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)

Southern Metal Products, LLC
450 West McNab Road
Ft. Lauderdale, Florida 33309

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: 0.049" (min.) Galvanized Steel Storm Panels Shutter

APPROVAL DOCUMENT: Drawing No. 05-428, titled " 18 Ga. Steel Storm Panel ", sheets 1 through 6 of 6, prepared by Thornton-Tomasetti Group, dated August 31, 2005, last revision #1 dated September 08, 2006, signed and sealed by J. W. Knezevich, P.E. bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

LABELING: Each 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 **revises NOA # 03-1223.03** & consists of this page 1, evidence submitted pages E-1 & E-2 as well as approval document mentioned above.

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

Helmy A. Makar
10/12/2006

NOA No 05-1013.05
Expiration Date: 02/26/2009
Approval Date: 10/12/2006

Southern Metal Products, LLC

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 97-0318.02

A. DRAWINGS

1. Drawing Number 96-242, All Broward Hurricane Panel, Co., 18 Ga. Steel Storm Panel, sheets 1 through 6 of 6, dated 11/22/96, revision #2 dated 01/23/98, prepared by Knezevich & Associates, Inc., signed and sealed on 01/26/98 by V. J. Knezevich, P.E.

B. TESTS

1. Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test of 18 gauge (0.049") storm panels, prepared by Construction Testing Corporation, Report No. CTC 96-030, dated November 7, 1996, signed and sealed by Yamil Kuri, P.E. and Christopher G. Tyson, P.E.

C. CALCULATIONS

1. Comparative analysis, 18 Gage steel storm panels and Anchor Calculations, sheets 1 through 44 by Knezevick & Associates, Inc., signed & sealed by V. J. Knezevich, P.E., dated 03/14/97.

D. MATERIAL CERTIFICATIONS

1. Mill Certified Inspection Report, dated 02/97, 18 gauge 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. CTC #718B dated September 3, 1996 for 18 Ga.. Galvanized Steel, tested per ASTM E8-93, signed and sealed by Ramesh Patel, P.E.

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 00-0721.05

A. DRAWINGS

1. None.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. MATERIAL CERTIFICATIONS

1. None.

E. OTHERS

1. Letter from All Broward Hurricane Panel Company, dated June 8, 2000, signed by Mr. Alfred Roettger, certifies that the product has not changed.

Helmy A. Makar, P. E.
Product Control Examiner
NOA No 05-1013.05
Expiration Date: 02/26/2009
Approval Date: 10/12/2006

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. *Letter from Knezevich & Associates, Inc., dated June 30, 2000, signed and sealed by John W. Knezevich., P.E., certify that he is still in the engineering business.*

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 03-1223.03

A. DRAWINGS:

1. Drawing No. 03-342, titled " 18 Ga. Steel Storm Panel ", sheets 1 through 6 of 6, prepared by Knezevich & Associates, Inc., dated December 18, 2003, last revision #1 dated April 07, 2004, signed and sealed by V. J. Knezevich, P.E.

B. TESTS:

1. None.

C. CALCULATIONS:

1. Anchor analysis, dated December 19, 2003, Pages 1 thru 38, prepared by Knezevich & Associates, Inc., signed and sealed by V. J. Knezevich, P.E.

2. Anchor analysis, dated April 6, 2004, Pages 1 thru 38, prepared by Knezevich & Associates, Inc., signed and sealed by V. J. Knezevich, P.E.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATION:

1. None.

4. NEW EVIDENCE SUBMITTED

A. DRAWINGS:

1. Drawing No. 05-428, titled " 18 Ga. Steel Storm Panel ", sheets 1 through 6 of 6, prepared by Thornton-Tomasetti Group, dated August 31, 2005, last revision #1 dated September 08, 2006, signed and sealed by J. W. Knezevich, P.E.

B. TESTS:

1. None.

C. CALCULATIONS:

1. Anchor analysis, dated July 22, 2005, Pages 1 through 45, prepared by Thornton-Tomasetti Group, signed and sealed by J. W. Knezevich, P.E.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATION:

1. None.

Helmy A. Makar, P. E.
Product Control Examiner
NOA No 05-1013.05
Expiration Date: 02/26/2009
Approval Date: 10/12/2006

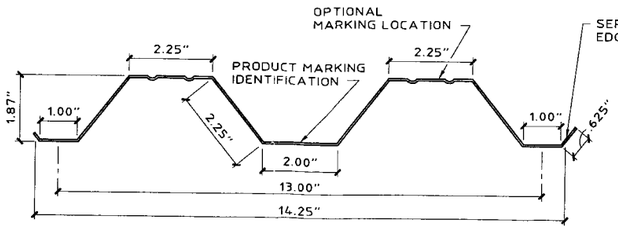
GENERAL NOTES:

1. THESE APPROVAL DOCUMENTS REPRESENT A SHUTTER SYSTEM ANALYZED WITH THE PROVISION SET FOR THE ISSUANCE OF A NOTICE OF ACCEPTANCE (NOA) BY MIAMI-DADE COUNTY PRODUCT CONTROL DIVISION FOR THE HIGH VELOCITY HURRICANE ZONE (HVHZ) OF THE FLORIDA BUILDING CODE 2004.
2. AN ALLOWABLE STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT, EXCEPT FOR WOOD ANCHOR ANALYSIS, A LOAD DURATION FACTOR (CD = 1.6) HAS BEEN USED PER THE PROVISIONS OF CHAPTER 16 OF THE FLORIDA BUILDING CODE (FBC) AND THE NATIONAL DESIGN STANDARD (NDS) FOR WIND LOADS AND LOAD COMBINATIONS WITH WIND.
3. DETERMINE THE POSITIVE AND NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATION IN ACCORDANCE WITH ASCE 7-02 A DIRECTIONALITY FACTOR OF Kd = 0.85 SHALL BE USED.
4. THESE APPROVAL DOCUMENTS ARE GENERIC AND DO NOT INCLUDE INFORMATION FOR SITE-SPECIFIC APPLICATION OF THIS SHUTTER SYSTEM.
5. THESE APPROVAL DOCUMENTS COMPLY WITH CHAPTER 61G15-23 OF THE FLORIDA ADMINISTRATIVE CODE.
6. THESE APPROVAL DOCUMENTS, ARE SUITABLE TO BE APPLIED BY THE CONTRACTOR PROVIDED THE CONTRACTOR DOES NOT DEVIATE FROM THE CONDITIONS DETAILED HEREIN AND THE CONTRACTOR VERIFIES THAT THE EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM THE STRUCTURAL SUBSTRATES DETAILED HEREIN.
7. ANY MODIFICATIONS OR ADDITIONS TO THESE APPROVAL DOCUMENTS WILL VOID THE APPROVAL DOCUMENTS.
8. WHEN THE SITE CONDITIONS DEVIATE FROM THESE APPROVAL DOCUMENTS, THE BUILDING OFFICIAL MAY ELECT ONE OF THE FOLLOWING OPTIONS:
   A) REQUIRE THAT SITE SPECIFIC DOCUMENTS BE PREPARED, SIGNED, DATED AND SEALED BY A LICENSED ENGINEER OR REGISTERED ARCHITECT, WHICH DETAIL AND JUSTIFY THE DEVIATION. SAID DOCUMENTS SHALL BE SUBMITTED TO THE PRODUCT ENGINEER FOR REVIEW AS A CONDITION TO THE BUILDING OFFICIAL GRANTING HIS/HER APPROVAL.
   B) REQUIRE THAT A ONE-TIME SITE SPECIFIC APPROVAL BE APPLIED FOR AND SECURED FROM THE MIAMI-DADE COUNTY PRODUCT CONTROL DIVISION

