



MIAMI-DADE COUNTY
BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

www.miamidade.gov

MetalTech, Inc.
7635 West 2nd Court
Hialeah, FL 33014

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: "Maximum Impact" 0.041" (min.) Galvanized Steel Storm Panels Shutter

APPROVAL DOCUMENT: Drawing No. 99002, titled "20 ga. Maximum Impact Storm Panel", sheets 1 through 7 of 7, prepared by Ramms Engineering, Inc., signed and sealed by Robert Monsour, P.E., on January 12, 2006, 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 # 02-0611.05 and consists of this page 1, evidence submitted pages E-1 and E-2 as well as approval document mentioned above.

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



Helmy A. Makar
 11/16/2006

NOA No 06-0117.04
Expiration Date: 07/22/2007
Approval Date: 11/16/2006
Page 1

MetalTech, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #99-0519.07

A. DRAWINGS

1. *Drawing No. 99002, titled "20 ga. Maximum Impact Storm Panel", prepared by Ramms Engineering, Inc., dated April 10, 1999, sheets 1, 2, & 3 of 7, and January 15, 1999, sheets 4, 5, 6, & 7 of 7, all sheets last revised on June 25, 1999, signed and sealed by Robert S. Monsour, P.E.*

B. TESTS

1. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test, and Uniform Static Air Pressure Test of 20 gauge galvanized steel storm panels shutter, prepared by Construction Testing Corporation, Report No. CTC 99-018, dated May 7, 1999, signed and sealed by Yamil Kuri, P.E.*

C. CALCULATIONS

1. *Comparative Analysis and Anchor Analysis, dated May 11, 1999, pages 1 through 124, prepared by Ramms Engineering, Inc., signed and sealed by Robert S. Monsour, P.E.*
2. *Comparative Analysis, pages 1 through 5, prepared by Ramms Engineering, Inc., signed and sealed by Robert S. Monsour, P.E. on June 28, 1999.*

D. MATERIAL CERTIFICATIONS

1. *Mill Certified Inspection Report of coils, dated 04/07/99, for 20 gauge galvanized steel by Pacesetter Steel Service, with chemical composition and physical properties.*
2. *Tensile Test Report #CTL-420E, prepared by Certified Testing Laboratories, dated April 19, 1999, for 20 gauge galvanized steel sample #99-018, signed and sealed by Ramish Patel, P.E.*

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #02-0312.09

A. DRAWINGS

See NOA 99-0519.07

B. TESTS

See NOA 99-0519.07

C. CALCULATIONS

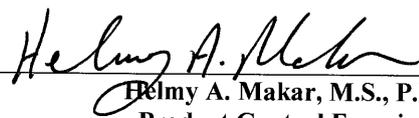
See NOA 99-0519.07

D. MATERIAL CERTIFICATIONS

See NOA 99-0519.07

E. STATEMENTS

See NOA 99-0519.07



**Helmy A. Makar, M.S., P.E.
Product Control Examiner**

NOA No 06-0117.04

Expiration Date: 07/22/2007

Approval Date: 11/16/2006

MetalTech, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

F. OTHER

NOA 99-0519.07.

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 02-0611.05

A. DRAWINGS

1. None.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. MATERIAL CERTIFICATIONS

1. None.

E. STATEMENTS

1. Statement letter from MetalTech, Inc., dated June 10, 2002, signed by Steven Pulliam, stating that this product have not changed from the original approval.

4. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. 99002, titled "20 ga. Maximum Impact Storm Panel", sheets 1 through 7 of 7, prepared by Ramms Engineering, Inc., signed and sealed by Robert Monsour, P.E., on January 12, 2006.

B. TESTS

1. None.

C. CALCULATIONS

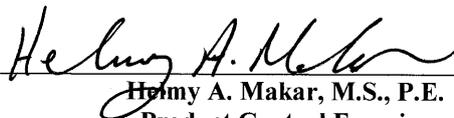
1. Anchor Calculations and details for 0.060" Aluminum Storm Panels, dated January 06, 2006, pages 1 through 47 of 47, prepared by Ramms Engineering, Inc., signed and sealed by Robert Monsour, P.E., on January 06, 2006.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. None.

