & MAXIMUM
PANEL LENGTH
FOR INTERNALLY REMOVABLE PANELS AS PER
MOUNTING INSTALLATIONS ON SHEET 7 OF 17 IS
+ 50.0, - 50.0 p.s.f. W/ 88" MAX. PANEL
LENGTH.

MAX. A.S.D. DESIGN PRESSURE RATING & MAXIMUM
PANEL LENGTH
FOR MOUNTING AS PER ALTERNATIVE #11 AND 14
ON SHEET 14A AND 15 OF 17, RESPECTIVELY, ARE
+50.0, -50.0 p.s.f. FOR 78" MAX. PANEL LENGTH,
AND +50.0, -50.0 p.s.f. FOR UP TO 108" PANEL
LENGTH.

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY

6350 N.W. 35TH, SUITE 305, VIRGINIA GARDENS, FL 33166

Phone: (305) 871-1530 Fax: (305) 871-1531

ED-0006719

WALTER A. TILLIT JR., P.E.

FLORIDA Lic. 44167

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC

4289 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407

PHONE: (561) 209-8263, FAX: (561) 841-1716

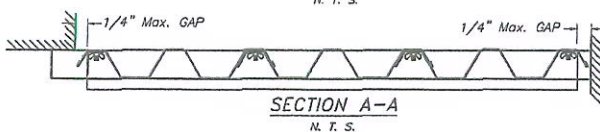
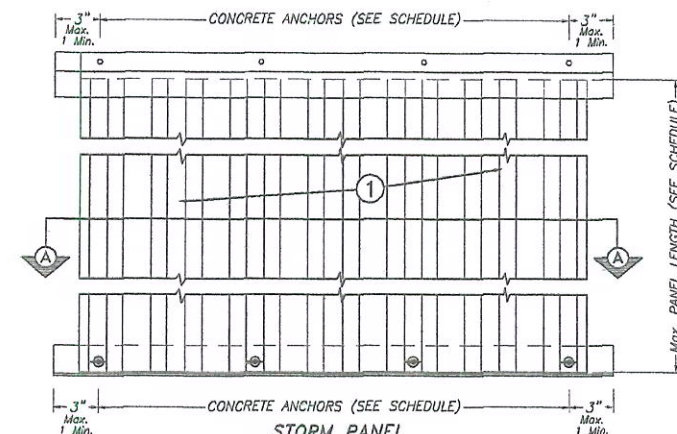
M.C.V./R.E./R.B.
DRAWN BY:

12/06/11
DATE:

11-221

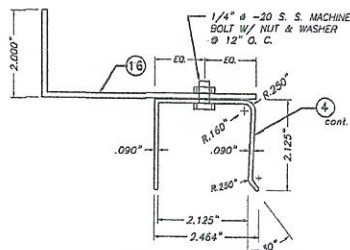
DRAWING No

SHEET 2 OF 17

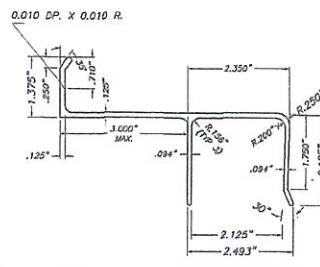




② **1/2" HEADER**
SCALE: 3/8" = 1"



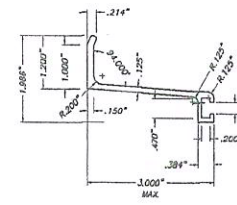
③ **3" Max. "U" BUILD OUT**
SCALE: 3/8" = 1"



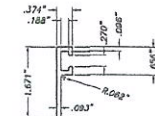
⑤A **OPTIONAL 3" Max. "U" BUILD OUT HEADER**
SCALE: 3/8" = 1"



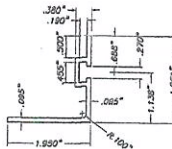
④ **"U" HEADER**
SCALE: 3/8" = 1"



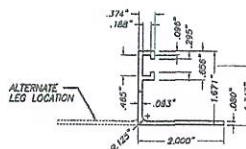
⑤ **3" MAX. ANGLE BUILD OUT BRACKET**
SCALE: 3/8" = 1"



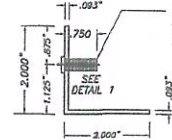
⑥ **"F" TRACK**
SCALE: 3/8" = 1"



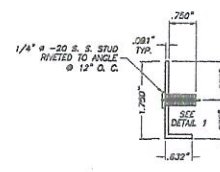
⑦ **REVERSED "F" ANGLE TRACK**
SCALE: 3/8" = 1"



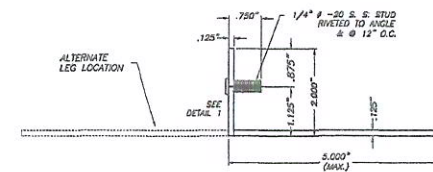
⑧ **"F" TRACK ANGLE**
SCALE: 3/8" = 1"



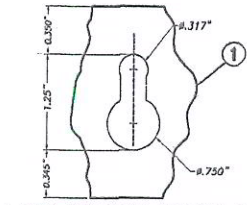
⑨ **STUDED ANGLE**
6063-T5 ALUM. ALLOY
SCALE: 3/8" = 1"



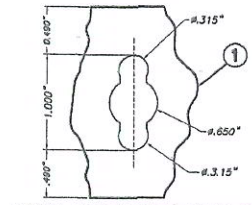
⑩ **MINI WALL 1.75" x 0.632" ANGLE WITH STUD**
SCALE: 1/2" = 1"



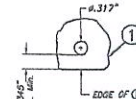
⑪ **2" x 5" (MAX.) x 1/8" ANGLE WITH STUD**
SCALE: 3/8" = 1"



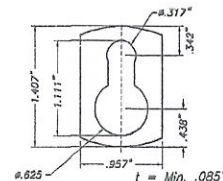
LARGE KEY HOLE (OPTION 1)
SCALE: 3/8" = 1"



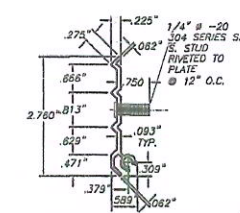
SMALL KEY HOLE (OPTION 2)
SCALE: 3/8" = 1"



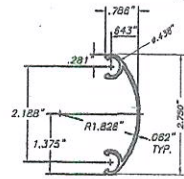
⑫A **ROUND HOLE AT PANEL**



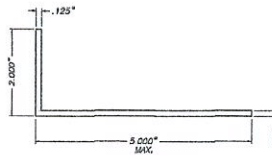
⑬ **KEY HOLE WASHER**
3105-11154 ALUM. ALLOY
SCALE: 3/4" = 1"



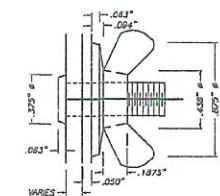
⑭ **STUDED PLATE**
6063-T5 ALLOY
SCALE: 3/8" = 1"



⑮ **SNAP CAP**
6061-T6 ALLOY
SCALE: 3/8" = 1"

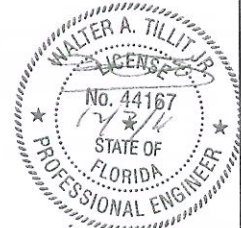


⑯ **B.O. ANGLE**
SCALE: 3/4" = 1"



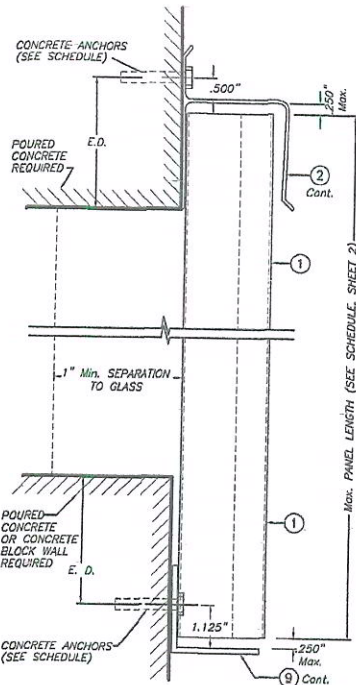
DETAIL 1: STUD W/ WING NUT

COMPONENTS

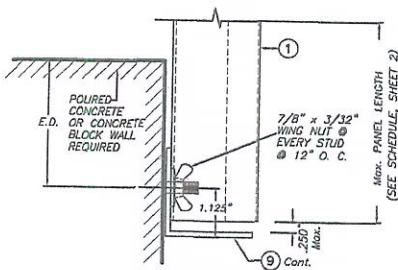


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

© 2011 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		M.C.V./R.E./A.G. DRAWN-BY:	
TILTECO INC.		EASTERN METAL SUPPLY, INC.		12/06/11 DATE:	
TILIT TESTING & ENGINEERING COMPANY		4288 WEST ROADS DRIVE		11-221 DRAWING No	
6353 N.W. 20th St., Suite 305, Virginia Gardens, FL 33166		WEST PALM BEACH, FL 33407		SHEET 3 OF 17	
Phone: (305) 871-1533, Fax: (305) 871-1531		PHONE: (561) 209-8263, FAX: (561) 941-1716			
ED-0005719					
WALTER A. TILIT Jr., P.E.					
FLORIDA Lic. 44167					
REV. NO.	DESCRIPTION	DATE	REV. NO.	DESCRIPTION	DATE
1	OLD GS-148	12/06/11	3		
2			4		



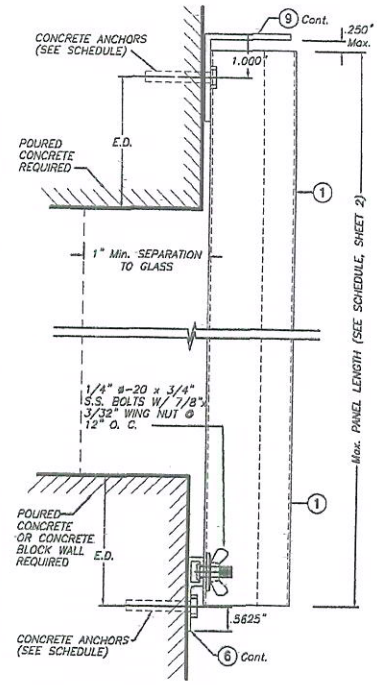
SECTION 1 ANCHOR



SECTION 1 STUD

WALL MOUNTING INSTALLATION
SECTION 1

NOTE: DETAIL OF SECTION 1 STUD VALID ALSO FOR WALL MOUNTING INSTALLATION - SECTION 2 (TOP)