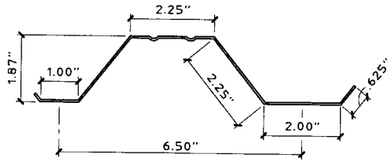
   WHEN THE SITE CONDITION DEVIATIONS OCCUR WITHIN THE HIGH VELOCITY HURRICANE ZONE AREAS ONLY OPTION "B" SHALL BE ACCEPTED BY THE BUILDING OFFICIAL.
9. PRODUCT MARKINGS SHALL BE WITHIN 12" OF ONE END OF THE PANEL WITH A MINIMUM OF ONE MARKING PER PANEL AND SHALL BE PERMANENTLY LABELED AS FOLLOWS:

BHPCO
FORT LAUDERDALE, FLORIDA
MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED

10. ALL BOLTS AND WASHERS SHALL BE GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 KSI.
11. STORM PANELS SHALL BE 18 GAUGE STEEL, MINIMUM THICKNESS 0.049" CONFORMING TO ASTM A653 STRUCTURAL QUALITY, GRADE 40, WITH A MINIMUM Fy = 40 ksi AND G-60 GALVANIZED COATING IN ACCORDANCE WITH ASTM A525.
12. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N
13. TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED HORIZONTALLY WHERE APPLICABLE, EXCEPT FOR "h" AND "U" HEADER MOUNTING CONDITIONS.

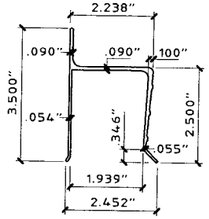


FULL PANEL



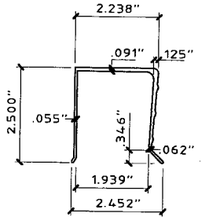
HALF PANEL

ONE HALF PANEL PER OPENING MAY BE USED AS REQUIRED TO COVER OPENING.

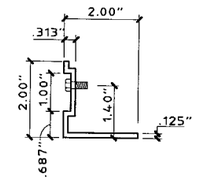


1 STORM PANEL
SCALE : 3" = 1'-0"

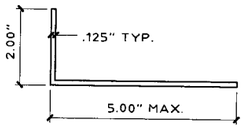
2 "h" HEADER
SCALE : 3" = 1'-0"



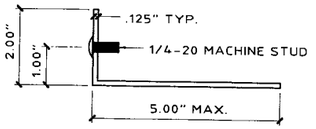
3 "U" HEADER
SCALE : 3" = 1'-0"



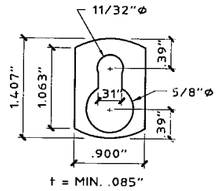
4 "SEA" ANGLE
SCALE : 3" = 1'-0"



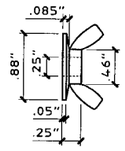
5 ANGLE
SCALE : 3" = 1'-0"



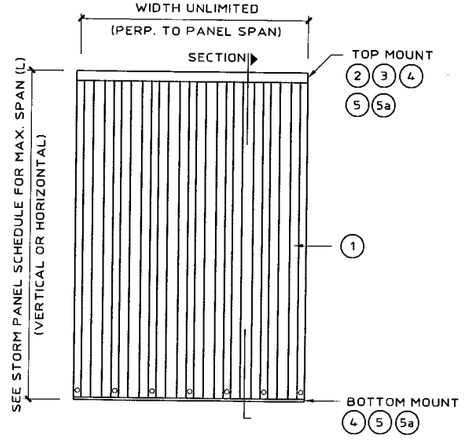
5a ANGLE
SCALE : 3" = 1'-0"



6 "KEYHOLE" WASHER
SCALE : 3" = 1'-0"
3003-H14 ALUMINUM ALLOY



6a WINGNUT
SCALE : HALF SIZE



7 TYPICAL ELEVATION

FOR ALL INSTALLATIONS SEE TABLE 2, PAGE 5 OF 6, FOR REQUIRED SEPARATION FROM GLASS.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 05-1013.05
Expiration Date 02/26/2009
By Helena A. Martin
Miami Dade Product Control Division

SEP 14 2006

Thornton-Tomasetti Group
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301
Tel. (954) 522-3690 • Fax (954) 522-3691 • COA # 7519
Website: www.TheTTGroup.com

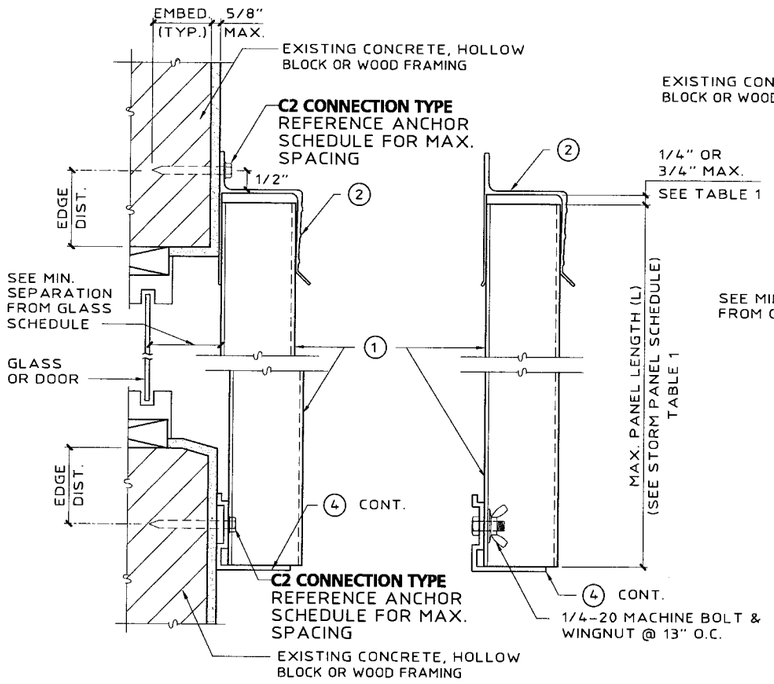
18 GA. STEEL STORM PANEL

SOUTHERN METAL PRODUCTS, LLC - D.B.A.
ALL BROWARD HURRICANE PANEL
450 West McNab Road
Ft. Lauderdale, FL 33309
1-800-HURRICANE