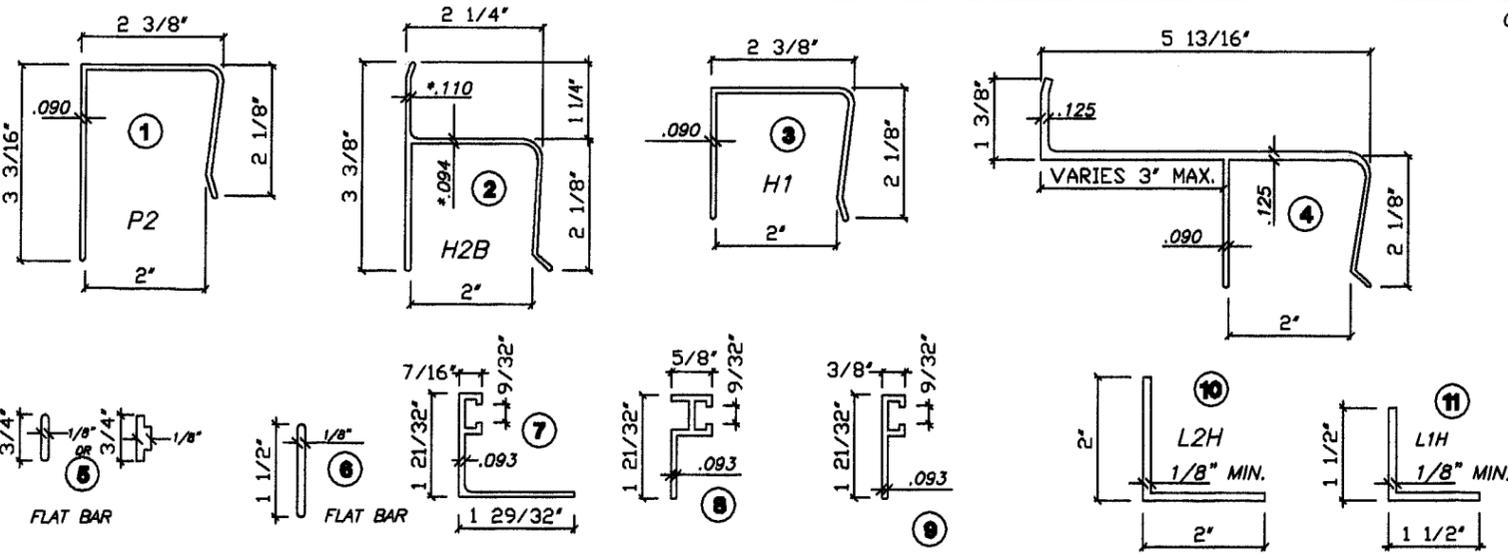


Henry A. Makar, M.S., P.E.
Product Control Examiner

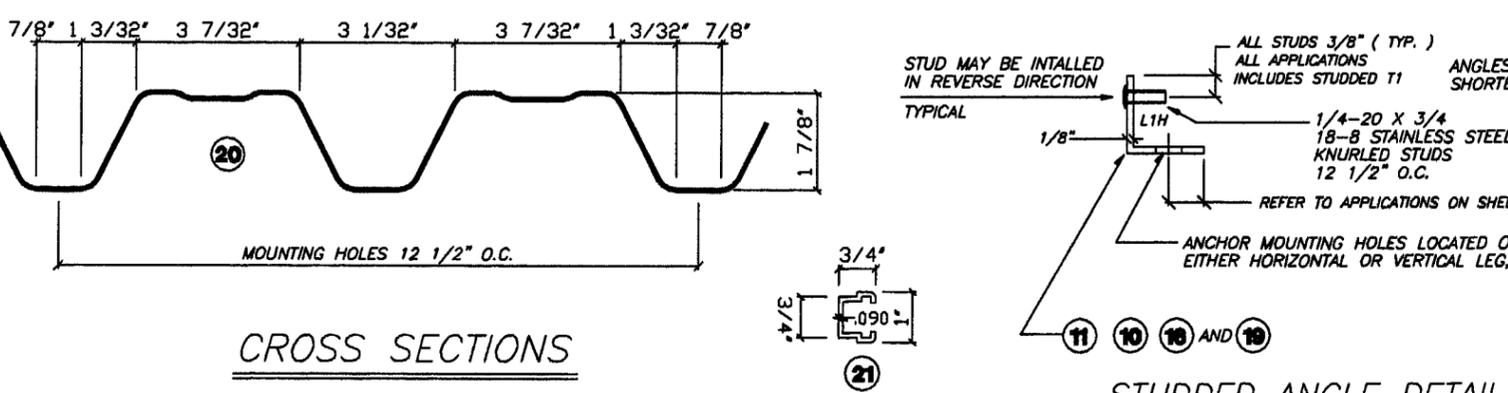
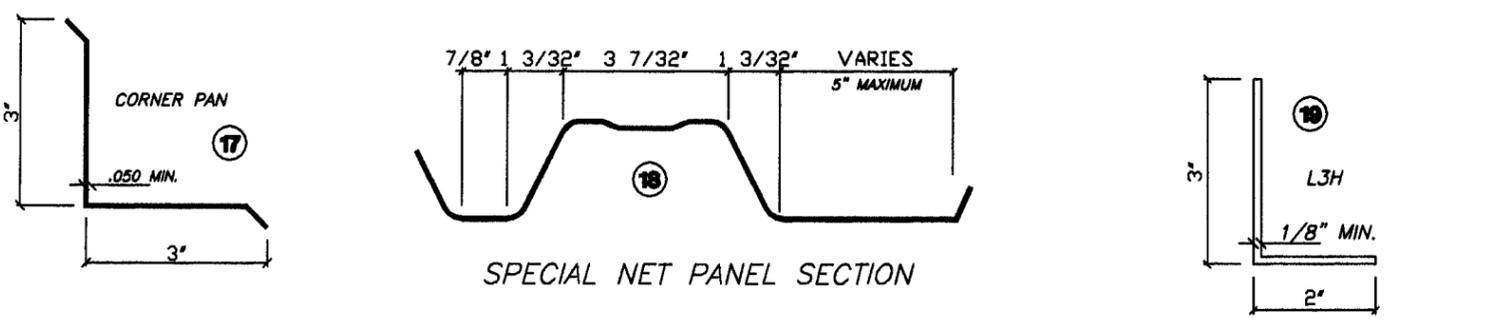
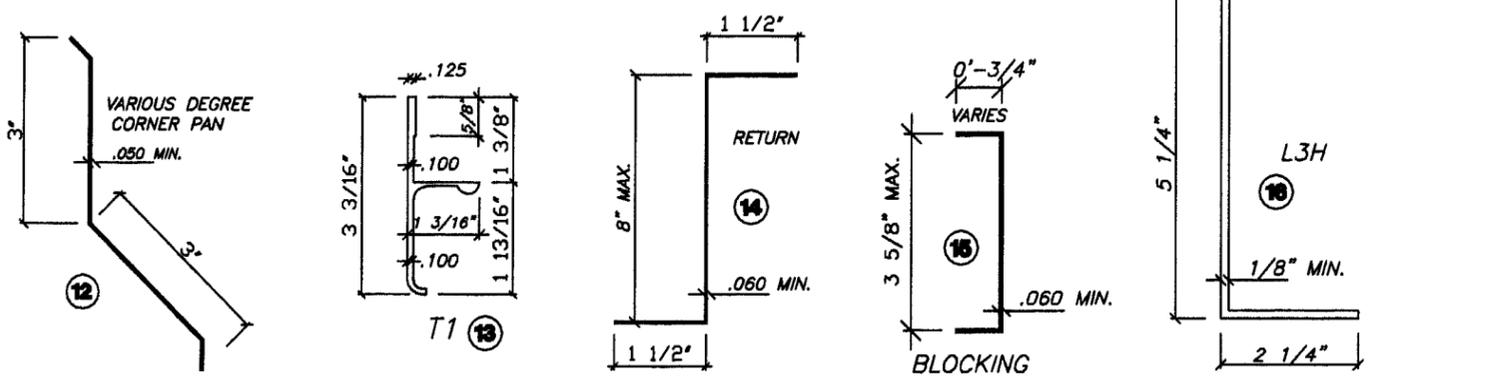
NOA No 06-0117.04

Expiration Date: 07/22/2007

Approval Date: 11/16/2006



VARIOUS TYPES OF F-TRACK NOT SHOWN



1/8" x 1 1/2" FLAT STUDDED STRAP MAY BE USED IN PLACE OF ANGLE

COMPLIES WITH:

FLORIDA BUILDING CODE
TESTED TO TAS201, TAS202 AND TAS203

DESIGN CRITERIA:

WIND LOADS TO BE CALCULATED AS PER ASCE 7

NO INCREASE IN ALLOWABLE STRESS WAS USED IN THE DESIGN OF THIS PRODUCT

GENERAL NOTES:

ALL ALUMINUM EXTRUSIONS TO BE ALLOY 6063-T6 OR EQUAL

STORM PANELS SHALL BE:

20 GAUGE STEEL, ASTM A653 SQ GRADE E MIN Fy=80 K.S.I. MINIMUM VALUE
HOT DIP COATED, WITH A NOMINAL WIDTH OF 12 1/2"

THE STORM PANEL SHUTTER MAY BE INSTALLED VERTICALLY OR HORIZONTALLY,
IN ACCORDANCE TO THE DETAILED SPECIFICATIONS HEREIN.

PANELS MAY BE NOTCHED OR MITERED TO ACCOMMODATE AN OBSTRUCTION
PANELS MAY HAVE A RIPPLED SURE GRIP OR A HEMMED EDGE

ANCHORAGE OF THE SHUTTER SYSTEM TO CONCRETE OR MASONRY SHALL CONSIST OF
THE FOLLOWING OR EQUAL WITH MINIMUM ULTIMATE LOAD VALUES SHOWN

- 1/4" DIA. RAWL LOK/BOLT ANCHOR (SLEEVED DRIVE ANCHOR)
MIN. TENSILE 1190 - MIN. SHEAR 1520 - 1 1/8" MIN. EMBED. IN CONCRETE
MIN. TENSILE 1200 - MIN. SHEAR 1270 - 1 1/8" MIN. EMBED. IN MASONRY
- 1/4-20 RAWL CALK-IN ANCHOR (MACHINE SCREW ANCHOR) WITH 1/4-20 BOLTS
MIN. TENSILE 1870 - MIN. SHEAR 1730 - 7/8" MIN. EMBED. IN CONCRETE
MIN. TENSILE 880 - MIN. SHEAR 1340 - 7/8" MIN. EMBED. IN MASONRY
- 1/4" PERMA-SEAL TAPPER BY RAWL (MASONRY SCREWS VARIOUS HEAD TYPES)
MIN. TENSILE 1520 - MIN. SHEAR 1980 - 1 1/2" MEN. EMBED. IN CONCRETE
MIN. TENSILE 880 - MIN. SHEAR 1270 - 1 1/4" MIN. EMBED. IN MASONRY
- 1/4" ZAMAC NAILIN BY RAWL (ZAMAC HAMMER DRIVES)
MIN. TENSILE 980 - MIN. SHEAR 1400 - 1 3/8" MIN. EMBED. IN CONCRETE
MIN. TENSILE 730 - MIN. SHEAR 1320 - 1 1/4" MIN. EMBED. IN MASONRY

ANCHORAGE TO WOOD CONSTRUCTION SHALL BE 1/4" STEEL LAGS OR LARGER
WITH 1" MIN. THREAD PENETRATION, 1/4-20 BRASS WOOD BUSHINGS OR
1/4" ELCO PANEL MATES WITH 1 7/8" MIN. THREAD PENETRATION.

REFER TO SHEETS 5,6 & 7 OF 7 FOR ANCHOR SPACING AND MINIMUM EMBEDMENTS

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE
STRUCTURE TO WITHSTAND THE ADDITIONAL LOADS AND INSURE PROPER ANCHORAGE.

EACH PANEL SHALL BEAR A PERMANENT LABEL OR STAMP SHOWING
" METALTECH, INC. HIALEAH, FL " " DADE COUNTY PRODUCT CONTROL APPROVED "

WARNING TO OWNER OR TENANT LOCATED IN EACH HEADER OR ONE PANEL OF EACH OPENING,
STATING " STORM PANELS WILL NOT OFFER HURRICANE PROTECTION UNLESS ALL REINFORCING
STRAPS OR BOLTS ARE PROPERLY INSTALLED, WHEN REQUIRED "

PERMANENT FASTENER COMPONENTS, EMBEDDED ANCHOR BOLTS, THREADED CONES
OR METAL SHIELDS, NOT IN USE, MUST BE PROTECTED AGAINST CORROSION,
CONTAMINATION AND DAMAGE AT ALL TIME.