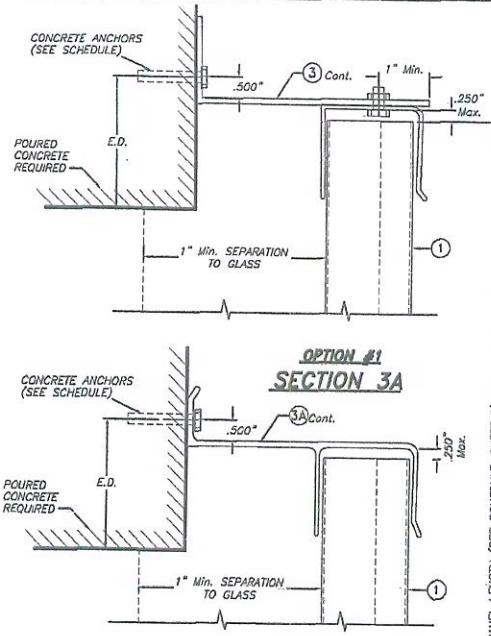


WALL MOUNTING INSTALLATION
SECTION 2

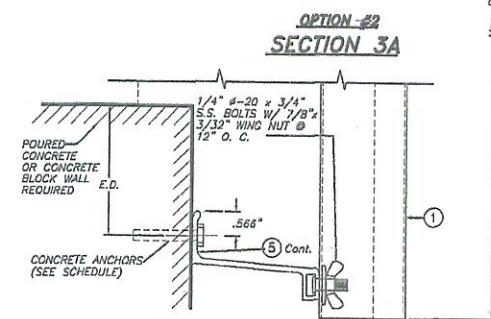
SCALE: 1/2" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON SHEETS 9 & 10 & 11)

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

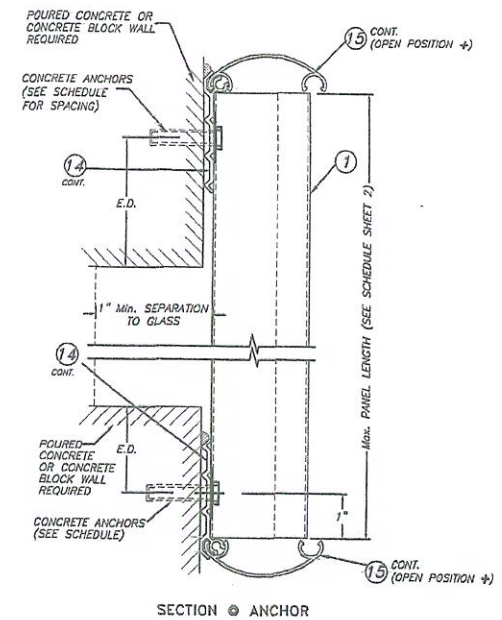
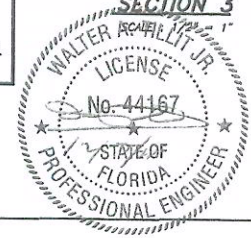


OPTION #1
SECTION 3A

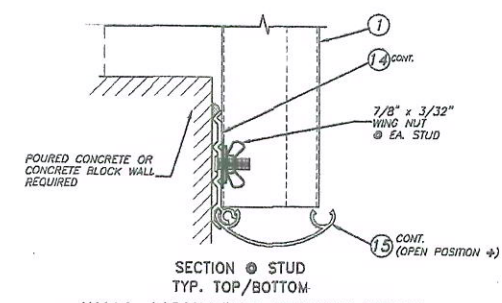


OPTION #2
SECTION 3A

BUILD OUT INSTALLATION
SECTION 3



SECTION 4 ANCHOR



SECTION 4 STUD

WALL MOUNTING INSTALLATION
SECTION 4

SCALE: 1/2" = 1"

* NOTE: SNAP CAP (15) TO REMAIN CLOSED AT NON HURRICANE CONDITIONS.

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

M.C.V./R.E./A.G.
DRAWN BY:

The logo for TILTECO INC. features the company name in a bold, sans-serif font. The 'T' and 'C' are significantly larger and more stylized than the other letters. Below the name is a horizontal line, and underneath that, the words 'TILLIT TESTING & ENGINEERING COMPANY' are written in a smaller, all-caps font.

TILLIT TESTING & ENGINEERING COMPANY

6355 N.W. 28th St., Ste. 305, VIRGINIA GARDENS, FL 33166

Phone: (561)971-1530 Fax: (561)971-1531

EB-0006719

WALTER A. TILLIT JR., P.E.

FLORIDA Lic. 44167

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE

WEST PALM BEACH, FL 33407

PHONE: (561)209-8263, FAX: (561)841-1716

12/06/11

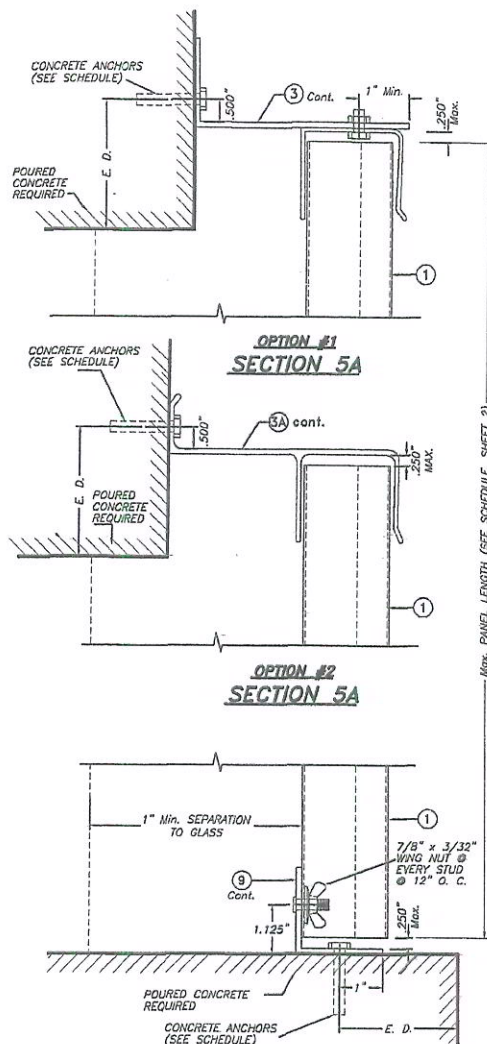
DATE:

11-221

DRAWING No

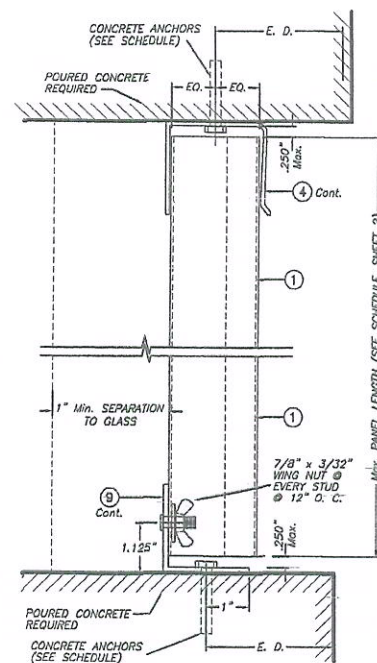
REV. NO.	DESCRIPTION	DATE	REV. NO.	DESCRIPTION	DATE
1	OLD 24-148	12/06/11	2		
			3		

SHEET 4 OF 17



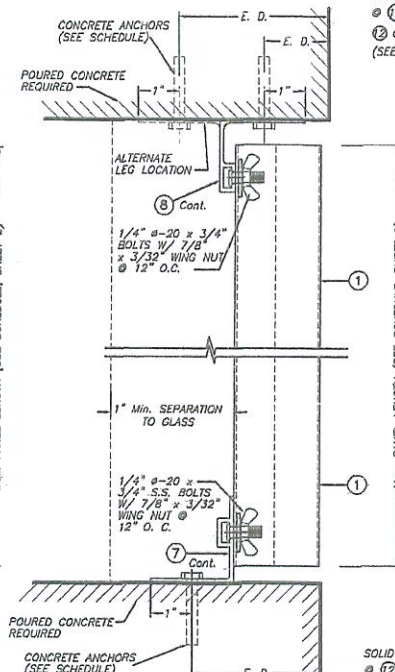
BUILD-OUT & FLOOR MOUNTING INSTALLATION - SECTION 5

SCALE: 1/2" = 1"



CEILING & FLOOR MOUNTING INSTALLATION - SECTION 6

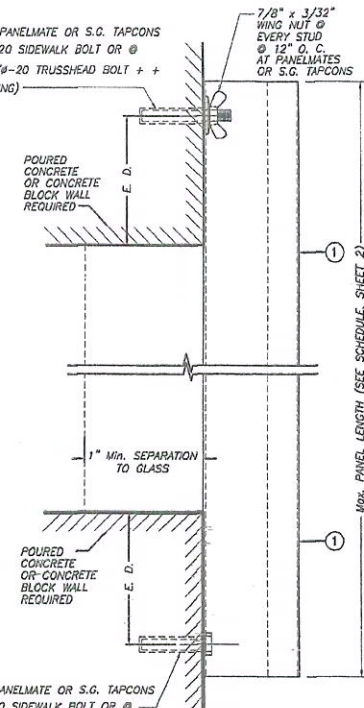
SCALE: 1/2" = 1"



CEILING & FLOOR MOUNTING INSTALLATION - SECTION 7

SCALE: 1/2" = 1"

SOLID SET OR ELCO male PANELMATE OR S.G. TAPCONS
@ (12) OR (24) W/ 1/4" x 20 SIDEWALK BOLT OR @
(12) OR (24) W/ (13) W/ 1/4" x 20 TRUSSHEAD BOLT + +
(SEE SCHEDULE FOR SPACING)



SOLID SET OR ELCO male PANELMATE OR S.G. TAPCONS
@ (12) OR (24) W/ 1/4" x 20 SIDEWALK BOLT OR @
(12) OR (24) W/ (13) W/ 1/4" x 20 TRUSSHEAD BOLT + +
(SEE SCHEDULE FOR SPACING)

DIRECT WALL MOUNTING INSTALLATION (D. M.) - SECTION 8

SCALE: 1/2" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 9 & 10 & 11)

NOTE FOR COMBINATION OF SECTIONS:

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

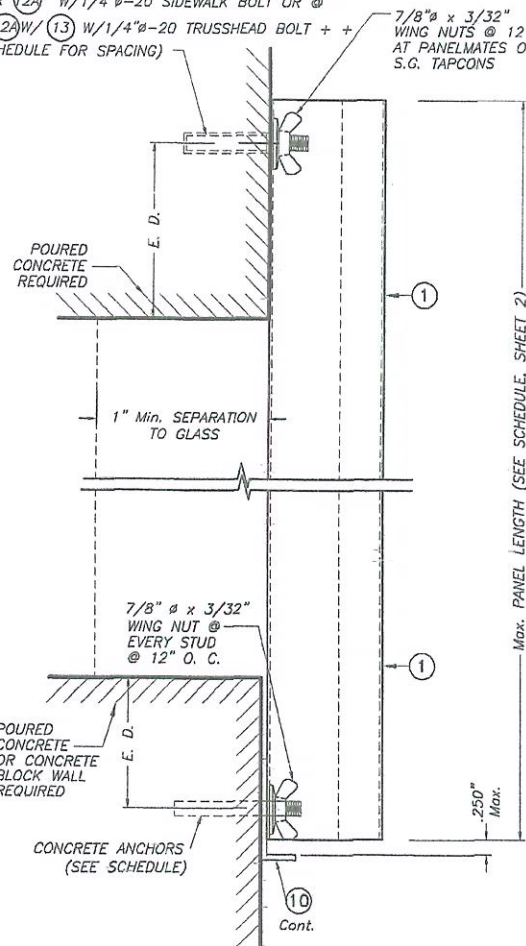


© 2011 TILTECO, INC.		FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)	
TILTECO INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)	M.C.V./R.E./A.G. DRAWN BY:
TILIT TESTING & ENGINEERING COMPANY 8355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33168 Phone: (305)871-1530, Fax: (305)871-1531 E8-0006719		EASTERN METAL SUPPLY, INC. 4288 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)841-1716	12/06/11 DATE:
WALTER A. TILLIT JR., P.E. FLORIDA Lic. 44167		REV. NO. DESCRIPTION DATE REV. NO. DESCRIPTION DATE	11-221 DRAWING No
1		1	1
2		2	2
		SHEET 5 OF 17	

SOLID SET OR ELCO male PANELMATE OR S.G. TAPCONS

@ 12 OR 12A W/1/4"-20 SIDEWALK BOLT OR @

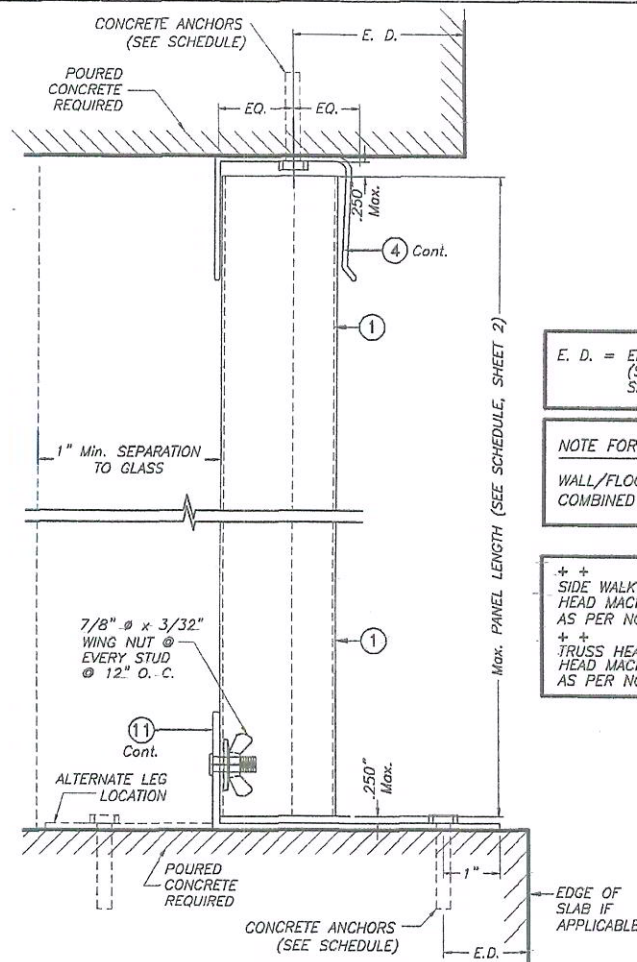
12 OR 12A W/ 13 W/1/4"-20 TRUSSHEAD BOLT + + 7/8" x 3/32" WING NUTS @ 12" O.C. AT PANELMATES OR S.G. TAPCONS



WALL MOUNTING INSTALLATION

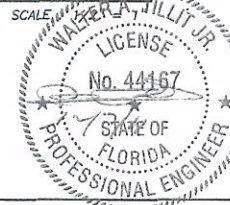
SECTION 9

SCALE : 1/2" = 1"



CEILING & FLOOR MOUNTING INSTALLATION

SECTION 10



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TILTECO INC.
 TILTIT TESTING & ENGINEERING COMPANY
 6305 NW 36th St., Ste. 205, WEST PALM BEACH, FL 33407
 Phone: (561)209-8263, Fax: (561)209-8263
 EB-0005719
 WALTER A. TILTIT JR., P.E.
 FLORIDA Lic. 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
 (2.00" DEEP)

M.C.V./R.E./A.G.
 DRAWN BY:

EASTERN METAL SUPPLY, INC

12/08/11
 DATE:

4268 WEST ROADS DRIVE
 WEST PALM BEACH, FL 33407
 PHONE: (561)209-8263, FAX: (561)209-8263

11-221
 DRAWING No

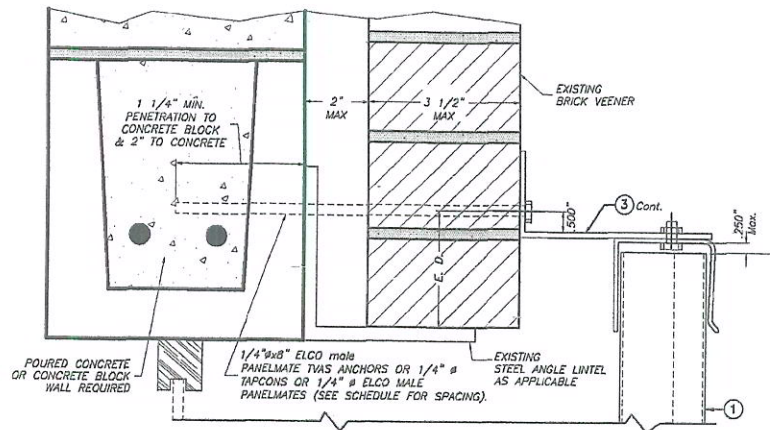
REV. NO.	DESCRIPTION	DATE	REV. NO.	DESCRIPTION	DATE
1	OLD 08-140	12/06/11	2		
3			4		

SHEET 8 OF 17

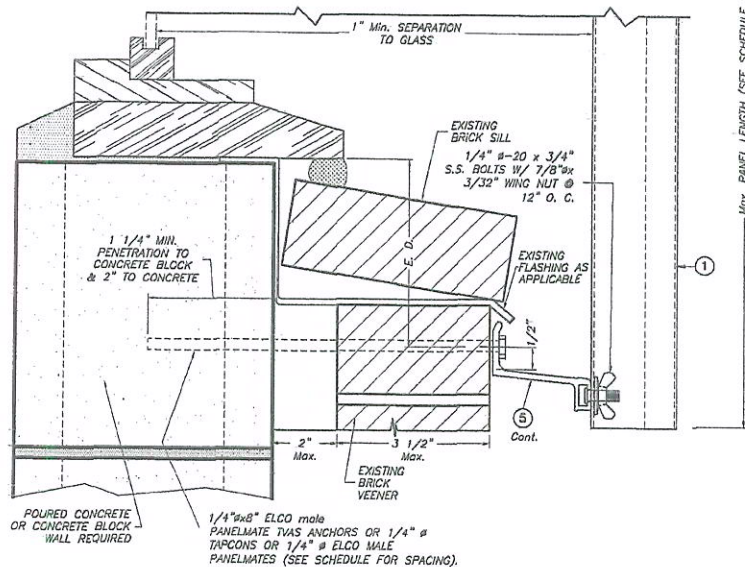
E. D. = EDGE DISTANCE
 (SEE SCHEDULE ON
 SHEETS 9 & 10 & 11)

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

+ + SIDE WALK BOLTS ARE 3/4"x3/32"THICK
 HEAD MACHINE SCREW W/LENGTH
 AS PER NOTES A.2 & B.2 (SHEET 1)
 + + TRUSS HEAD BOLTS ARE 1/2"x1/8"THICK
 HEAD MACHINE SCREW W/LENGTH
 AS PER NOTES A.2 & B.2 (SHEET 1)

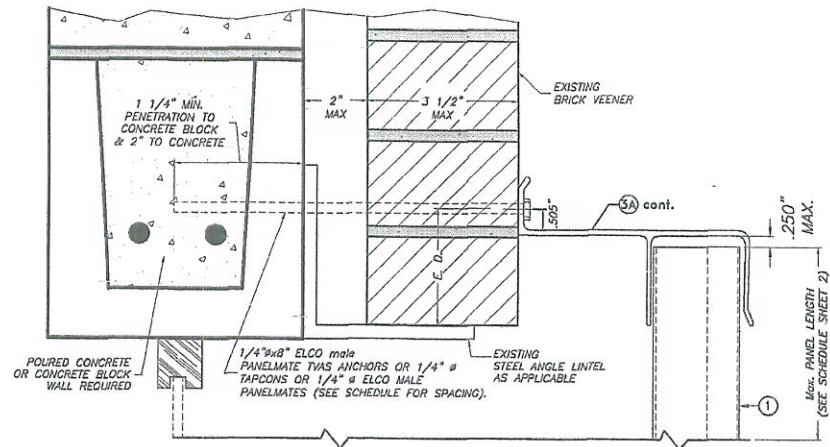


OPTION #1
SECTION 11A



BUILD OUT INSTALLATION
SECTION 11

SCALE: 3/8" = 1"



OPTION #2
SECTION 11A

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 9 & 10 & 11)

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

++ SIDE WALK BOLTS ARE 3/16" x 3/32" THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)
++ TRUSS HEAD BOLTS ARE 1/2" x 1/8" THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)