J.W. Knezevich
Professional Engineer
FL License No.: PE 0041961

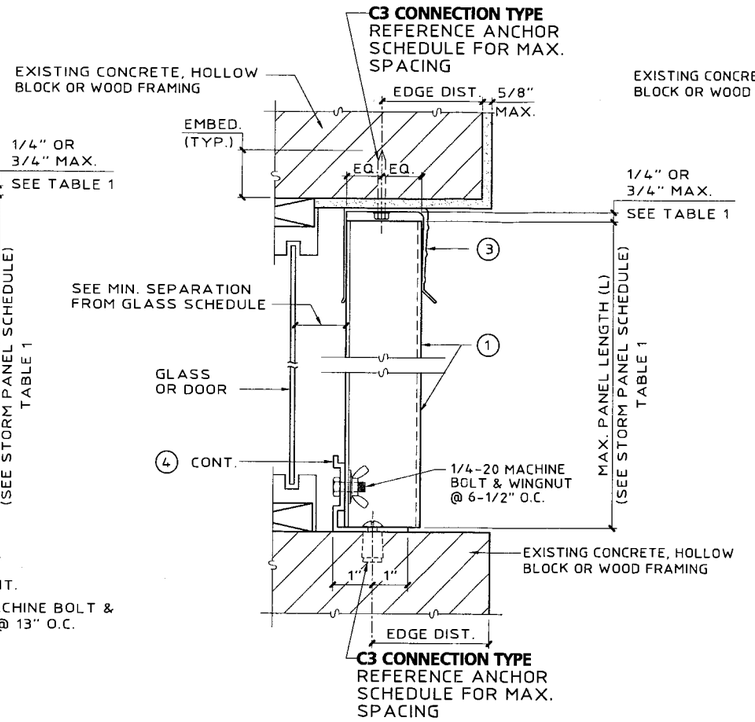
revisions			
no	date	by	description
0	08/31/05	ZL	PREVIOUSLY DRAWING NO. 03-342
1	09/08/06	NW	BCCO COMMENTS

date 08/31/2005
scale AS NOTED
drawn by MCR
design by ZL
checked by VJK
drawing no. 05-428
sheet 1 of 6



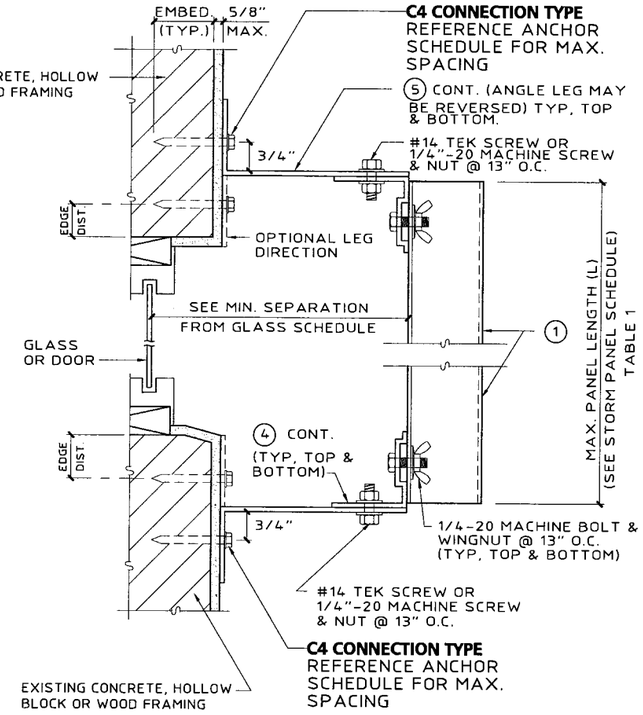
A WALL MOUNT SECTION

SCALE : 3" = 1'-0"



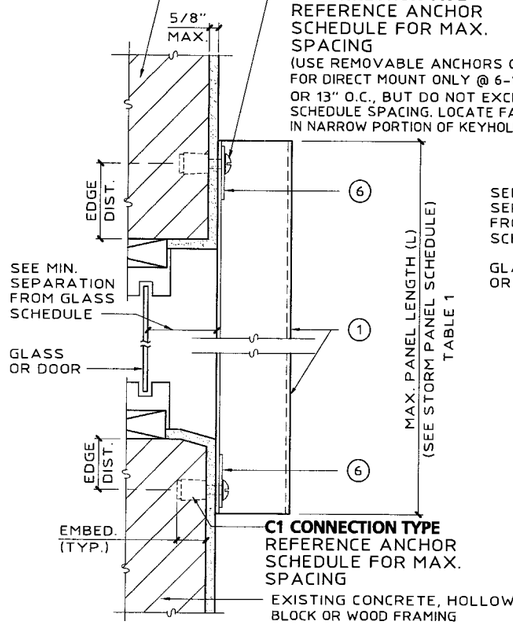
B CEILING/INSIDE MOUNT SECTION

SCALE : 3" = 1'-0"