Robert S. Monsour
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 06-0117.04
Expiration Date 07/22/2007
By *Helmut A. Nelson*
Miami Dade Product Control
Division

20ga

MAXIMUM IMPACT STORM PANEL

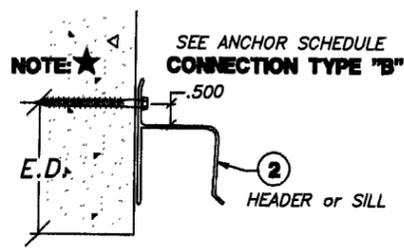
REVISIONS	BY
06/04/99	SP
06/25/99	SP
01/06/06	SP

RAMMS ENGINEERING, INC.
Structural Design
2100 W. 70th STREET, SUITE 311
HIALEAH, FLORIDA 33016
EB 0006024

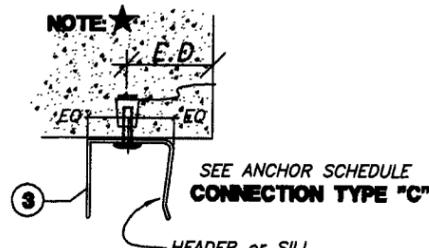
METALTECH, INC.
7635 W. SECOND CT. HIALEAH, FL 33014
EST. 1957
WORLDWIDE

BUILDING CODE COMPLIANCE

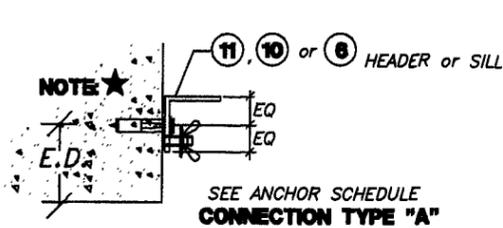
DATE	BY
SEP/URB/RSM	APPROVED
DATE	04/10/99
SCALE	AS SHOWN
JOB	99002
SHEET	1



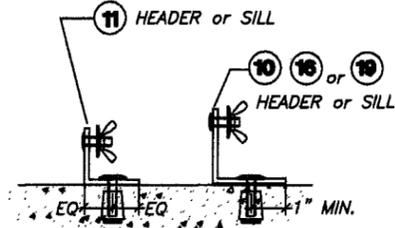
DETAIL 1



DETAIL 2

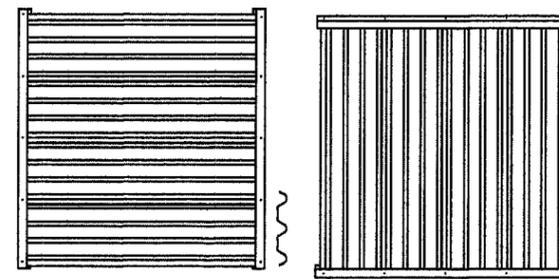


DETAIL 3



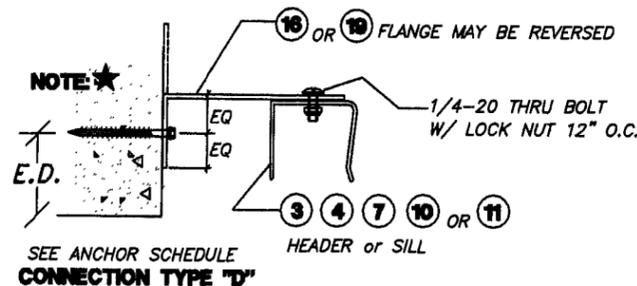
DETAIL 4

MAXIMUM IMPACT STORM PANEL

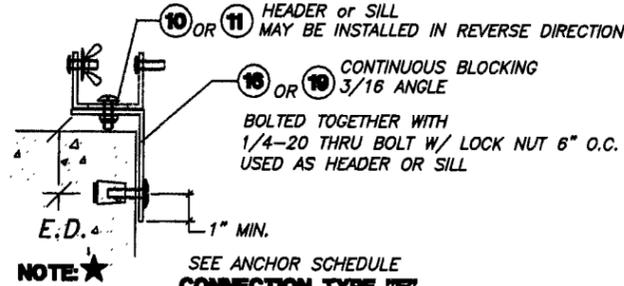


HORIZONTAL INSTALLATION ELEVATION

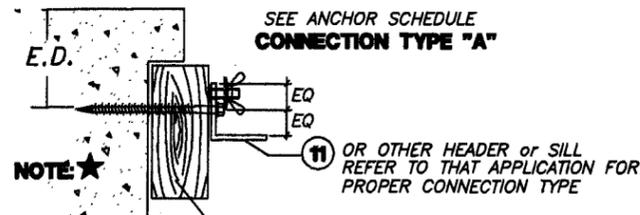
VERTICAL INSTALLATION ELEVATION



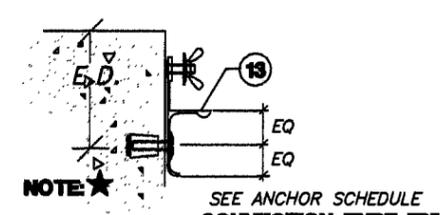
DETAIL 5



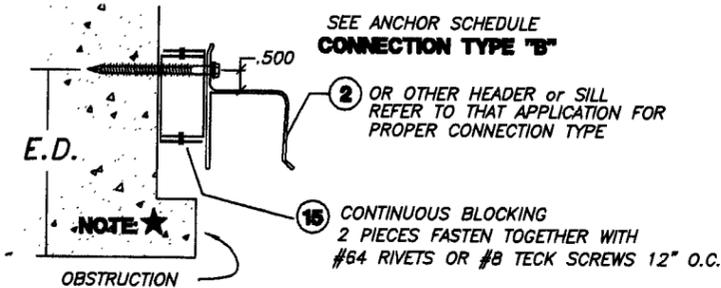
DETAIL 6



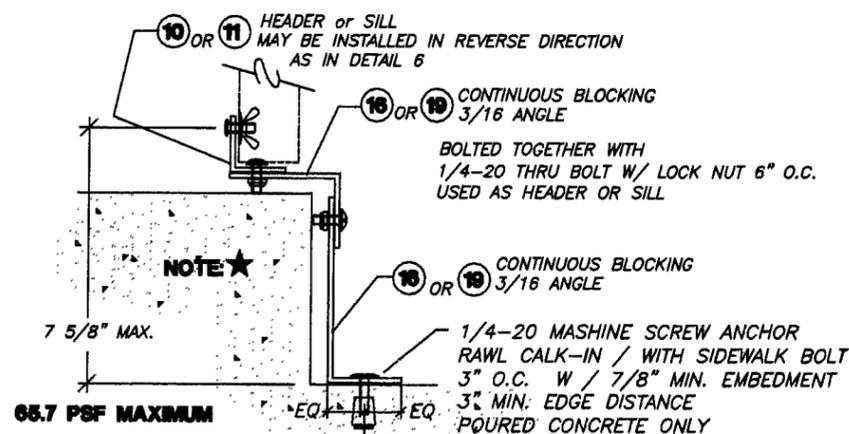
DETAIL 7



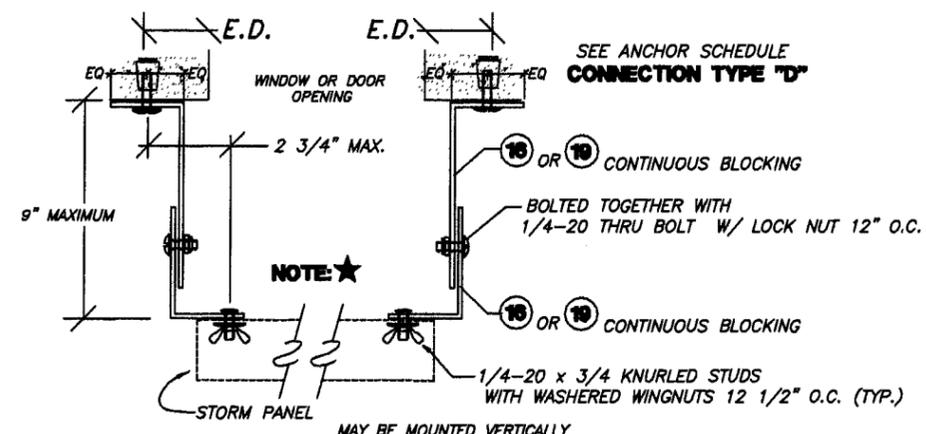
DETAIL 8



DETAIL 9



DETAIL 10

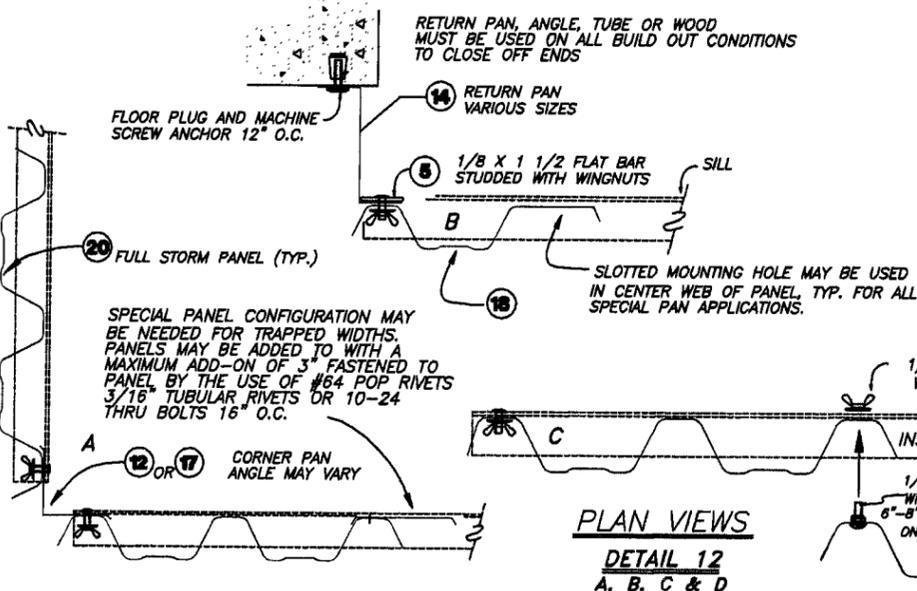