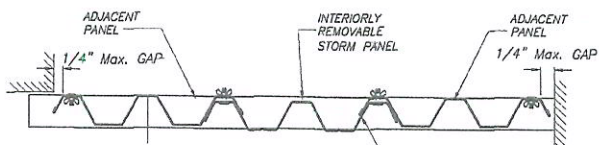
0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC

4288 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561) 209-8263, FAX: (561) 841-1718

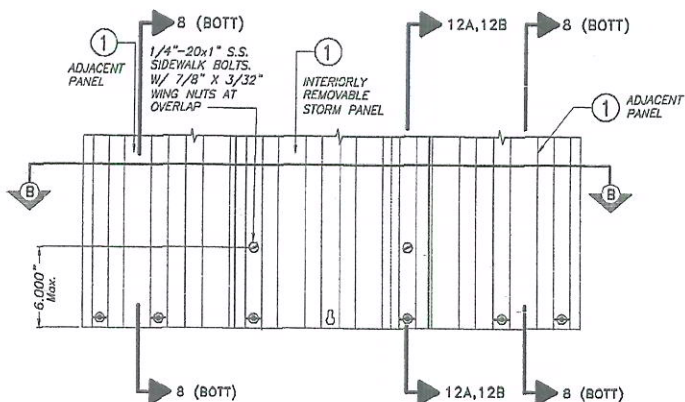
REV. NO.	DESCRIPTION	DATE	REV. NO.	DESCRIPTION	DATE
1	OLD 08-148	12/01/11	3		
1			4		

M.C.V./R.E./A.G.
DRAWN BY:
12/06/11
DATE:
11-221
DRAWING No
SHEET 6A OF 17



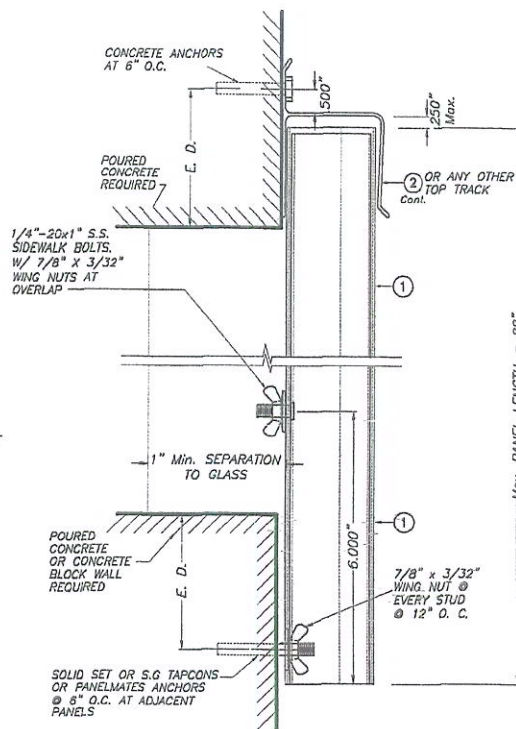
SECTION B-B

SCALE : 1 1/2" = 1"



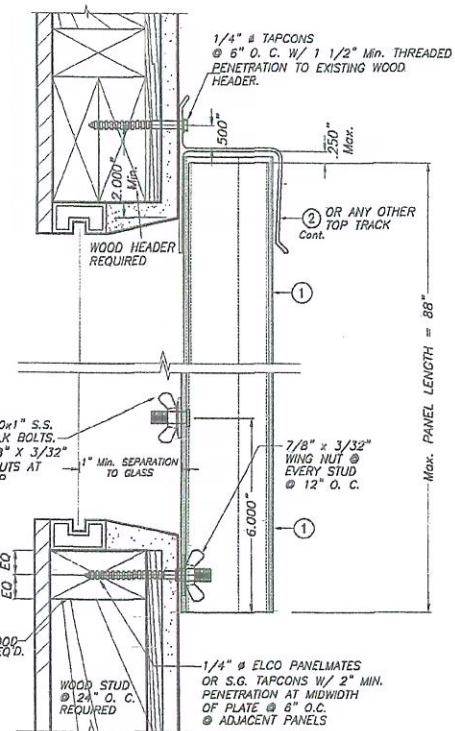
INTERIORLY REMOVABLE STORM PANEL PARTIAL ELEVATION

SCALE : 1 1/2" = 1"



WALL MOUNTING INSTALLATION SECTION 12A

SCALE : 1/2" = 1"

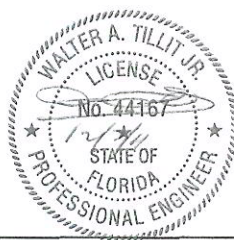


WALL MOUNTING INSTALLATION SECTION 12B

SCALE : 1/2" = 1"

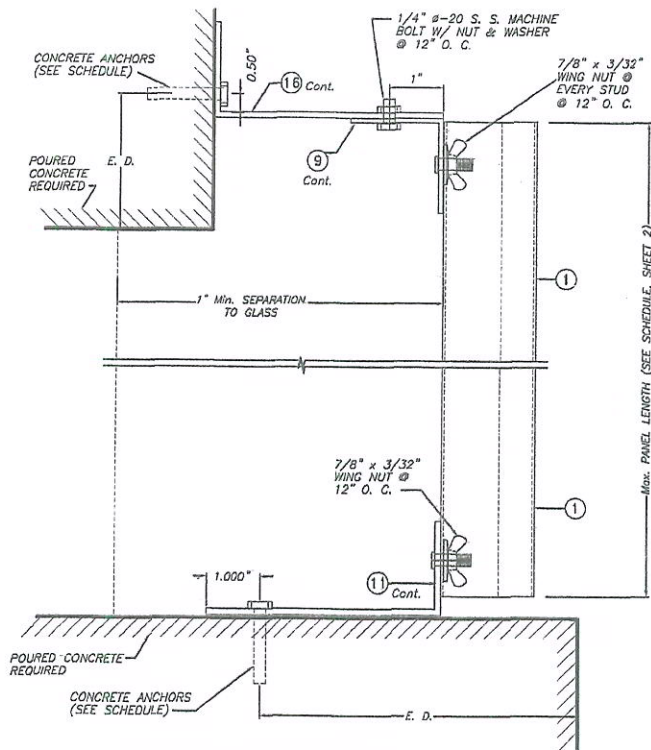
INTERIORLY REMOVABLE STORM PANEL SECTIONS

MAX. A.S.D DESIGN PRESSURE RATING = +50.0, -50.0 p.s.f.



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TILTECO INC.		EASTERN METAL SUPPLY, INC		DRAWN BY:	
TILLIT TESTING & ENGINEERING COMPANY 4305 N.W. 34th St., Box 309, Virginia Gardens, FL 33166 Phone 1 (800) 971-1332 / Fax 1 (800) 971-1331		1288 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561) 908-0263, FAX (561) 941-1716		12/06/11	
WALTER A. TILLIT JR., P.E. FLORIDA Lic. 44167		REV. NO. DESCRIPTION DATE REV. NO. DESCRIPTION DATE		DATE	
1		OLD 02-148 12/06/11		3	
				4	
				11-221	
				DRAWING No	
				SHEET 7 OF 17	



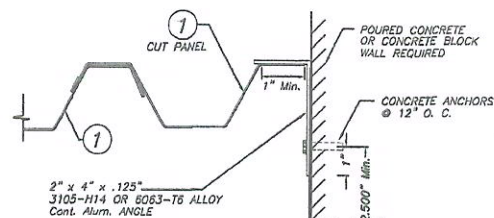
CEILING & FLOOR MOUNTING INSTALLATION - SECTION 13

SCALE: 1/2" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 9, 10 & 11)

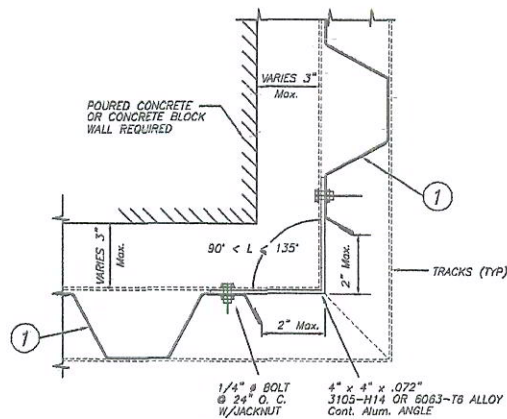
NOTE FOR COMBINATION OF SECTIONS:

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



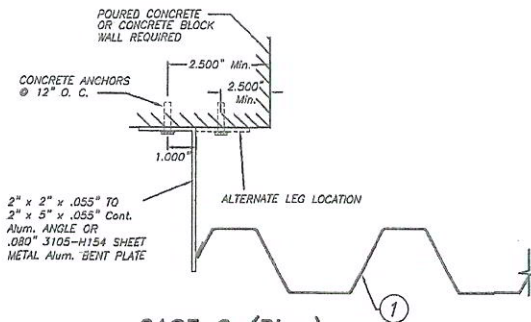
CASE A (Plan)

SCALE: 1/4" = 1"



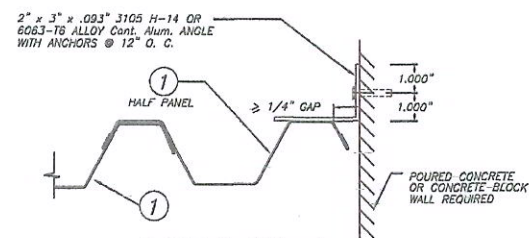
CASE B (Plan)

SCALE: 1/4" = 1"



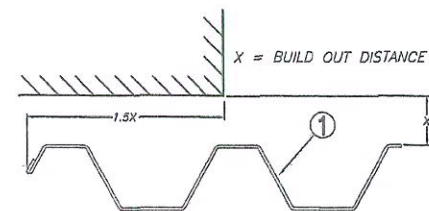
CASE C (Plan)

SCALE: 1/4" = 1"



CASE D (Plan)

SCALE: 1/4" = 1"



CASE E (Plan)

SCALE: 1/4" = 1"

END CLOSURES DETAILS



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TILTECO INC.

TILIT TESTING & ENGINEERING COMPANY
6325 N.W. 36th St., Ste. 308, VIRGINIA GARDENS, FL 33168
Phone: (305)871-1530, Fax: (305)871-1531
EB-0008719
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC.