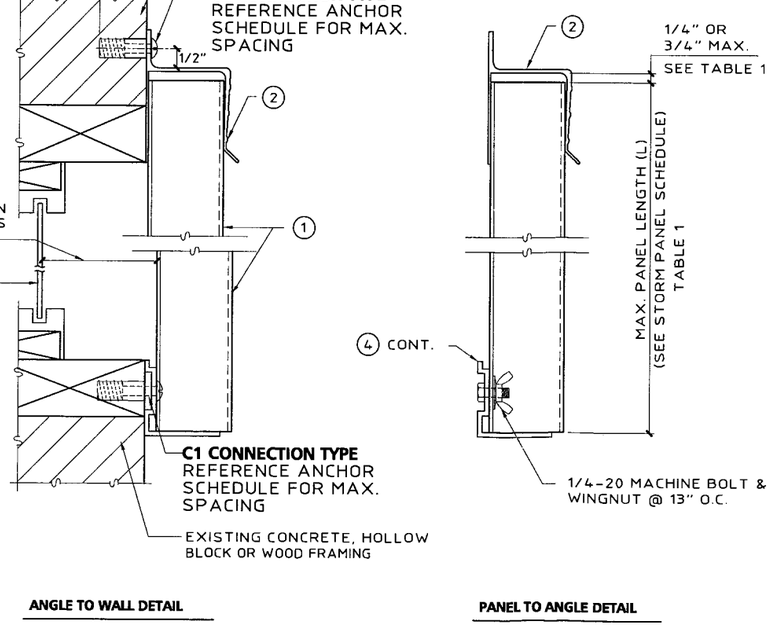
C BUILD-OUT MOUNT SECTION

SCALE : 3" = 1'-0"



D DIRECT MOUNT SECTION

SCALE : 3" = 1'-0"



E WALL MOUNT SECTION

SCALE : 3" = 1'-0"

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 05-1013.05
Expiration Date 02/26/2009
By Helena A. Melo
Miami Dade Product Control
Division

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sheet 2 of 6

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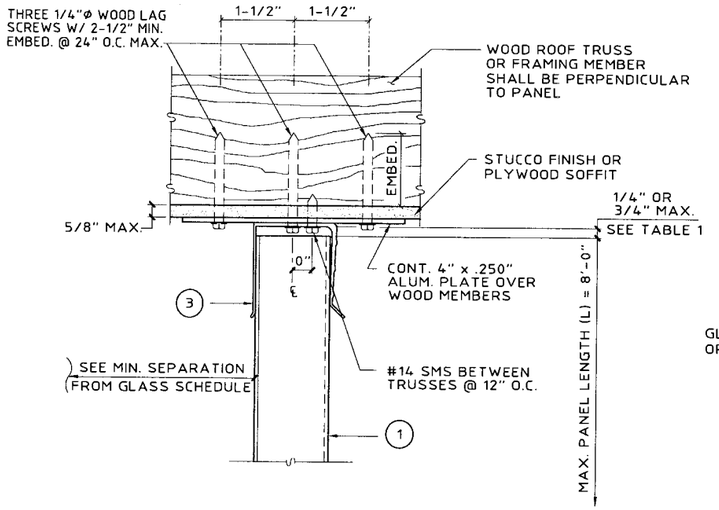
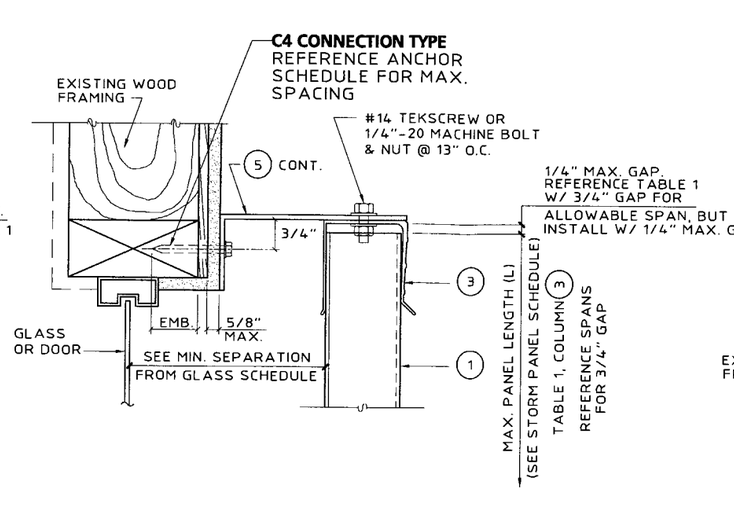


(MAX DESIGN LOAD ± 62 PSF)

(F) SOFFIT CONNECTION DETAIL

SCALE : 3" = 1'-0"



(G) BUILD-OUT SECTION

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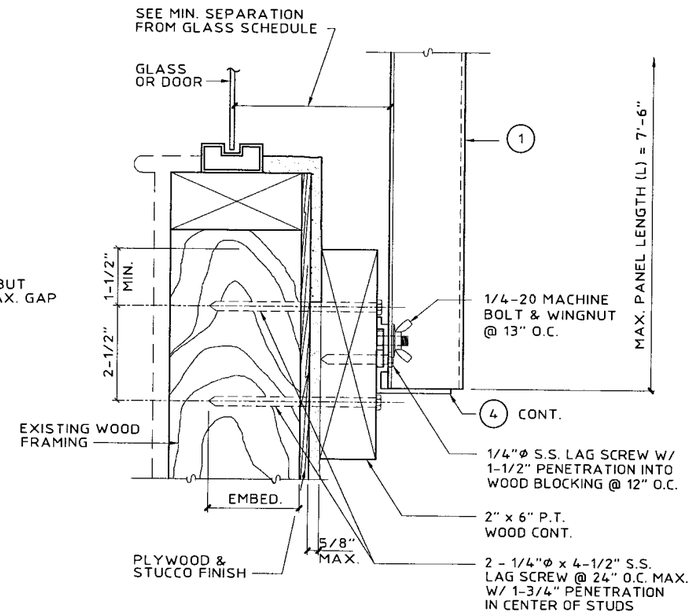
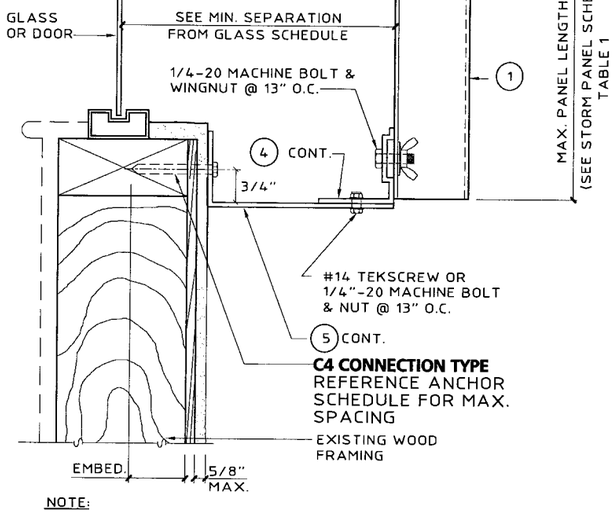


(MAX DESIGN LOAD ± 72 PSF)

(H) ALT. WALL MOUNT SECTION

SCALE : 3"= 1'- 0"