DETAIL 11

NOTE: ★

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE TO WITH STAND THE ADDITIONAL LOADS AND INSURE PROPER ANCHORAGE. SHUTTER SYSTEM MAY BE INTSALL INTO WOOD, CONCRETE, MASONRY.

WHEN ANCHORING TO WOOD, THE WOOD MUST BE A MINIMUM 2 X 4 EQUAL TO #2 SOUTHERN PINE WITH 0.55 SPECIFIC GRAVITY AND STRUCTURALLY PART OF THE FRAMING STRUCTURE OR SUCURELY ATTACHED TO FRAMING STRUCTURE



PLAN VIEWS

DETAIL 12
A, B, C & D

Monson
1/12/04
ROBERT S. MONSOUR, PE
EB-0006024
RAMS ENGINEERING, INC.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 06-0117.04
Expiration Date 07/22/2007
By *Helmut H. Miller*
Miami Dade Product Control Division

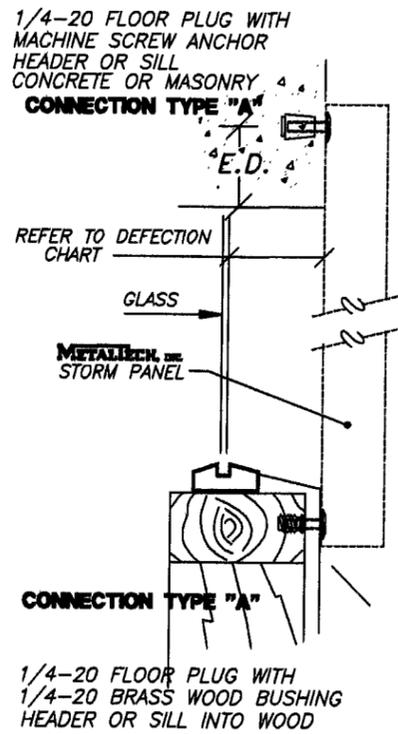
BUILDING CODE COMPLIANCE

REVISIONS	BY
06/04/99	SP
06/25/99	SP
01/12/06	SP

RAMS ENGINEERING, INC.
Structural Design
2100 W. 76th STREET, SUITE 311
HIALEAH, FLORIDA 33016
EB 0006024

METALTECH, INC.
7635 W. SECOND CT. HIALEAH, FL 33014
EST. 1957

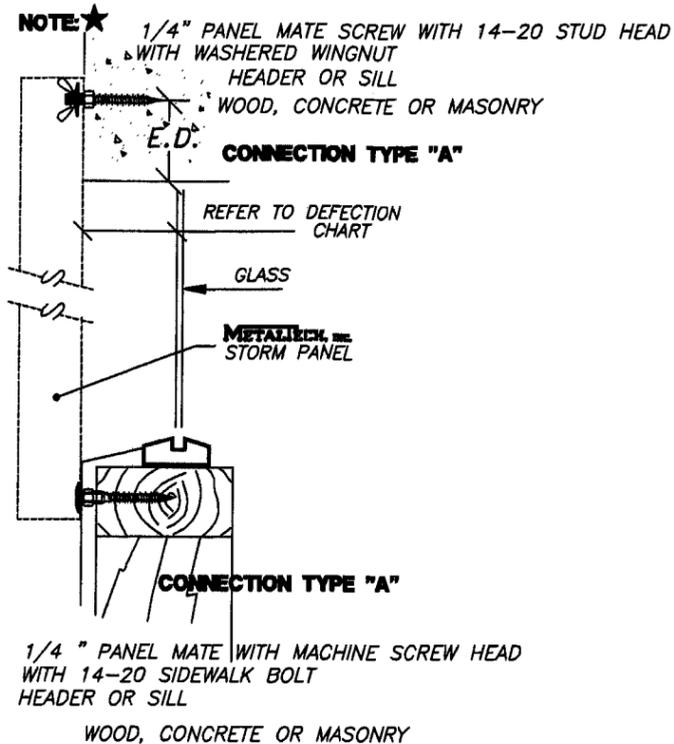
DATE	BY	REVISION
SEP / JRB / RSM		
04/10/99		
99002		
2		
7		



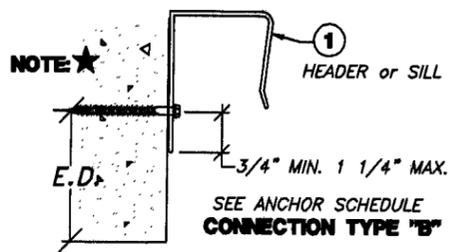
NOTE:
THE METALTECH STORM PANEL MAY BE INSTALLED WITHOUT THE USE OF AN EXTRUDED HEADER OR SILL. THE SHUTTER MAY BE ANCHORED DIRECTLY TO THE STRUCTURE WITH THE USE OF ONE OR A COMBINATION OF DETAIL 13