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263, FAX: (561)841-1716

M.C.V./R.E./A.G.
DRAWN BY:

12/06/11
DATE:

11-221
DRAWING No

SHEET 8 OF 17

REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD GB-TFS	12/06/11	3		
2			4		

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS IN CONCRETE AND CONCRETE BLOCK STRUCTURES**

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHOR SPACING FOR E. D. = 3 1/2" **										APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G. TAPCON		PANELMATES		PANELMATE TWIS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 OR LESS	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	8'-0" OR LESS
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	3 (BOTTOM)	
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	4 (TOP)	
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	5 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	8 (TOP)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	8 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	9 (TOP)	
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	9 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	10 (TOP)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	11A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	11 (BOTTOM)	
	8"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (TOP)	
	8"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHOR SPACING FOR E. D. = 3 1/2" **										APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G. TAPCON		PANELMATES		PANELMATE TWIS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 OR LESS	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	> 8'-0" UP TO 13'-0" **
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	3 (BOTTOM)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	4 (TOP)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	5 (BOTTOM)	
	9"	N/A	11 1/2"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (TOP)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (BOTTOM)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (TOP)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	8 (TOP) ^a	
	N/A	N/A	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	8 (BOTTOM) ^a	
	N/A	N/A	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	12" ^a	9 (TOP) ^a	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	9 (BOTTOM)	
	9"	N/A	11 1/2"	N/A	12"	N/A	12"	N/A	N/A	N/A	10 (TOP)	
	8"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	11A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	11 (BOTTOM)	
	8"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (TOP)	
	8"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (BOTTOM)	

* USE 6" OC FOR PANEL LENGTHS LARGER THAN 10' - 0" AND USE 12" OC AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10' - 0'

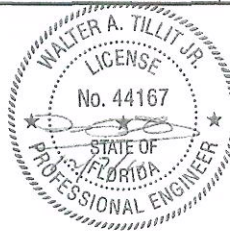
** MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E. D. LESS THAN 3 1/2", REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS.
(NOTE: MIN. E. D. FOR SOLIDSET ANCHORS IS 3")
FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL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

ACTUAL E. D.	FACTOR		
	TAPCON (REGULAR)	S.G. TAPCON, PANELMATE OR PANELMATE TWIS	SOLID SET
3"	—	.86	.75
2 1/2"	—	.71	.50
2"	—	.50	—
1 1/2"	.35	—	—

ANCHORS LEGEND

ANCHOR TYPE	Min. ANCHOR SPACING
TAPCON (REGULAR OR S.G.) PANELMATE OR PANELMATE TWIS	3"
SOLID SET	3"

E. D. = EDGE DISTANCE



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TILTECO INC.

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25-0006719

WALTER A. TILLIT JR., P.E.
FLORIDA Lic. 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561) 209-8263, FAX: (561) 841-1715

12/06/11
DATE:

11-221
DRAWING No

SHEET 9 OF 17

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS IN CONCRETE AND CONCRETE BLOCK STRUCTURES

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHOR SPACING FOR E. D. = 3 1/2"												APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (N.)
	REGULAR TAPCONS				SOLID SET				S.G. TAPCON					
	TO CONCRETE		TO MASONRY		TO CONCRETE		TO MASONRY		TO CONCRETE		TO MASONRY			
+40.0, -0.0 UP TO +80.0, -80.0	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	8'-0" OR LESS
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	7"	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	7"	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	3 (BOTTOM)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	4 (TOP)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	5 (BOTTOM)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	6 (TOP)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	6 (BOTTOM)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	7 (TOP)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	7 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	8 (TOP)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	8 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	9 (TOP)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	9 (BOTTOM)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	10 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	10 (BOTTOM)	
	9"	7"	N/A	N/A	N/A	N/A	N/A	9"	7"	9"	7"	9"	11A (TOP)	
	9"	7"	N/A	N/A	N/A	N/A	N/A	9"	7"	9"	7"	9"	11 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHOR SPACING FOR E. D. = 3 1/2"												APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (N.)				
	REGULAR TAPCONS				SOLID SET				S.G. TAPCON						PANELMATED		PANELMATE THIS	
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY			TO CONCRETE	TO MASONRY		
+80.0, -80.0 UP TO +90.0, -90.0	11"	N/A	11"	N/A	11"	N/A	11"	N/A	11"	N/A	11"	N/A	1 (TOP)	9'-0" OR LESS				
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	1 (BOTTOM)							
	11"	N/A	11"	N/A	11"	N/A	11"	N/A	11"	N/A	2 (TOP)							
	8"	4"	9"	9"	9"	9"	9"	7"	9"	7"	2 (BOTTOM)							
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)							
	8"	4"	9"	9"	9"	9"	9"	7"	9"	7"	3 (BOTTOM)							
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	4 (TOP)							
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	4-(BOTTOM)							
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)							
	5"	8"	7"	N/A	8"	N/A	8"	N/A	N/A	N/A	5 (BOTTOM)							
	9"	N/A	10"	N/A	12"	N/A	11"	N/A	N/A	N/A	6 (TOP)							
	8"	N/A	7"	N/A	9"	N/A	8"	N/A	N/A	N/A	6 (BOTTOM)							
	5"	N/A	7"	N/A	9"	N/A	8"	N/A	N/A	N/A	7 (TOP)							
	5"	N/A	7"	N/A	9"	N/A	8"	N/A	N/A	N/A	7 (BOTTOM)							
	N/A	N/A	12"	12"	12"	12"	12"	6"	12"	6"	8 (TOP)							
	N/A	N/A	12"	12"	12"	12"	12"	6"	12"	6"	8 (BOTTOM)							
	N/A	N/A	12"	12"	12"	12"	12"	6"	12"	6"	9 (TOP)							
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	9 (BOTTOM)							
	9"	N/A	10"	N/A	12"	N/A	11"	N/A	N/A	N/A	10 (TOP)							
	6"	N/A	8"	N/A	8"	N/A	8"	N/A	N/A	N/A	10 (BOTTOM)							
	8"	4"	N/A	N/A	N/A	N/A	9"	7"	9"	7"	11A (TOP)							
	8"	4"	N/A	N/A	N/A	N/A	9"	7"	9"	7"	11 (BOTTOM)							
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (TOP)							
	6"	N/A	12"	N/A	8"	N/A	8"	N/A	N/A	N/A	13 (BOTTOM)							

••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 SOLIDSET ANCHORS IS 3")
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 (REGULAR)	S.G. TAPCON, PANELMATE OR PANELMATE TWS	SOLID SET
3"	-	.85	.75
2 1/2"	-	.71	.50
2"	-	.50	-
1 1/2"	.35	-	-

ANCHORS LEGEND

ANCHOR TYPE	Min. ANCHOR SPACING
TAPCON (REGULAR OR S.G.) PANELMATE OR PANELMATE TWS	3"
SOLID SET	3"



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TILLIT TESTING & ENGINEERING COMPANY
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Phone: (305)871-1530, Fax: (305)871-1531
E: 0006719
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. 44187

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)	M.C.V./R.E./A.S. DRAWN BY:
EASTERN METAL SUPPLY, INC	12/05/11 DATE:
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)841-1718	11-221 DRAWING No
REV. NO. DESCRIPTION DATE REV. NO. DESCRIPTION DATE	SHEET 10 OF 17
1 OLD 08-148 12/05/11 3	
2	

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS IN CONCRETE AND CONCRETE BLOCK STRUCTURES**

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHOR SPACING FOR E. D. = 3 1/2" ± 0												APPLICABLE TO SECTIONS # 1 & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS				S.G. TAPCON				PANELMATES		PANELMATE TIES			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY				
+40.0, -50.0 UP TO +60.0, -50.0	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	>8'-0" UP TO 12'-6"
	12"	4 1/2"	12"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	4 1/2"	9"	9"	9"	9"	9"	9"	8 1/2"	9"	8 1/2"	9"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	9"	9"	9"	N/A	9"	N/A	3A (TOP)		
	9"	4 1/2"	9"	9"	9"	9"	9"	9"	8 1/2"	9"	8 1/2"	9"	3 (BOTTOM)	
	12"	4 1/2"	12"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	4 (TOP)		
	12"	4 1/2"	12"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	4 (BOTTOM)		
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	6 1/2"	N/A	7 1/2"	N/A	8"	N/A	7 1/2"	N/A	N/A	N/A	N/A	N/A	5 (BOTTOM)	
	9"	N/A	9 1/2"	N/A	10"	N/A	9 1/2"	N/A	N/A	N/A	N/A	N/A	6 (TOP)	
	6 1/2"	N/A	7 1/2"	N/A	8"	N/A	7 1/2"	N/A	N/A	N/A	N/A	N/A	6 (BOTTOM)	
	6"	N/A	6 1/2"	N/A	7"	N/A	6 1/2"	N/A	N/A	N/A	N/A	N/A	7 (TOP)	
	6"	N/A	6 1/2"	N/A	7"	N/A	6 1/2"	N/A	N/A	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12" ±	12" ±	12" ±	12" ±	12" ±	12" ±	6" ±	12" ±	6" ±	8" ±	8 (TOP) ±	
	N/A	N/A	12" ±	12" ±	12" ±	12" ±	12" ±	12" ±	6" ±	12" ±	6" ±	8" ±	8 (BOTTOM) ±	
	N/A	N/A	12" ±	12" ±	12" ±	12" ±	12" ±	12" ±	6" ±	12" ±	6" ±	8" ±	9 (TOP) ±	
	12"	4 1/2"	12"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	12"	9 (BOTTOM)	
	9"	N/A	9 1/2"	N/A	10"	N/A	9 1/2"	N/A	N/A	N/A	N/A	N/A	10 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	N/A	N/A	10 (BOTTOM)	
	9"	4 1/2"	N/A	N/A	N/A	N/A	9"	4 1/2"	9"	4 1/2"	9"	4 1/2"	11A (TOP)	
	9"	4 1/2"	N/A	N/A	N/A	N/A	9"	4 1/2"	9"	4 1/2"	9"	4 1/2"	11 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	N/A	N/A	13 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	N/A	N/A	13 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHOR SPACING FOR E. D. = 3 1/2" ± 0												APPLICABLE TO SECTIONS 1 & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G. TAPCON		PANELMATES		PANELMATES THIS					
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY				
+90.0, -50.0 UP TO +100.0, -130.0	8 1/2"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	1 (TOP)	7'-0" OR LESS		
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	1 (BOTTOM)			
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	2 (TOP)			
	9"	4"	9"	9"	9"	9"	9"	7"	9"	9"	2 (BOTTOM)			
	8"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)			
	9"	4"	9"	9"	9"	9"	9"	7"	9"	9"	3 (BOTTOM)			
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	4 (TOP)			
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	4 (BOTTOM)			
	8"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)			
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	5 (BOTTOM)			
	7"	N/A	8"	N/A	10"	N/A	8"	N/A	N/A	N/A	6 (TOP)			
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	6 (BOTTOM)			
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	7 (TOP)			
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	7 (BOTTOM)			
	N/A	N/A	12"	6"	12"	6"	12"	6"	12"	6"	8 (TOP)			
	N/A	N/A	12"	6"	12"	6"	12"	6"	12"	6"	8 (BOTTOM)			
	N/A	N/A	12"	6"	12"	6"	12"	6"	12"	6"	9 (TOP)			
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	9 (BOTTOM)			
	7"	N/A	8"	N/A	10"	N/A	8"	N/A	N/A	N/A	10 (TOP)			
	5"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)			
	5"	4"	N/A	N/A	N/A	N/A	7"	7"	7"	7"	11A (TOP)			
	5"	4"	N/A	N/A	N/A	N/A	N/A	7"	7"	7"	11 (BOTTOM)			
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (TOP)			
	5	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (BOTTOM)			