(I) BUILD-OUT SECTION

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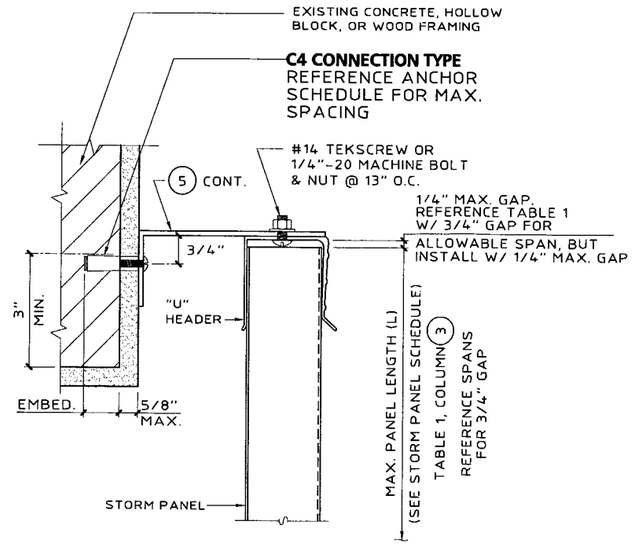
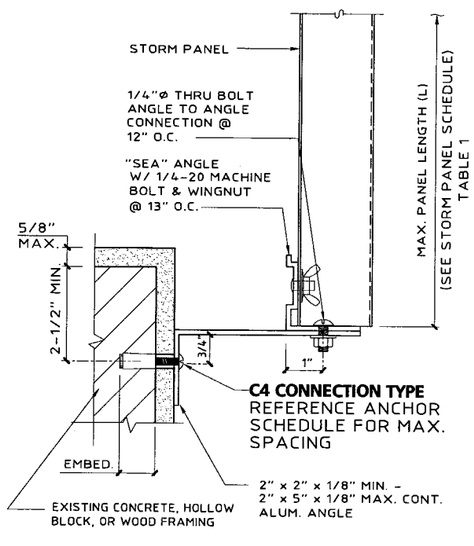


(J) ANGLE BUILD-OUT

SCALE : 3" = 1'-0"



(K) ANGLE BUILD-OUT

SCALE : 3" = 1'-0"

PRODUCT APPROVED
as complying with the Florida Building Code
Acceptance No. 05-1013.05
Expiration Date 02/26/2009
By Helen A. Mola
Miami Dade Product Control Division

Print Information: P:\FL1\Projects\KK5428.00\Drawings\R1-sub\05-428-03.dwg NWang 09/14/2006 03:52:35pm 08/31/05 15:57

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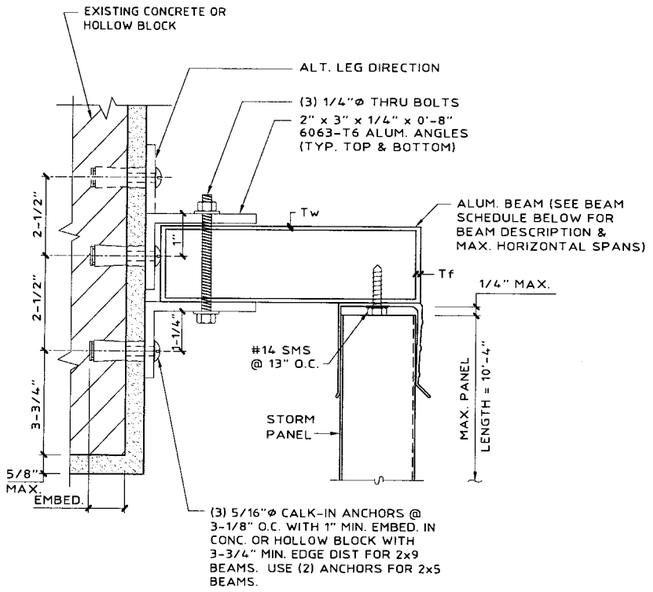
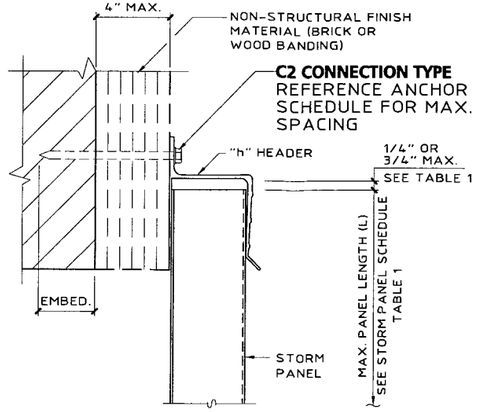


(MAX. DESIGN LOAD ±72 PSF)

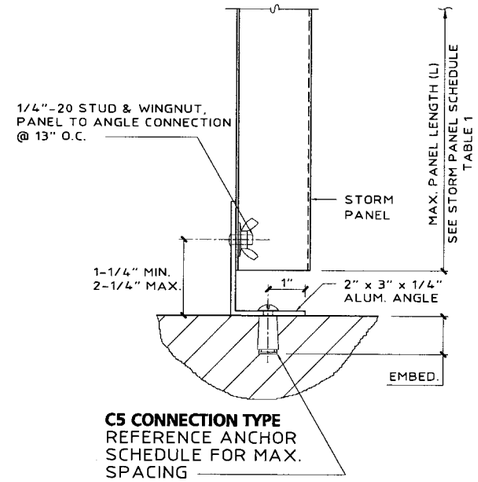
(L) STORM PANEL SUPPORT BEAM

SCALE : 3" = 1'-0"



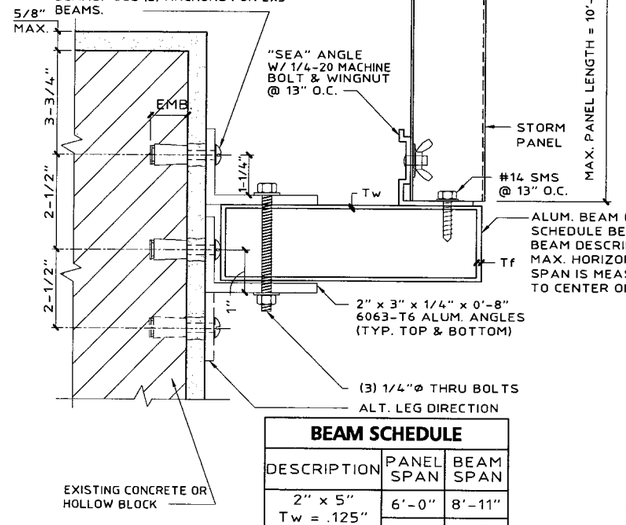
(M) WALL MOUNT

SCALE : 3" = 1'-0"