NOTE: ★

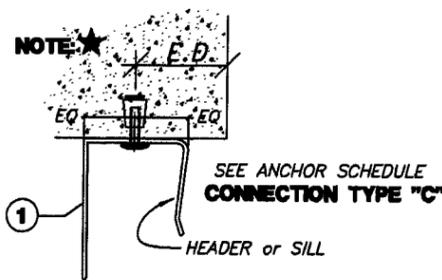
DETAIL 13



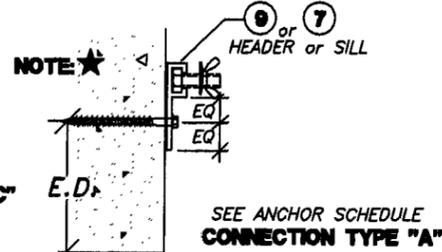
DETAIL 14



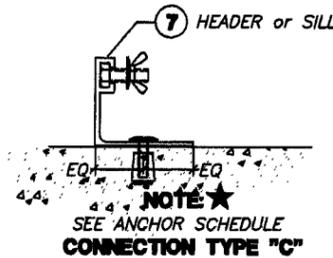
DETAIL 15



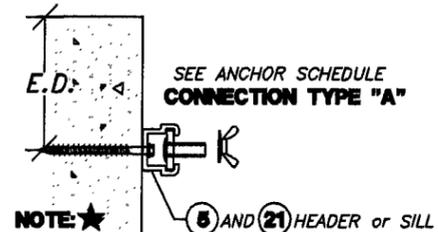
DETAIL 16



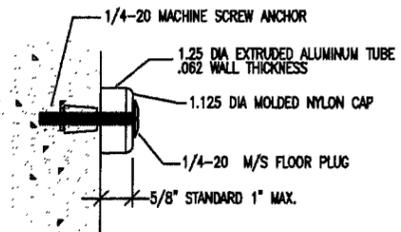
DETAIL 17



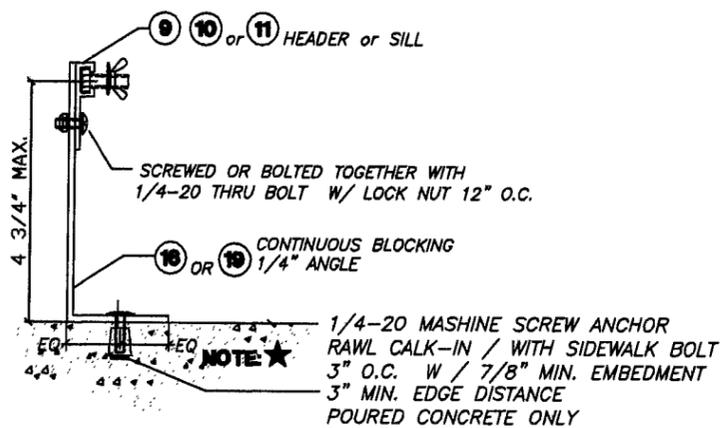
DETAIL 18



DETAIL 19



DETAIL 20



59.5 PSF MAXIMUM / PANEL HEIGHT 109" MAXIMUM

DETAIL 21

ADJUSTABLE HEADER OR SILL

NOTE: ★

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE TO WITH STAND THE ADDITIONAL LOADS AND INSURE PROPER ANCHORAGE. SHUTTER SYSTEM MAY BE INTSALL INTO WOOD, CONCRETE, MASONRY.

WHEN ANCHORING TO WOOD, THE WOOD MUST BE A MINIMUM 2 X 4 EQUAL TO #2 SOUTHERN PINE WITH 0.55 SPECIFIC GRAVITY AND STRUCTURALLY PART OF THE FRAMING STRUCTURE OR SUCURELY ATTACHED TO FRAMING STRUCTURE

Monson
1/12/04

ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

PRODUCT REVISED as complying with the Florida Building Code
Acceptance No 06-0117.04
Expiration Date 07/22/2007

By *Helmut A. Miller*
Miami Dade Product Control Division

BUILDING CODE COMPLIANCE

REVISIONS	BY
06/04/99	SP
06/25/99	SP
01/12/06	SP

RAMMS ENGINEERING, INC.
Structural Design
2100 W. 76th STREET, SUITE 311
HALEAH, FLORIDA 33016

EB 0006024

METALTECH, INC.
7635 W. SECOND CT. HIALEAH, FL 33014
EST. 1957

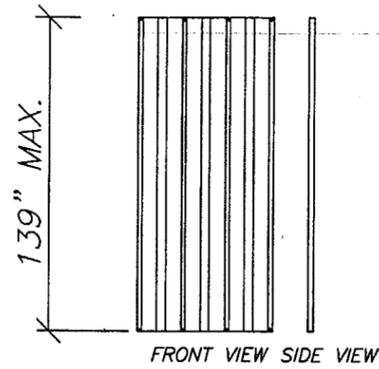
DATE	BY
SEP / JRB / RSM	APPROVED
DATE	04/10/99
SCALE	SHOWN
JOB	99002

3

7

MAXIMUM IMPACT STORM PANEL

20ga STEEL MAXIMUM IMPACT STORM PANEL

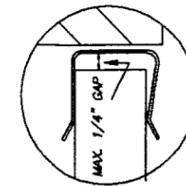


139" MAX. PANEL HEIGHT

PANEL DEFLECTION CHART

PANEL HEIGHT	0-64"	64-109"	109"-139"
WALL MOUNT	1 1/4"	2"	2 1/2"
INSIDE MOUNT	1 1/4"	2"	2 1/2"
BUILD OUT	1 1/4"	2"	2 1/2"

MINIMUM DISTANCE BETWEEN GLASS AND PANEL



MAXIMUM GAP BETWEEN PANEL AND HEADER IS 1/4" (TYP.)

DETAIL "E"

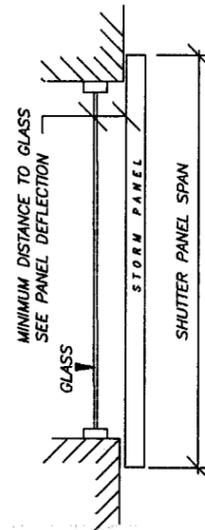
REFER TO PANEL DEFLECTION CHARTS FOR MINIMUM SEPERATION TO THE GLASS

20ga STEEL

POSITIVE DESIGN PRESSURE	NEGATIVE DESIGN PRESSURE	ALLOWABLE PANEL SPAN
34.15	36.88	139"
36.88	44.40	136"
37.98	47.81	135"
40.43	51.23	133"
42.89	58.06	131"
45.08	61.47	129"
49.02	66.85	127"
52.40	71.46	125"
55.22	75.30	123"
59.73	81.45	121"
63.67	86.83	115"
67.06	91.44	109"

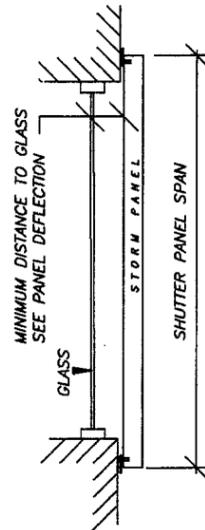
HEADER AND SILL TYPE MAY VARY, DEPENDING ON APPLICATION

DETAIL 13 ON SHEET 3



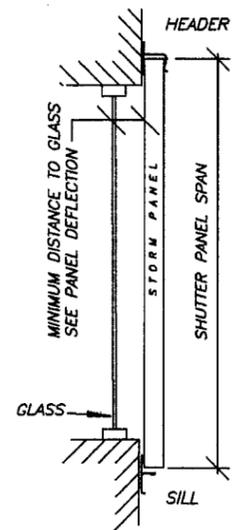
DETAIL 13 ON SHEET 3

DETAIL 3,4, & 8 ON SHEET 2



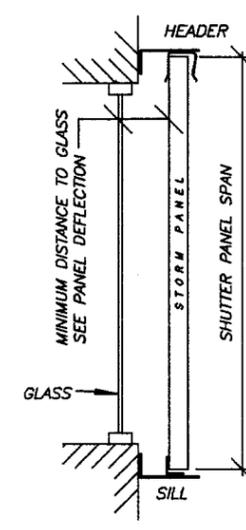
DETAIL 3,4, & 8 ON SHEET 2

DETAIL 1 ON SHEET 2
DETAIL 15 ON SHEET 3



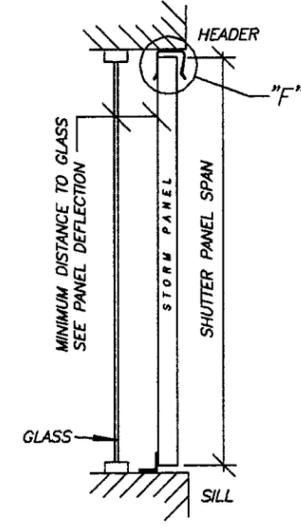
DETAILS 3,4 AND 8 ON SHEET 2

DETAILS 5,7,9,10 AND 11 ON SHEET 2

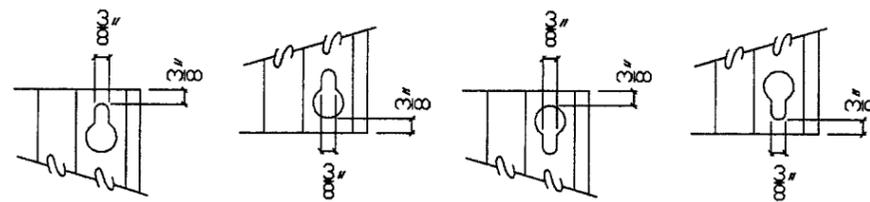


DETAILS 5,7,9,10 AND 11 ON SHEET 2

DETAIL 2 ON SHEET 2
DETAIL 16 ON SHEET 3



DETAIL 4 ON SHEET 2



FASTENER MUST BE IN ANY PART OF THE NARROW PORTION OF KEY HOLE OR A KEY HOLE WASHER IS REQUIRED. MOUNTING HOLE MAY ALSO BE A 9/16" DIA. CIRCLE. KEY HOLE WASHER IS NOT REQUIRED BUT MY BE USED.