* USE 6" CC FOR PANEL LENGTHS LARGER THAN 10'-0" AND USE 12" AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10'-0"

ANCHORS LEGEND

**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 SOLIDSET ANCHORS IS 3") 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 (REGULAR)	S.G. TAPCON, PANELMATE OR PANELMATE TWS	SOLID SET
3"	-	.86	.75
2 1/2"	-	.71	.50
2"	-	.50	-
1 1/2"	.35	-	-

ANCHOR TYPE	MIN. ANCHOR SPACING
TAPCON (REGULAR OR S.G.) PANELMATE OR PANELMATE TWS	3"
SOLID SET	3"

E. D. = EDGE DISTANCE



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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TILTECO INC.

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E: 0006719

WALTER A. TILLIT JR., P.E.
FLORIDA Lic. 44167

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

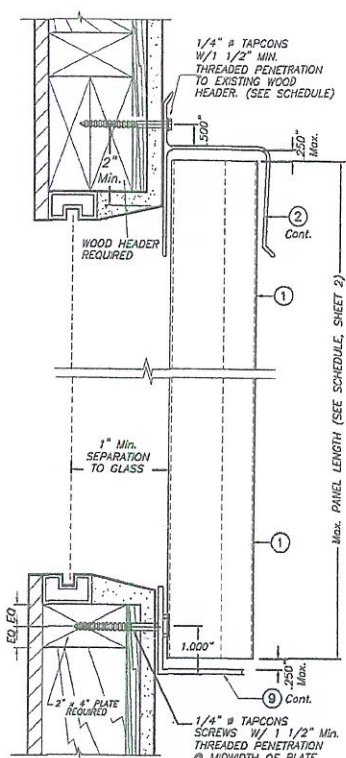
EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561) 209-8263, FAX: (561) 841-1716

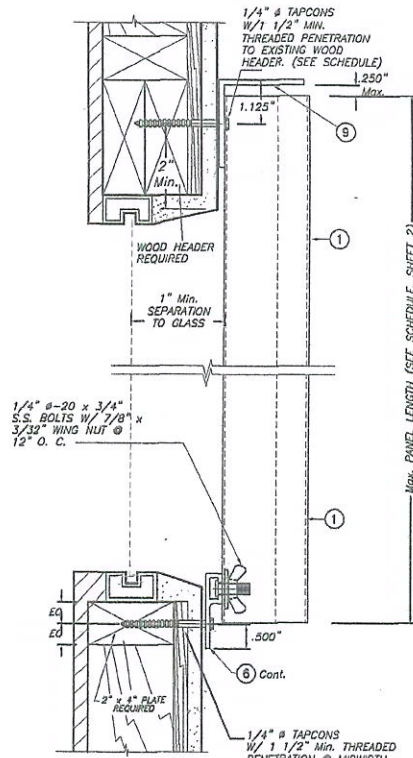
REV. NO. DESCRIPTION DATE REV. NO. DESCRIPTION DATE

1	OLD 08-TH	12/06/11	2		
2			4		

11-221
DRAWING No
SHEET 11 OF 17



SECTION @ ANCHOR

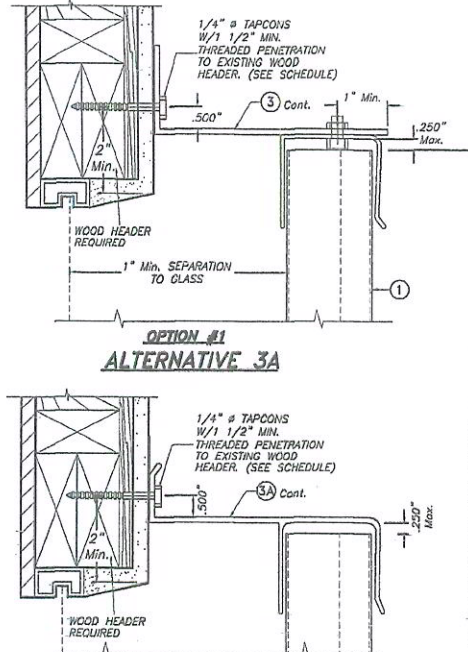


ALTERNATIVE 2
SCALE: 1/2" = 1"

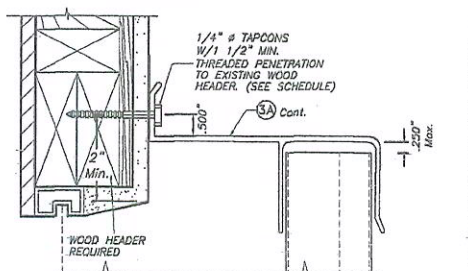
NOTE FOR COMBINATION OF SECTIONS:
WALL MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

NOTES:

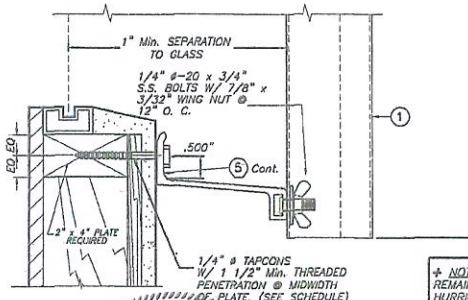
1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL LENGTHS AS PER SCHEDULES ON SHEET 2
2. SEE ANCHOR SCHEDULE ON SHEETS 16 & 17.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



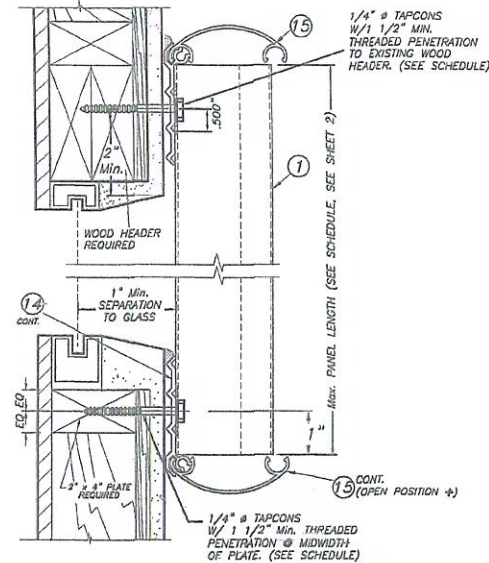
OPTION #1
ALTERNATIVE 3A



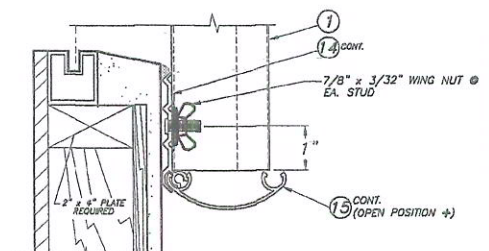
OPTION #2
ALTERNATIVE 3A



SECTION @ STUD
ALTERNATIVE 1
SCALE: 1/2" = 1"



SECTION @ ANCHOR



SECTION @ STUD

ALTERNATIVE 4
SCALE: 1/2" = 1"

* NOTE: SWAP CAP (15) TO REMAIN CLOSED AT NON HURRICANE CONDITIONS.



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TILTECO INC.
TILIT TESTING & ENGINEERING COMPANY
6325 N.W. 36th St., Suite 305, VIRGINIA GARDENS, FL 33166
Phone: (561)871-1530, Fax: (561)871-1531
EB-008719
WALTER A. TILIT JR., P.E.
FLORIDA Lic. 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC.

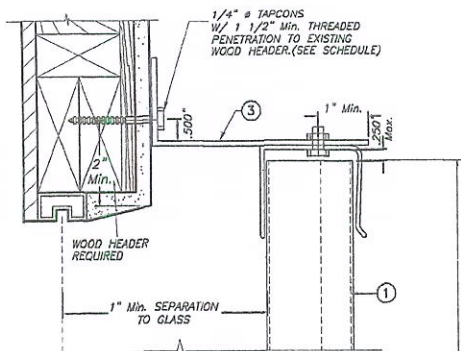
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263, FAX: (561)841-1716

M.C.V./R.E./A.G.
DRAWN BY:

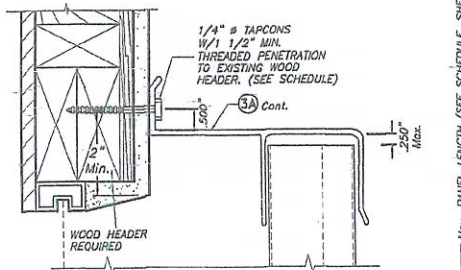
12/06/11
DATE:

11-221
DRAWING NO

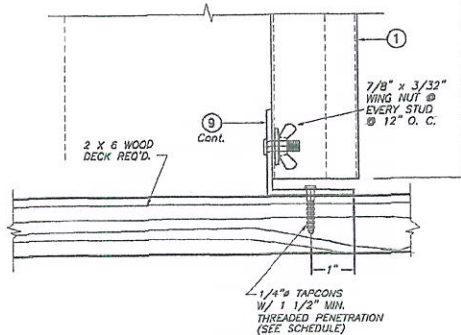
SHEET 12 OF 17



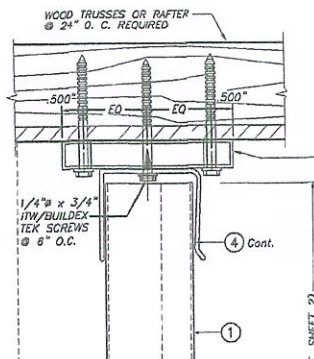
**OPTION #1
ALTERNATIVE 5A**



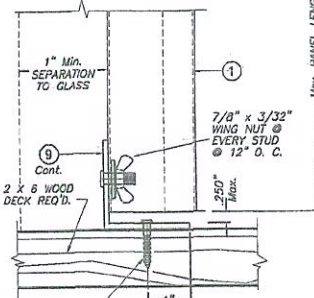
**OPTION #2
ALTERNATIVE 5A**



ALTERNATIVE 5
SCALE: 1/2" = 1"



ALTERNATIVE 6A
SCALE: 1/2" = 1"
(LIMITED TO +60.0, -66.0 p.s.f. DESIGN LOAD
AND UP TO 9'-0" MAX. PANEL LENGTH)

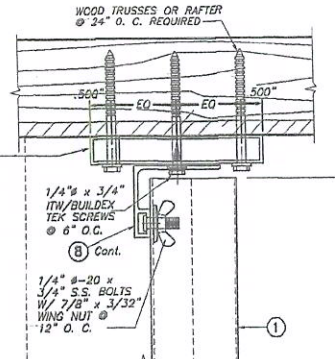


ALTERNATIVE 6
SCALE: 1/2" = 1"

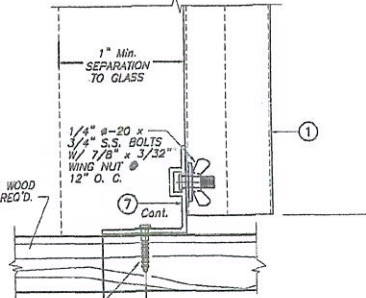
NOTES:

1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)
2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

1" x 4" x 1/8" Min. (6063-J-18) ALUM. TUBE W/ (3) 5/16" x 3/4" LAG SCREWS TO EACH JOIST. LOCATE SCREW AT MIDWIDTH OF EXISTING WOOD MEMBER (2" MIN. NOMINAL WIDTH) W/ 2" MIN. THREADED PENETRATION.



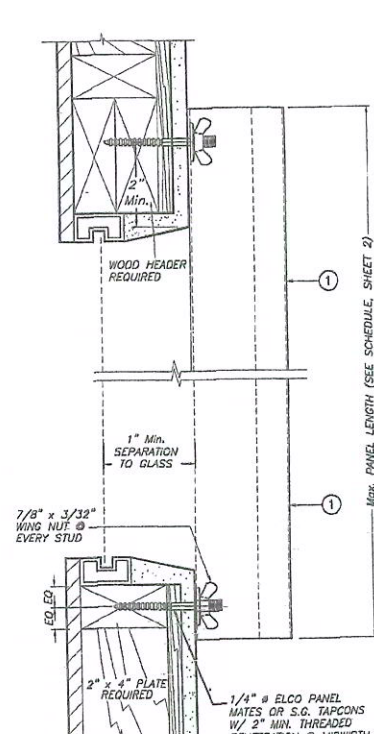
ALTERNATIVE 7A
SCALE: 1/2" = 1"
(LIMITED TO +60.0, -66.0 p.s.f. DESIGN LOAD
AND UP TO 9'-0" MAX. PANEL LENGTH)



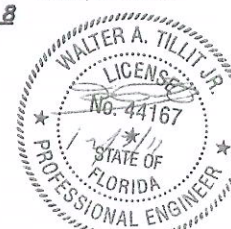
ALTERNATIVE 7
SCALE: 1/2" = 1"

NOTE FOR COMBINATION OF SECTIONS:

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

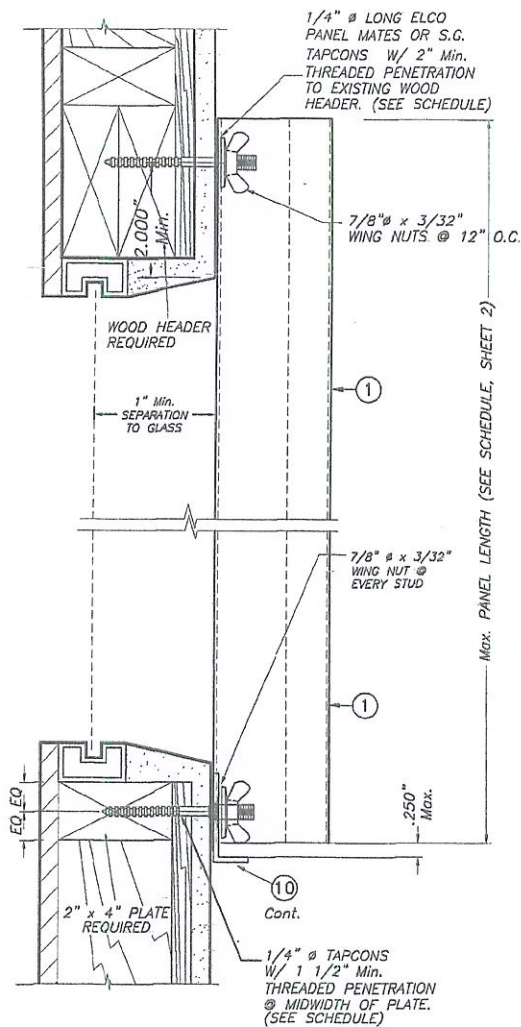


ALTERNATIVE 8
SCALE: 1/2" = 1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

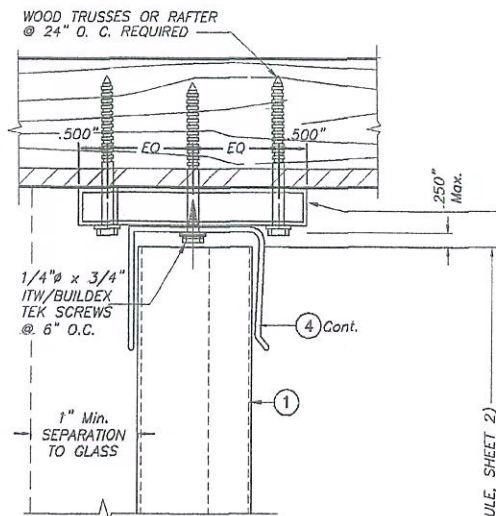
© 2011 TLTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		M.C.V./R.E./A.G.	
TILTECO INC.		EASTERN METAL SUPPLY, INC		DRAWN BY:	
TILLIT TESTING & ENGINEERING COMPANY		4268 WEST ROADS DRIVE		12/08/11	
6355 N.W. 30th St., Suite 305, Virginia Gardens, FL 33166		WEST PALM BEACH, FL 33407		DATE:	
Phone: (305) 871-1533 Fax: (305) 871-1531		PHONE: (561) 209-8263, FAX: (561) 841-1718		11-221	
EB-0006719				DRAWING No	
WALTER A. TILLIT Jr., P.E.				SHEET 13 OF 17	
FLORIDA Lic. 44167					
REV. NO.	DESCRIPTION	DATE	REV. NO.	DESCRIPTION	DATE
1	OLD 08-148	12/08/11	2		
2			4		



ALTERNATIVE 9

SCALE : 1/2" = 1"

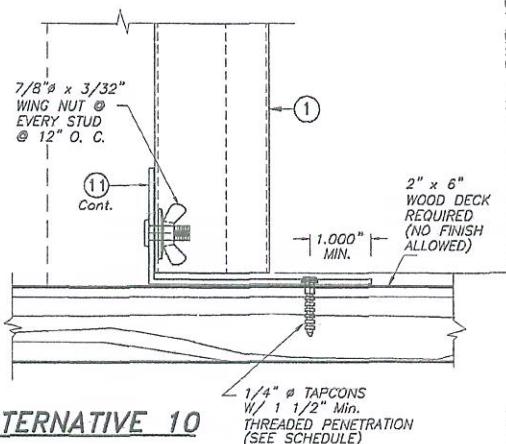
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS



ALTERNATIVE 10A

SCALE : 1/2" = 1"

(LIMITED TO +60.0, -66.0 p.s.f. DESIGN LOAD
AND UP TO 9'-0" Max. PANEL LENGTH)



ALTERNATIVE 10

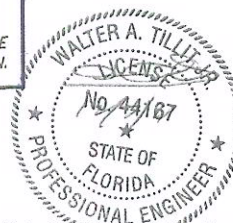
SCALE : 1/2" = 1"

NOTES:

1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING & PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)
2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
3. 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/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

© 2011 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		M.C.V./R.E./A.G. DRAWN BY:	
TILTECO inc.		EASTERN METAL SUPPLY, INC		12/08/11 DATE:	
TILLET TESTING & ENGINEERING COMPANY 6355 NW 36th St., Ste. 305, Fort Lauderdale, FL 33309 Phone: (305) 971-1530 • Fax: (305) 971-1531 EB-0006719 WALTER A. TILLET JR., P.E. FLORIDA Lic. 44167		4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561) 209-8263, FAX: (561) 841-1716		11-221 DRAWING No	
REV. NO.	DESCRIPTION	DATE	REV. NO.	DESCRIPTION	DATE
1	OLD 08-148	12/08/11	3		
3			4		
			SHEET 14 OF 17		



SCALE : $1\frac{1}{2}" = 1'$

* VALID FOR MAX. A.S.D DESIGN PRESSURE RATING +50.0, -60.0 p.s.f. FOR UP TO 78" PANELS LENGTHS, AND FOR +50.0, -50.0 p.s.f., FOR PANEL LENGTHS GREATER THAN 78" UP TO 108"

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS



1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)
2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, "W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

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



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

©2011 TILTECO, INC.

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

M.C.V./R.E./A.G.

DRAWN BY:

12/06/11

DATE:

11-221

DRAWING NO

EASTERN METAL SUPPLY, INC.