(N) FLOOR MOUNT

SCALE : 3" = 1'-0"



BEAM SCHEDULE

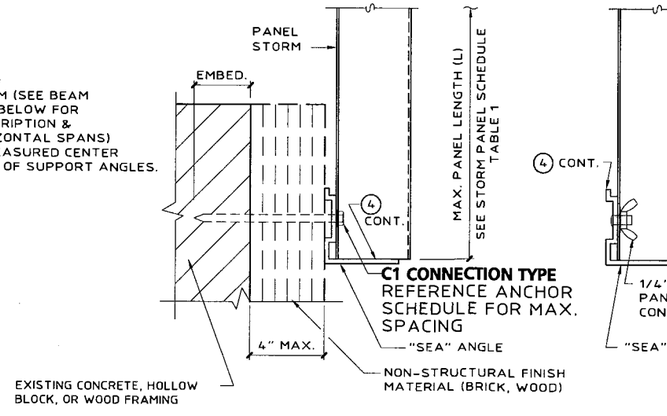
DESCRIPTION	PANEL SPAN	BEAM SPAN
2" x 5" Tw = .125" Tf = .125"	6'-0"	8'-11"
	10'-4"	7'-5"
2" x 9" Tw = .072" Tf = .224"	6'-0"	14'-10"
	10'-4"	11'-6"

(MAX. DESIGN LOAD ±72 PSF)

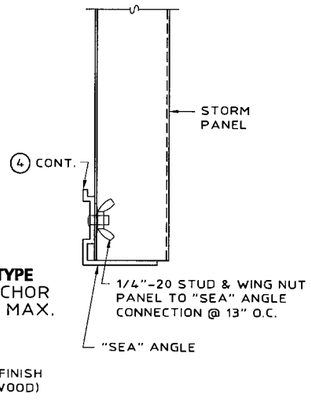
(O) STORM PANEL SUPPORT BEAM

SCALE : 3" = 1'-0"

NOTE: THIS DETAIL MAY BE USED AT TOP OR BOTTOM OF PANEL.



ANGLE TO WALL DETAIL



PANEL TO ANGLE DETAIL

(P) WALL MOUNT

SCALE : 3" = 1'-0"

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 05-1013.05
Expiration Date 02/26/2009
By
Miami Dade Product Control Division

Thornton-Tomasetti Group
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301
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Website: www.TheTTGroup.com

18 GA. STEEL STORM PANEL

SOUTHERN METAL PRODUCTS, LLC - D.B.A.
ALL BROWARD HURRICANE PANEL
450 West McNab Road Ft. Lauderdale, FL 33309 1-800-HURRICANE

J.W. Knezevich
Professional Engineer
FL License No.: PE 0041961
SEP 14 2006

revisions			
no	date	by	description
0	08/31/05	ZL	PREVIOUSLY DRAWING NO. 03-342
1	09/08/06	NW	BCCO COMMENTS

date 08/31/2005
scale AS NOTED
drawn by MCR
design by ZL
checked by VJK
drawing no. 05-428
sheet 4 of 6

Print Information: P:\FL1\Projects\KK5428.00\Drawings\R1-sub\05-428-05.dwg NWang 09/14/2006 03:52:51pm 08/31/05 15:56

TABLE 1 — **STORM PANEL MAX. SPAN SCHEDULE**

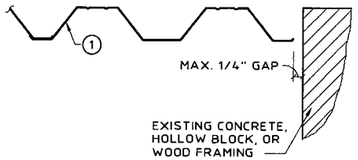
NEGATIVE DESIGN LOAD W (PSF)	ANY MOUNTING CONDITIONS (MAX. 1/4" SPACE BETWEEN PANEL AND HEADER) Ⓐ L MAX. (FT-IN)	ANY MOUNTING CONDITIONS (MAX. 3/4" SPACE BETWEEN PANEL AND HEADER) Ⓑ L MAX. (FT-IN)
35.0	12 - 9	12 - 9
40.0	12 - 5	12 - 4
45.0	12 - 1	11 - 11
50.0	11 - 9	11 - 3
55.0	11 - 6	10 - 9
60.0	11 - 3	9 - 11
62.0	11 - 2	9 - 7
65.0	11 - 0	9 - 2
70.0	10 - 7	8 - 6
72.0	10 - 4	8 - 3
75.0	9 - 11	7 - 11
80.0	9 - 3	7 - 5
90.0	8 - 3	6 - 7
100.0	7 - 5	5 - 11
110.0	6 - 9	5 - 5
120.0	6 - 2	4 - 11
130.0	5 - 8	4 - 7
140.0	5 - 3	4 - 3
150.0	4 - 11	3 - 11
160.0	4 - 7	3 - 8
170.0	4 - 4	3 - 6
180.0	4 - 1	3 - 3
190.0	3 - 11	3 - 1
200.0	3 - 8	2 - 11

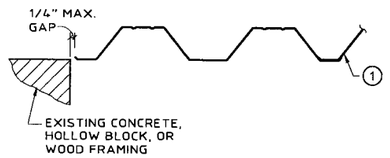
TABLE 2 — **MIN. SEPARATION FROM GLASS SCHEDULE**

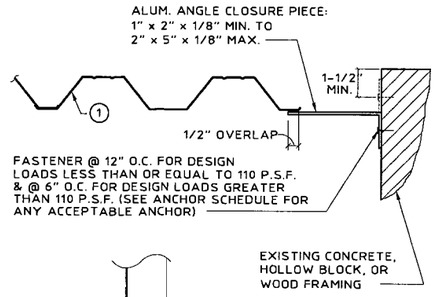
POSITIVE DESIGN LOAD(W) (PSF)	ACTUAL SHUTTER SPAN (L) (FT - IN)	MINIMUM SEPARATION FOR INSTALLATIONS 30' OR LESS ABOVE GRADE (INCHES)	MINIMUM SEPARATION FOR INSTALLATIONS GREATER THAN 30' ABOVE GRADE (INCHES)
30.0	7 - 8	2-3/4	1-3/8
	10 - 9	2-3/4	2
	13 - 4	3-5/8	3
40.0	7 - 8	2-3/4	1-5/8
	10 - 9	2-3/4	2-1/4
	12 - 5	3-5/8	3
50.0	7 - 8	2-3/4	1-5/8
	10 - 9	2-3/4	2-5/8
	11 - 9	3-5/8	3
60.0	7 - 8	2-3/4	1-3/4
	10 - 9	2-3/4	2-3/4
	11 - 3	3-5/8	3
70.0	7 - 8	2-3/4	1-3/4
	10 - 7	2-7/8	2-7/8
80.0	7 - 8	2-3/4	1-7/8
	9 - 3	2-3/4	2-3/8
90.0	7 - 8	2-3/4	1-7/8
	8 - 3	2-3/4	2-1/8
100.0	7 - 5	2-3/4	1-7/8