DETAIL "F"



PANELS MAY RUN CONTINUOUS BY WIDTH EITHER HORIZONTALLY OF VERTICALLY
EXPLODED ASSEMBLY

WALL MOUNT

ANCHORING PANEL TOP & BOTTOM
NO HDR. OR SILL

WALL MOUNT

ANCHORING PANEL TOP & BOTTOM
WITH STUDDED HDR/SILL

WALL MOUNT

WITH HDR. AND SILL

BUILD OUT

WITH HDR. AND SILL

INSIDE MOUNT

WITH HDR. AND SILL

TYPICAL SECTION VIEWS

Monsour
11/22/06
1955

ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 06-0117.04
Expiration Date 07/22/2007
By *Helmut A. Miller*
Miami Data Product Control
Division

BUILDING CODE COMPLIANCE

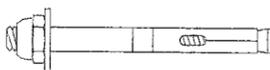
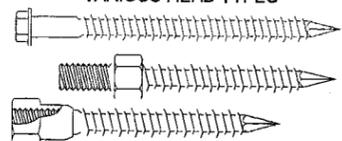
REVISIONS	BY
06/04/99	SP
06/25/99	SP

RAMMS ENGINEERING, INC.
Structural Design
2100 W. 78th STREET, SUITE 311
HALEAH, FLORIDA 33016
EB 0006024

METALTECH, INC.
7635 W. SECOND CT. HIALEAH, FL 33014
EST. 1957
EXPLODED WORLD-WIDE

DATE	APPROVED
01/15/99	
SCALE	
SHOWN	
JOB	99002
SHEET	4
	7

ANCHOR SCHEDULE

ANCHOR SPACING vs DESIGN PRESSURE AND CONECTION TYPE			UP TO 59.6 PSF										UPTO 71.5 PSF									
			POURED CONCTETE					CONCRETE BLOCK					POURED CONCTETE					CONCRETE BLOCK				
			CONECTION TYPE					CONECTION TYPE					CONECTION TYPE					CONECTION TYPE				
ANCHOR TYPE	PANEL	E.D.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
 1/4" RAWL LOK/BOLT (SLEEVE ANCHOR) 1 1/8" MIN. EMBEDMENT	68" SPAN	3"	16	13	8	13	13	16	13	10	13	13	16	13	7	13	13	16	13	8	13	13
		2"	16	13	7	13	13	16	13	8	13	13	16	13	5	13	13	16	13	6	13	13
		1 1/4"	16	13	5	13	13	16	13	6	13	13	14	13	4	13	13	14	13	4	13	13
	88" SPAN	3"	16	13	6	13	13	16	13	7	13	13	14	6	5	9	10	14	6	6	9	10
		2"	15	11	5	13	13	15	11	6	13	13	12	6	4	8	9	12	6	5	8	9
		1 1/4"	13	10	4	13	13	13	10	5	13	13	11	5	3	7	8	11	5	4	7	8
	105" span	3"	14	6	5	9	10	14	7	6	9	10	11	4	4	5	4	12	4	5	5	4
		2"	12	6	4	8	9	12	6	5	8	9	10	4	4	5	4	10	4	4	5	4
		1 1/4"	11	5	3	7	8	11	5	4	7	8	9	3	3	4	4	9	3	3	4	4
	126" span	3"	11	4	4	5	4	12	4	5	5	4	10	3	4	4	4	10	3	4	4	4
		2"	10	4	4	5	4	10	4	4	5	4	8	3	3	3	3	9	3	3	3	3
		1 1/4"	9	3	3	4	3	9	3	3	4	3	8	3	3	3	3	8	3	3	3	3
140" span	3"	10	3	4	4	3	10	3	4	4	3	9	3	3	3	3	8	3	3	3	3	
	2"	9	3	3	3	3	9	3	3	3	3	8	3	3	3	3	8	3	3	3	3	
	1 1/4"	8	3	3	3	3	8	3	3	3	3	8	3	3	3	3	8	3	3	3	3	
 1/4" RAWL ZAMAC NAILIN DRIVE (HAMMER DRIVE) 1 3/8" MIN. EMBEDMENT IN CONCRETE 1 1/4" MIN. EMBEDMENT IN BLOCK	68" SPAN	3"	16	13	7	13	13	13	13	6	13	13	15	13	6	13	13	11	11	5	11	11
		2"	15	13	6	13	13	12	12	5	12	12	13	13	5	13	13	10	10	4	10	10
		1 1/4"	14	13	5	13	13	10	10	4	10	10	12	12	4	12	12	9	9	3	9	9
	88" SPAN	3"	13	10	6	13	13	10	8	5	10	10	11	5	5	7	8	8	4	4	5	6
		2"	12	9	5	12	12	9	7	4	9	9	10	5	4	6	7	7	3	3	5	5
		1 1/4"	11	8	4	11	11	8	6	3	8	8	9	4	3	6	6	7	3	3	4	5
	105" span	3"	11	5	5	7	8	8	4	4	5	6	9	3	4	4	3	7	3	3	3	3
		2"	10	5	4	7	7	7	4	3	5	6	8	3	3	4	3	6	3	3	3	3
		1 1/4"	9	4	3	6	7	7	3	3	4	5	8	3	3	4	3	6	3	3	3	3
	126" span	3"	9	3	4	4	3	7	3	3	3	3	8	3	3	3	3	6	3	3	3	3
		2"	8	3	3	4	3	6	3	3	3	3	7	3	3	3	3	5	3	3	3	3
		1 1/4"	8	3	3	4	3	6	3	3	3	3	6	3	3	3	3	5	3	3	3	3
140" span	3"	8	3	3	3	3	6	3	3	3	3	6	3	3	3	3	5	3	3	3	3	
	2"	7	3	3	3	3	6	3	3	3	3	6	3	3	3	3	5	3	3	3	3	
	1 1/4"	6	3	3	3	3	5	3	3	3	3	6	3	3	3	3	5	3	3	3	3	
 (MASONRY SCREWS) 1/4" RAWL PERMA-SEAL TAPPER 1/4" ELCO PANEL MATES 1 1/2" MIN. EMBEDMENT IN CONCRETE 1 1/4" MIN. EMBEDMENT IN BLOCK	68" SPAN	3"	16	13	11	13	13	16	13	7	13	13	16	13	9	13	13	13	13	6	13	13
		2"	16	13	9	13	13	14	13	6	13	13	16	13	8	13	13	12	12	5	12	12
		1 1/4"	16	13	8	13	13	13	13	5	13	13	16	13	6	13	13	10	10	4	10	10
	88" SPAN	3"	16	13	9	13	13	12	9	5	12	12	16	8	7	11	12	10	5	4	6	7
		2"	16	13	7	13	13	11	8	4	11	11	15	7	6	10	11	9	4	4	6	6
		1 1/4"	16	13	6	13	13	10	7	4	10	10	14	7	5	9	10	8	4	3	5	6
	105" span	3"	16	8	7	11	13	10	5	4	7	8	15	5	6	7	5	8	3	4	4	3
		2"	16	7	6	10	12	9	4	4	6	7	13	5	5	6	5	8	3	3	4	3
		1 1/4"	14	7	5	9	10	8	4	3	5	6	12	4	4	5	4	7	3	3	3	3
	126" span	3"	15	5	6	7	5	8	3	4	4	3	12	4	5	5	3	7	3	3	3	3
		2"	13	5	5	6	5	8	3	3	4	3	11	3	4	4	3	6	3	3	3	3
		1 1/4"	12	4	4	5	4	7	3	3	3	3	10	3	3	4	3	6	3	3	3	3
140" span	3"	12	4	5	5	3	7	3	3	3	3	10	3	3	4	3	6	3	3	3	3	
	2"	11	3	4	4	3	6	3	3	3	3	10	3	3	4	3	6	3	3	3	3	
	1 1/4"	10	3	3	4	3	6	3	3	3	3	10	3	3	4	3	6	3	3	3	3	
 1/4-20 x 7/8", 1/2" DIA. RAWL CALK-IN (MACHINE SCREW ANCHOR) 7/8" MIN. EMBEDMENT	68" SPAN	3"	16	13	12	13	13	16	13	7	13	13	16	13	10	13	13	13	13	6	13	13
		2.5"	16	13	10	13	13	14	13	6	13	13	16	13	9	13	13	12	12	5	12	12
		2"	16	13	8	13	13	13	13	5	13	13	16	13	7	13	13	10	10	4	10	10
	88" SPAN	3"	16	13	9	13	13	12	9	5	12	12	16	10	8	13	13	10	5	4	6	7
		2.5"	16	13	8	13	13	11	8	5	11	11	16	9	7	12	13	9	4	4	6	6
		2"	16	13	6	13	13	10	7	4	10	10	16	8	5	11	12	8	4	3	5	6
	105" span	3"	16	10	8	13	13	10	5	4	7	8	16	6	7	8	3	8	3	4	4	3
		2.5"	16	9	7	13	13	9	4	4	6	7	16	6	6	8	3	8	3	3	4	3
		2"	16	8	5	11	13	8	4	3	5	6	14	5	4	7	3	7	3	3	3	3
	126" span	3"	16	6	7	8	7	8	3	4	4	3	15	4	6	6	6	7	3	3	3	3
		2.5"	16	6	6	8	6	8	3	3	4	3	13	4	5	5	5	6	3	3	3	3
		2"	14	5	4	7	5	7	3	3	3	3	12	4	4	5	5	6	3	3	3	3
140" span	3"	15	4	6	6	4	7	3	3	3	3	12	4	4	5	5	6	3	3	3	3	
	2.5"	14	4	5	5	4	6	3	3	3	3	12	4	4	5	5	6	3	3	3	3	
	2"	12	4	4	5	3	6	3	3	3	3	12	4	4	5	5	6	3	3	3	3	