4268 WEST ROADS DRIVE

WEST PALM BEACH, FL 33407

PHONE: (561)220-8263, FAX: (561)384-1175

REV. NO DESCRIPTION DATE REV. BY DESCRIPTION DATE

1 OLD 02-118 12/06/11 SNT

SHEET 14A OF 17

TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY

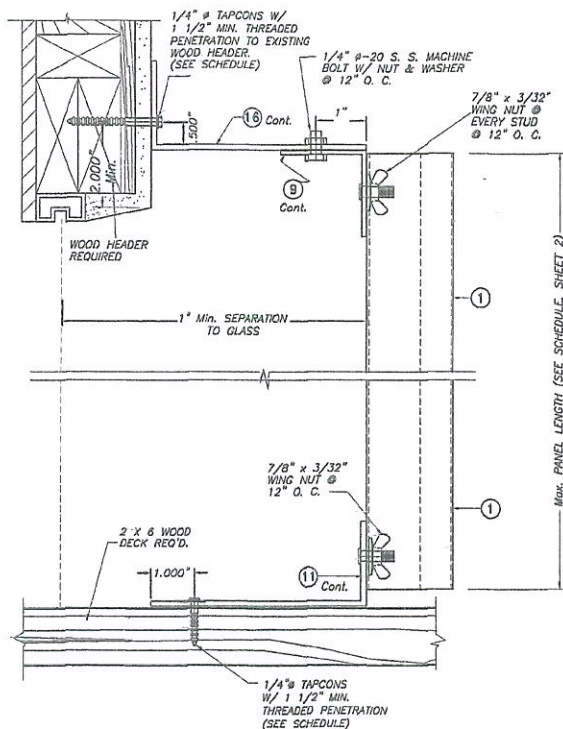
6305 HAW. TOWN, 2ND, FLD. 205, VIRGINIA GARDENS, FL 33168

Phone : (305)971-1530 Fax : (305)971-1531

EB-0006718

WALTER A. TILLIT, JR., P.E.

C-0001214



ALTERNATIVE 13

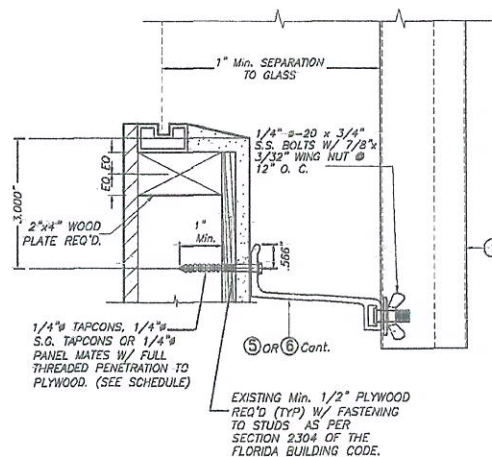
SCALE : 1/2" = 1"

NOTES:

1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2
2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
3. 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.



ALTERNATIVE 14

SCALE : 1/2" = 1"

* VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING +50.0, -60.0 p.s.f. FOR UP TO 78" PANELS LENGTHS, AND FOR +50.0, -50.0 p.s.f., FOR PANEL LENGTHS GREATER THAN 78" UP TO 108"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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TILTECO inc.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 28th St., Ste. 200, Virginia Gardens, FL 33166
Phone 1 (305)971-1530, Fax 1 (305)971-1531
EB-0006719
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. 44187

0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		M.C.V./R.E./A.G. DRAWN BY:	
EASTERN METAL SUPPLY, INC		12/08/11 DATE:	
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)241-1716		11-221 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. NO
1	OLD 08-116	12/08/11	2
2			4

SHEET 15 OF 17

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS**

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TWS		
+40.0, -40.0 OR LESS	12"	N/A	N/A	1 (TOP)	8'-0" OR LESS
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	9"	N/A	N/A	5 (BOTTOM)	
	9"	N/A	N/A	6 (BOTTOM)	
	8 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	12"	8 (TOP)	
	N/A	12"	12"	8 (BOTTOM)	
	N/A	12"	12"	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	6"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	4"	N/A	4"	11 (BOTTOM)	
	6"	N/A	N/A	13 (TOP)	
	6"	N/A	N/A	13 (BOTTOM)	
	4"	4"	4"	14 (BOTTOM)	

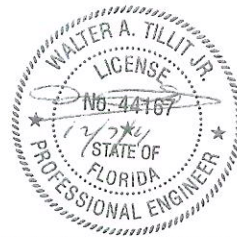
MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TWS		
+40.0, -40.0 OR LESS	12"	N/A	N/A	1 (TOP)	>8'-0" UP TO 13'-0"
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	5 1/2"	N/A	N/A	5 (BOTTOM)	
	5 1/2"	N/A	N/A	5 (BOTTOM)	
	5 "	N/A	N/A	7 (BOTTOM)	
	N/A	12"	12"	8 (TOP) *	
	N/A	12" *	12" *	8 (BOTTOM) *	
	N/A	12" *	12" *	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	5 1/2"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	4" **	N/A	4" **	11 (BOTTOM) **	
	6"	N/A	N/A	13 (TOP)	
	5 1/2"	N/A	N/A	13 (BOTTOM)	
	4" **	4" **	4" **	14 (BOTTOM) **	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TWS		
+40.0, -40.0 UP TO +60.0, -60.0	12"	N/A	N/A	1 (TOP)	8'-0" OR LESS
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	8"	N/A	N/A	5 (BOTTOM)	
	8"	N/A	N/A	6 (BOTTOM)	
	5 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	12"	8 (TOP)	
	N/A	12"	12"	8 (BOTTOM)	
	N/A	12"	12"	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	6"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	4" *	N/A	4" *	11 (BOTTOM) *	
	6"	N/A	N/A	13 (TOP)	
	6"	N/A	N/A	13 (BOTTOM)	
	4" *	4" *	4" *	14 (BOTTOM) *	

* USE 6" OC SPACING FOR PANEL LENGTHS LARGER THAN 10' - 0" AND USE 12" OC AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10' - 0"

** VALID ONLY FOR UP TO 108" PANELS LENGTHS.

* VALID ONLY FOR UP TO +50.0, -60.0 p.s.f. MAX. A.S.D. DESIGN PRESSURE RATING WITH 78" Max. PANEL LENGTHS OR FOR UP TO +50.0, -50.0 p.s.f. MAX. A.S.D. DESIGN PRESSURE RATING WITH 96" Max. PANEL LENGTHS.



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TILTECO INC. TILIT TESTING & ENGINEERING COMPANY 6355 N.W. 24th St., Ste. 205, Virginia Gardens, FL 33164 Phone: (305)871-1530, Fax: (305)871-1531 EB-0006719		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)	
WALTER A. TILLIT JR., P.E. FLORIDA Lic. 44167		EASTERN METAL SUPPLY, INC. 4288 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)841-1716	
REV. NO.	DESCRIPTION	DATE	REV. NO.
1	OLD 08-146	12/04/11	3
5			4
M.C.V./R.E./A.G. DRAWN BY:		12/08/11 DATE:	
11-221 DRAWING No		SHEET 16 OF 17	

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS**

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE THIS		
+60.0, -60.0 UP TO +80.0, -90.0	11"	N/A	N/A	1 (TOP)	9'-0" OR LESS
	11"	N/A	N/A	1 (BOTTOM)	
	11"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	11"	N/A	N/A	4 (TOP)	
	11"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	3 1/2"	N/A	N/A	5 (BOTTOM)	
	3 1/2"	N/A	N/A	5 (BOTTOM)	
	3 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	6"	8 (TOP)	
	N/A	12"	6"	8 (BOTTOM)	
	N/A	12"	6"	9 (TOP)	
	11"	N/A	N/A	9 (BOTTOM)	
	3 1/2"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	N/A	N/A	N/A	11 (BOTTOM)	
	6"	N/A	N/A	13 (TOP)	
	3 1/2"	N/A	N/A	13 (BOTTOM)	
	N/A	N/A	N/A	14 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE THIS		
+40.0, -40.0 UP TO +60.0, -60.0	12"	N/A	N/A	1 (TOP)	>8'-0" UP TO 12'-6"
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	12"	N/A	N/A	2 (BOTTOM)	
	12"	N/A	N/A	3A (TOP)	
	12"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	12"	N/A	N/A	5A (TOP)	
	4"	N/A	N/A	5 (BOTTOM)	
	4"	N/A	N/A	6 (BOTTOM)	
	3 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12" *	6" *	8 (TOP) *	
	N/A	12" *	6" *	8 (BOTTOM) *	
	N/A	12"	6"	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	4"	N/A	N/A	10 (BOTTOM)	
	12"	N/A	10 1/2"	11A (TOP)	
	4" **	N/A	4" **	11 (BOTTOM) **	
	12"	N/A	N/A	13 (TOP)	
	4"	N/A	N/A	13 (BOTTOM)	
	4" **	4" **	4" **	14 (BOTTOM) **	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE THIS		
+90.0, -90.0 UP TO +100.0, -130.0	8 1/2"	N/A	N/A	1 (TOP)	7'-0" OR LESS
	9"	N/A	N/A	1 (BOTTOM)	
	9"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	8"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	9"	N/A	N/A	4 (TOP)	
	9"	N/A	N/A	4 (BOTTOM)	
	8"	N/A	N/A	5A (TOP)	
	3"	N/A	N/A	5 (BOTTOM)	
	3"	N/A	N/A	6 (BOTTOM)	
	3"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	6"	8 (TOP)	
	N/A	12"	6"	8 (BOTTOM)	
	N/A	12"	6"	9 (TOP)	
	9"	N/A	N/A	9 (BOTTOM)	
	3"	N/A	N/A	10 (BOTTOM)	
	5"	N/A	6"	11A (TOP)	
	N/A	N/A	N/A	11 (BOTTOM)	
	6"	N/A	N/A	13 (TOP)	
	3"	N/A	N/A	13 (BOTTOM)	
	N/A	N/A	N/A	14 (BOTTOM)	

* USE 6" OC SPACING FOR PANEL LENGTHS LARGER THAN 10' - 0" AND USE 12" OC AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10' - 0"

** VALID ONLY FOR UP TO +50.0, -50.0 p.s.f. MAX. A.S.D. DESIGN PRESSURE RATING WITH 108" Max. PANEL LENGTHS.



TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone 1 (305)871-1530, Fax 1 (305)871-1531 EB-C008719 WALTER A. TILLIT JR., P.E. FLORIDA Lic. 44167		FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone) 0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP) EASTERN METAL SUPPLY, INC 4258 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)208-8263, FAX: (561)841-1716		M.C.V./R.E./A.G. DRAWN BY: 12/06/11 DATE: 11-221 DRAWING No. SHEET 17 OF 17
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