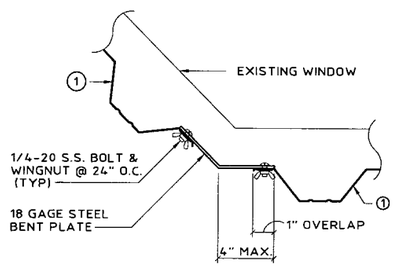
NOTES:

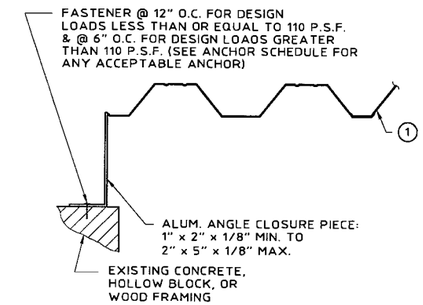
1. REFERENCE APPROPRIATE SPAN TABLE BASED ON MOUNTING CONDITION IN FIELD.
   - COLUMN Ⓐ MAY BE USED FOR ANY DETAILED CONDITIONS, INCLUDING DIRECT MOUNT. IF HEADER IS USED, MAX. GAP EQUALS 1/4".
   - COLUMN Ⓑ MAY BE USED FOR ANY DETAILED CONDITIONS, IF HEADER IS USED, MAX. GAP EQUALS 3/4".
2. FOR DESIGN LOADS BETWEEN TABULATED VALUES, USE NEXT HIGHER LOAD OR LINEAR INTERPOLATION MAY BE USED TO DETERMINE ALLOWABLE SPANS.
3. ENTER TABLE 1 WITH NEGATIVE DESIGN LOAD TO DETERMINE MAX. ALLOWABLE STORM PANEL SPAN.
4. ENTER TABLE 2 WITH POSITIVE DESIGN LOAD TO DETERMINE MIN. STORM PANEL SEPARARION FROM GLASS.

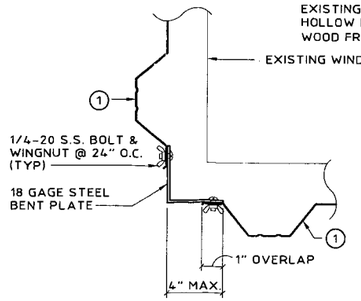












CLOSURE DETAILS (PLAN VIEWS)

SCALE: 1-1/2" = 1'-0"

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 05-1013.05
Expiration Date 02/26/2009
By Helena A. Mc
Miami Dade Product Control Division

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18 GA. STEEL STORM PANEL

SOUTHERN METAL PRODUCTS, LLC - D.B.A.
ALL BROWARD HURRICANE PANEL
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0	08/31/05	ZL	PREVIOUSLY DRAWING NO. 03-342
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sheet 5 of 6

ANCHOR SCHEDULE

FASTENER MAXIMUM SPACING (INCHES) REQUIRED FOR VARIOUS DESIGN LOADS AND SPANS

EXIST. STRUC.	ANCHOR TYPE	LOAD (W) P.S.F. MAX. (SEE NOTE 1)	MIN. 2" EDGE DISTANCE															MIN. 3" EDGE DISTANCE													
			SPANS UP TO 6'-0" (SEE NOTE 1)					SPANS UP TO 8'-8" (SEE NOTE 1)					SPANS UP TO 12'-9" (SEE NOTE 1)					SPANS UP TO 6'-0" (SEE NOTE 1)					SPANS UP TO 8'-8" (SEE NOTE 1)					SPANS UP TO 12'-9" (SEE NOTE 1)				
			CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
CONCRETE	1/4"ø ITW TAPCON W/ 1-3/4" MIN. EMBEDMENT (MIN. 3,192 P.S.I. CONCRETE)	48.0	13	13	12	13	11	13	7	8	13	7	13	3	5	13	5	13	13	13	13	12	13	7	9	13	8	13	3	6.5	13	5
		62.0	13	9	9	13	8	13	4	6	13	5	13		4	9	4	13	9	10	13	9	13	4	7	13	6.5	13		5	10	4
		72.0	13	6.5	8	13	7	13	3	5	13	5	13		4	9	4	13	7	9	13	8	13	3	6	13	5	13		5	10	4
		110.0	13	3	5	13	4	13		4	9	4	13		4	9	4	13	3	6	13	5	13		5	10	4	13		5	10	4
		200.0	13		4	9	4	13		4	9	4	13		4	9	4	13		5	10	4	13		5	10	4	13		5	10	4
	* 1/4"ø ALL-POINTS SOLID-SET ANCHOR WITH 7/8" EMBED. & 1/4-20 STAINLESS STEEL MACHINE SCREW (MIN. 3,000 P.S.I. CONCRETE)	48.0	13	13	12	13	10	13	5	8	13	7	13		5	12	5	13	13	13	13	13	13	7	10	13	9	13	3	7	13	6.5
		62.0	13	7	9	13	8	13	3	6.5	13	5	13		4	7	4	13	9	12	13	10	13	4	8	13	7	13		6	9	5
		72.0	13	5	8	13	7	13		5	11	5	13		4	7	4	13	6.5	10	13	9	13	3	7	13	6.5	13		6	9	5
		110.0	13		5	10	4	13		4	7	4	13		4	7	4	13	3	6.5	13	6	13		6	9	5	13		6	9	5
		200.0	13		4	7	4	13		4	7	4	13		4	7	4	13		6	9	5	13		6	9	5	13		6	9	5
	* * 1/4"ø ELCO MALE/ FEMALE "PANELMATE" W/ 1-3/4" MIN. EMBED. & 1/4-20 MACHINE SCREW WITH NUT (MIN. 3,000 P.S.I. CONCRETE)	48.0	13	13	11	13	10	13	5	7	13	6.5	13		5	12	4	13	13	13	13	12	13	7	9	13	8	13	3	6	13	5
		62.0	13	7	8	13	7	13	3	5	13	5	13		4	7	3	13	9	10	13	9	13	4	7	13	6.5	13		5	9	4
		72.0	13	5	7	13	6.5	13		5	12	4	13		4	7	3	13	6.5	9	13	8	13	3	6	13	5	13		5	9	4
		110.0	13		4	10	4	13		4	7	3	13		4	7	3	13	3	6	13	5	13		5	9	4	13		5	9	4
		200.0	13		4	7	3	13		4	7	3	13		4	7	3	13		5	9	4	13		5	9	4	13		5	9	4
HOLLOW CONCRETE BLOCK	1/4"ø ITW TAPCON W/ 1-1/4" MIN. EMBEDMENT	48.0	13	6	5	13	4	9		3	9	3	6.5			4		13	7	6	13	5	11		4	11	3	7			5	
		62.0	10		3	10	3	7			7		5					12	3	4	12	4	8		3	8		6			3	
		72.0	9		3	9	3	6			4		5					10		4	10	3	7			5		6			3	
		110.0	6			4		5					5					7			4		6			3		6			3	
		200.0	5					5					5					6			3		6			3		6			3	
	* 1/4"ø ALL-POINTS SOLID-SET ANCHOR WITH 7/8" EMBED. & 1/4-20 STAINLESS STEEL MACHINE SCREW	48.0	13	13	8	13	8	13	4	6	13	5	13		4	10	3	13	13	11	13	10	13	5	7	13	7	13		5	11	4
		62.0	13	6	6.5	13	6	13		4	13	4	11		3	6	3	13	6.5	8	13	7	13	3	6	13	5	12		4	7	3
		72.0	13	4	5	13	5	13		4	10	3	11		3	6	3	13	4	7	13	6.5	13		5	11	4	12		4	7	3
		110.0	13		3	8	3	11		3	6	3	11		3	6	3	13		4	9	4	12		4	7	3	12		4	7	3
		200.0	11		3	6	3	11		3	6	3	11		3	6	3	12		4	7	3	12		4	7	3	12		4	7	3
	* * 1/4"ø ELCO MALE/ FEMALE "PANELMATE" W/ 1-1/4" MIN. EMBED. & 1/4-20 MACHINE SCREW WITH NUT	48.0	13	9	6.5	13	6	13	3	4	13	4	10		3	7		13	9	7	13	6.5	13	3	5	13	4	10		3	7	
		62.0	13	4	5	13	4	11		3	11	3	8			4		13	4	5	13	5	11		3	11	3	8			4	
		72.0	13	3	4	13	4	10		3	7		8			4		13	3	4	13	4	10		3	7	3	8			4	
		110.0	9			6		8			4		8			4		9		3	6		8			4		8			4	
		200.0	8			4		8			4		8			4		8			4		8			4		8			4	