NOTES:

SPANS AND LOADS SHOWN IN THIS SCHEDULE ARE FOR DETERMINING ANCHOR SPACING ONLY. FOR ALLOWABLE SPANS VS. DESIGN LOADS REFER TO SHEET 4.

MINIMUM ENBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO AND/OR WALL FINISHES.

SHADED AREAS REPRESENT ANCHOR CONDITIONS THAT ARE NOT ACCEPTABLE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE TO WITH STAND THE ADDITIONAL LOADS AND INSURE PROPER ANCHORAGE. SHUTTER SYSTEM MAY BE INTSALL INTO WOOD, CONCRETE OR MASONRY .

REVISIONS	BY
06/04/99	SP
06/25/99	SP
01/06/06	SP

RAMMS ENGINEERING, INC.
Structural Design
 2100 W. 76th STREET, SUITE 311
 HIALEAH, FLORIDA, 33016
 EB 0006024

METALTECH, INC.
 7635 W. SECOND CT. HIALEAH, FL 33014
 EST. 1957
 EXPLORED WORLD-WIDE

BUILDING CODE COMPLIANCE

Approved
 11/22/99

ROBERT S. MONSOUR, PE
 EB-0006024
 RAMMS ENGINEERING, INC.

PRODUCT REVIEWED
 as complying with the Florida
 Building Code
 Acceptance No 06-0117-04
 Expiration Date 07/22/2007
 By *Helmut A. Mohr*
 Mutual Dept. Product Control
 Division

DATE SEP/JRB
DATE 01/15/99
SCALE SHOWN
JOB 99002
SHEET 5
TOTAL SHEETS 7

ANCHOR SCHEDULE

REVISIONS	BY
06/04/99	SP
06/25/99	SP
01/06/06	SP

ANCHOR SPACING vs DESIGN PRESSURE AND CONECTION TYPE			UP TO 81.5 PSF										UPTO 91.4 PSF									
			POURED CONCTETE					CONCRETE BLOCK					POURED CONCTETE					CONCRETE BLOCK				
			CONECTION TYPE					CONECTION TYPE					CONECTION TYPE					CONECTION TYPE				
ANCHOR TYPE	PANEL	E.D.	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
	68" SPAN	3"	15	10	6	13	13	16	10	7	13	13	13	7	5	9	11	13	7	6	9	11
		2"	14	9	5	13	13	14	9	6	13	13	12	6	4	8	9	12	6	5	8	10
		1 1/4"	12	8	4	12	12	12	8	4	12	12	11	5	3	7	9	11	5	4	7	9
	88" SPAN	3"	12	4	5	6	5	12	5	5	6	5	11	3	4	5	3	11	4	5	5	3
		2"	11	4	4	5	4	11	4	4	5	5	9	3	3	4	3	10	3	4	4	3
		1 1/4"	10	4	3	5	4	10	4	3	5	4	9	3	3	4	3	9	3	3	4	3
	105" span	3"	10	3	4	4	3	10	3	5	4	3	9	3	3	3	3	9	3	4	3	3
		2"	9	3	3	4	3	9	3	4	4	3	8	3	3	3	3	8	3	3	3	3
		1 1/4"	8	3	3	3	3	8	3	3	3	3	7	3	3	3	3	7	3	3	3	3
	126" span	3"																				
		2"																				
		1 1/4"																				
140" span	3"																					
	2"																					
	1 1/4"																					
	68" SPAN	3"	13	8	5	12	13	9	6	4	9	9	11	5	5	8	9	8	4	4	6	7
		2"	11	7	5	11	11	8	5	4	8	8	10	5	4	7	8	8	4	3	5	6
		1 1/4"	10	7	4	10	10	8	5	3	7	8	9	4	3	6	7	7	3	3	4	5
	88" SPAN	3"	10	4	4	5	4	7	3	3	4	3	9	3	4	4	3	7	3	3	3	3
		2"	9	3	3	4	4	7	3	3	3	3	8	3	3	3	3	6	3	3	3	3
		1 1/4"	8	3	3	4	3	6	3	3	3	3	7	3	3	3	3	5	3	3	3	3
	105" span	3"	8	3	4	4	3	6	3	3	3	3	7	3	3	3	3	5	3	3	3	3
		2"	7	3	3	4	3	5	3	3	3	3	7	3	3	3	3	5	3	3	3	3
		1 1/4"	7	3	3	4	3	5	3	3	3	3	6	3	3	3	3	4	3	3	3	3
	126" span	3"																				
		2"																				
		1 1/4"																				
140" span	3"																					
	2"																					
	1 1/4"																					
	68" SPAN	3"	16	13	8	13	13	11	7	5	11	11	16	8	7	12	13	10	5	4	7	8
		2"	16	11	7	13	13	10	6	4	10	10	16	8	6	10	12	9	4	4	6	7
		1 1/4"	16	10	6	13	13	9	6	3	9	9	14	7	5	9	11	8	4	3	5	6
	88" SPAN	3"	15	6	6	8	6	9	3	4	4	4	14	4	6	6	4	8	3	3	3	3
		2"	14	5	5	7	6	8	3	3	4	3	12	4	5	5	4	7	3	3	3	3
		1 1/4"	12	5	4	6	5	7	3	3	4	3	11	4	4	5	3	6	3	3	3	3
	105" span	3"	13	4	5	5	4	7	3	3	3	3	11	3	5	4	3	7	3	3	3	3
		2"	11	3	4	5	3	7	3	3	3	3	10	3	4	4	3	6	3	3	3	3
		1 1/4"	10	3	4	4	3	6	3	3	3	3	9	3	3	3	3	5	3	3	3	3
	126" span	3"																				
		2"																				
		1 1/4"																				
140" span	3"																					
	2"																					
	1 1/4"																					
	68" SPAN	3"	16	13	9	13	13	11	7	5	11	11	16	10	8	13	13	10	5	4	7	8
		2.5"	16	13	7	13	13	10	7	4	10	10	16	9	7	13	13	9	4	4	6	7
		2"	16	12	6	13	13	9	6	3	9	9	16	8	5	12	13	8	4	3	5	6
	88" SPAN	3"	16	7	7	9	8	9	3	4	4	4	16	5	6	7	5	8	3	3	3	3
		2.5"	16	6	6	8	7	8	3	3	4	3	15	5	5	6	5	7	3	3	3	3
		2"	15	6	4	8	6	7	3	3	4	3	13	4	4	6	4	6	3	3	3	3
	105" span	3"	16	5	6	6	4	7	3	3	3	3	14	4	5	5	3	7	3	3	3	3
		2.5"	14	4	5	6	4	7	3	3	3	3	13	4	4	5	3	6	3	3	3	3
		2"	13	4	4	5	4	6	3	3	3	3	11	3	3	4	3	5	3	3	3	3
	126" span	3"																				
		2.5"																				
		2"																				
140" span	3"																					
	2.5"																					
	2"																					

NOTES:

SPANS AND LOADS SHOWN IN THIS SCHEDULE ARE FOR DETERMINING ANCHOR SPACING ONLY. FOR ALLOWABLE SPANS VS. DESIGN LOADS REFER TO SHEET 4.

MINIMUM ENBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO AND/OR WALL FINISHES.

SHADED AREAS REPRESENT ANCHOR CONDITIONS THAT ARE NOT ACCEPTABLE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE TO WITH STAND THE ADDITIONAL LOADS AND INSURE PROPER ANCHORAGE. SHUTTER SYSTEM MAY BE INTSALL INTO WOOD, CONCRETE OR MASONRY.

Handwritten signature and date:
 11/2/06
 11/10/05

ROBERT S. MONSOUR, PE
 EB-0006024
 RAMMS ENGINEERING, INC.

BUILDING CODE COMPLIANCE

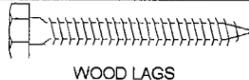
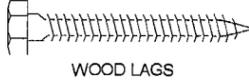
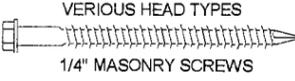
RAMMS ENGINEERING, INC.
Structural Design
 2100 W. 76th STREET, SUITE 311
 HIALEAH, FLORIDA 33016
 EB 0006024

METALTECH, INC.
 7635 W. SECOND CT. HIALEAH, FL 33014
 EST. 1957
 EXPANDED WORLD-WIDE

DATE: 01/15/99
 BY: *Handwritten signature*
 JOB: 99002
 SHEET: **6**
 7

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 06-0117-04
 Expiration Date 07/22/2007
 By: *Handwritten signature*
 Miami Data Product Control
 Division

ANCHOR SCHEDULE

WOOD APPLICATIONS			UP TO 59.5 PSF					UP TO 71.5 PSF					UP TO 81.5 PSF					UP TO 91.4 PSF					
ANCHOR TYPE	DIA.	SPAN	CONNECTION TYPE					CONNECTION TYPE					CONNECTION TYPE					CONNECTION TYPE					
			A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	
 BRASS WOOD BUSHING 1" MIN. PENETRATION	1/4-20	68" SPAN	14	13	5	13	13	12	12	5	12	12	10	7	4	10	10	9	4	4	6	7	
		88" SPAN	11	8	4	11	11	9	4	3	6	7	8	3	3	4	3	7			3	3	
		105" SPAN	9	4	4	6	7	8	3	3	4	3	7			3		6					
		126" SPAN	8	3	3	4	3	6				3											
		150" SPAN	6																				
 WOOD LAGS 1" MINIMUM TREAD PENETRATION	1/4"	68" SPAN	16	13	8	13	13	15	13	6	13	13	14	9	6	13	13	12	6	5	8	9	
		88" SPAN	14	11	6	13	13	12	6	5	8	9	10	4	4	5	4	9	3	4	4	3	
		105" SPAN	12	6	5	8	9	10	4	4	5	4	9	3	4	4		8			3		
		126" SPAN	10	4	3	5	4	8			3	3	4										
		150" SPAN	8			3	3																
 WOOD LAGS 1" MINIMUM TREAD PENETRATION	5/16"	68" SPAN	16	13	10	13	13	16	13	8	13	13	16	10	7	13	13	14	7	6	9	11	
		88" SPAN	16	13	7	13	13	14	7	6	9	10	12	5	5	6	5	11	4	5	5	3	
		105" SPAN	14	7	6	9	10	12	4	5	6	4	10	3	5	4	3	9			4		
		126" SPAN	12	4	5	6	4	10	3	4	4	4											
		150" SPAN	10	3	4	4																	
 WOOD LAGS 1" MINIMUM TREAD PENETRATION	3/8"	68" SPAN	16	13	11	13	13	16	13	9	13	13	16	12	8	13	13	16	8	7	11	13	
		88" SPAN	16	13	9	13	13	16	8	7	10	12	14	5	6	7	6	13	4	6	5	4	
		105" SPAN	16	8	7	11	12	14	5	6	6	5	12	4	5	5	3	11			5	3	
		126" SPAN	13	5	6	6	5	11	3	5	4	5											
		150" SPAN	11	3	5	4	3																
 WOOD LAGS 1" MINIMUM TREAD PENETRATION	7/16"	68" SPAN	16	13	12	13	13	16	13	10	13	13	16	13	9	13	13	16	9	8	12	13	
		88" SPAN	16	13	9	13	13	16	8	8	12	13	16	6	7	8	7	14	5	6	6	4	
		105" SPAN	16	9	8	12	13	15	5	7	7	6	13	4	6	5	4	12			5	3	
		126" SPAN	15	5	7	7	6	13	4	5	5	6											
		150" SPAN	13	4	5	5	3																
 ELCO PANEL MATES 1 7/8" MIN. THREAD PENETRATION	1/4"	68" SPAN	16	13	8	13	13	15	13	6	13	13	14	9	6	13	13	12	6	5	8	9	
		88" SPAN	14	11	6	13	13	12	6	5	8	9	10	4	4	5	4	9	3	4	4	3	
		105" SPAN	12	6	5	8	9	10	4	4	5	4	9	3	4	4		8			3		
		126" SPAN	10	4	3	5	4	8			3	3	4										
		150" SPAN	8			3	3																
 VERIOUS HEAD TYPES 1/4" MASONRY SCREWS 1 7/8" MIN. THREAD PENETRATION	1/4"	68" SPAN	16	13	8	13	13	15	13	6	13	13	14	9	6	13	13	12	6	5	8	9	
		88" SPAN	14	11	6	13	13	12	6	5	8	9	10	4	4	5	4	9	3	4	4	3	
		105" SPAN	12	6	5	8	9	10	4	4	5	4	9	3	4	4		8			3		
		126" SPAN	10	4	3	5	4	8			3	3	4										
		150" SPAN	8			3	3																

NOTES:

SPANS AND LOADS SHOWN IN THIS SCHEDULE ARE FOR DETERMINING ANCHOR SPACING ONLY. FOR ALLOWABLE SPANS VS. DESIGN LOADS REFER TO SHEET 4.

WHEN ANCHORING TO WOOD, THE WOOD MUST BE A MINIMUM 2 X 4 EQUAL TO #2 SOUTHERN PINE 0.55 SPECIFIC GRAVITY AND STRUCTURALLY PART OF THE FRAMING STRUCTURE OR SUCURELY ATTACHED TO FRAMING STRUCTURE

SHADED AREAS REPRESENT ANCHOR CONDITIONS THAT ARE NOT ACCEPTABLE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE TO WITH STAND THE ADDITIONAL LOADS AND INSURE PROPER ANCHORAGE. SHUTTER SYSTEM MAY BE INTSALL INTO WOOD, CONCRETE OR MASONRY.

Monson
11/2/06
11953

ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 06-0117-04
Expiration Date 07/22/2007
By *Hebing A. Mohr*
Miami Dade Product Control
Division

BUILDING CODE COMPLIANCE

REVISIONS	BY
06/04/99	SP
06/25/99	SP
01/06/06	SP

RAMMS ENGINEERING, INC.
Structural Design
 2100 W. 78th STREET, SUITE 311
 HIALEAH, FLORIDA 33016
 EB 0006024

METALTECH, INC.
 7635 W. SECOND CT. HIALEAH, FL 33014
 EST. 1957
 WORLD-WIDE

SHEET
 SEP/JRB/RSM
 APPROVED
 DATE
 01/15/99
 SCALE
 SHOWN
 JOB
 99002
 SHEET
7
 7