ANCHOR SCHEDULE

FASTENER MAXIMUM SPACING (INCHES) REQUIRED FOR VARIOUS DESIGN LOADS AND SPANS

EXIST. STRUC.	ANCHOR TYPE	LOAD (W) P.S.F. MAX. (SEE NOTE 1)	MIN. 3/4" EDGE DISTANCE														
			SPANS UP TO 6'-0" (SEE NOTE 1)					SPANS UP TO 8'-8" (SEE NOTE 1)					SPANS UP TO 12'-9" (SEE NOTE 1)				
			CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
WOOD	2" MIN. 1/4"ø x MIN. 3" LONG LAG SCREW W/ MIN. 2" EMBED. SHEAR PARALLEL OR PERP. TO WOOD GRAIN	48.0	13	13	12	13	11	13	10	8	13	8	13	5	5	13	5
		62.0	13	13	9	13	8	13	6	6.5	13	6	13	3	4	13	4
		72.0	13	9	8	13	7	13	5	5	13	5	13	3	4	13	4
		110.0	13	4	5	13	5	13	3	4	13	4	13	3	4	13	4
		200.0	13	3	4	13	4	13	3	4	13	4	13	3	4	13	4
	* 7/16"ø WOOD BUSHING W/ 5/8" MIN. EMBED. & 1/4-20 STAINLESS STEEL MACHINE SCREW	48.0	13	7		13		11			11		7			5	
		62.0	13	3		13		9			9		6.5			3	
		72.0	11			11		7			5		6.5			3	
		110.0	7			4		6.5			3		6.5			3	
		200.0	6.5			3		6.5			3		6.5			3	
	* * 1/4"ø ELCO MALE/ FEMALE "PANELMATE" W/ 1-7/8" MIN. EMBED. & 1/4-20 MACHINE SCREW WITH NUT	48.0	13	13	10	13	9	13	6	7	13	6.5	13	3	4	13	4
		62.0	13	7	8	13	7	13	3	5	13	5	13		4	8	3
		72.0	13	5	7	13	6	13	3	4	12	4	13		4	8	3
		110.0	13		4	11	4	13		4	8	3	13		4	8	3
		200.0	13		4	8	3	13		4	8	3	13		4	8	3

ANCHOR NOTES:

1. **SPANS AND LOADS SHOWN HERE ARE FOR DETERMINING ANCHOR SPACING ONLY. ALLOWABLE STORM PANEL SPANS FOR SPECIFIC LOADS MUST BE LIMITED TO THOSE SHOWN IN TABLE 1.**
2. ENTER ANCHOR SCHEDULE BASED ON THE EXISTING STRUCTURE MATERIAL, ANCHOR TYPE AND EDGE DISTANCE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN.
3. SEE MOUNTING SECTION DETAILS FOR IDENTIFICATION OF CONNECTION TYPE.
4. EXISTING STRUCTURE MAY BE CONCRETE, HOLLOW BLOCK OR WOOD FRAMING. REFERENCE ANCHOR SCHEDULE FOR PROPER ANCHOR TYPE BASED ON TYPE OF EXISTING STRUCTURE.
5. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
6. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES WALL FINISH OR STUCCO.
7. WHERE EXISTING STRUCTURE IS WOOD FRAMING, WOOD FRAMING CONDITIONS VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
8. WHERE LAG SCREWS FASTEN TO NARROW FACE OF STUD FRAMING, FASTENER SHALL BE LOCATED IN CENTER OF NOMINAL 2" x 4" (MIN.) WOOD STUD. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR WOOD FRAMING. WOOD STUD SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY. LAG SCREWS SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
9. MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT), U.O.N.
10. ▨ DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
11. * DESIGNATES ANCHORS WHICH ARE REMOVABLE BY REMOVING MACHINE SCREW, NUT OR WASHERED WINGNUT.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 05-1013.05
Expiration Date 02/26/2009
By Helmy A. Mola
Miami Dade Product Control Division

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BROWARD HURRICANE PANEL

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1-800-HURRICANE

J.W. Knezevich
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