MIAMI-DADE

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE OFFICE
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

CONTRACTOR LICENSING SECTION
(305) 375-2527 FAX (305) 375-2558

CONTRACTOR ENFORCEMENT DIVISION
(305) 375-2966 FAX (305) 375-2908

PRODUCT CONTROL DIVISION
(305) 375-2902 FAX (305) 372-6339

PRODUCT CONTROL NOTICE OF ACCEPTANCE

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

Your application for Notice of Acceptance (NOA) of:
Maximum Impact .050 Aluminum Storm Panel
under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 01-0718.09
EXPIRES: 10/22/2006

Raul Rodriguez
Chief Product Control Division

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 08/16/2001

MetalTech, Inc.

ACCEPTANCE No. : 01-0718.09

APPROVED : AUG 16 2001

EXPIRES : Oct. 22, 2006

NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS

1. SCOPE

This renews a 0.050" aluminum storm panel type shutter, as described in Section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code, 1994 Edition for Miami-Dade County, for the locations where the pressure requirements, as determined by SFBC Chapter 23, do not exceed the Design Pressure Rating values indicated in the approved drawings.

2. PRODUCT DESCRIPTION

The 0.050" aluminum storm panel type shutter and its components shall be constructed in strict compliance with the following documents: Drawing No. 98002, titled " 0.050" maximum impact storm panel", prepared by Ramms Engineering, Inc., dated January 10, 1998, last revised on September 11, 1998, sheets 1 through 7 of 7, bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division. These documents shall hereinafter be referred to as the approved drawings.

3. LIMITATIONS

All permanent set components, included but not limited to embedded anchor bolts, threaded cones, metal shields, headers and sills, must be protected against corrosion, contamination and damage at all times.

4. INSTALLATION

The 0.050" aluminum storm panel type shutter and its components shall be installed in strict compliance with the approved drawings.

5. 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".

6. BUILDING PERMIT REQUIREMENTS

6.1 Application for building permit shall be accompanied by copies of the following:

6.1.1 This Notice of Acceptance.

6.1.2 Duplicate copies of the approved drawings, as identified in Section 2 of this Notice of Acceptance, clearly marked to show the components selected for the proposed installation.

6.1.3 Any other documents required by the Building Official or the South Florida Building Code (SFBC) in order to properly evaluate the installation of this system.

Raul Rodriguez, Chief
Product Control Division

MetalTech, Inc.

ACCEPTANCE No. : 01-0718.09

APPROVED : AUG 16 2001

EXPIRES : Oct. 22, 2006

NOTICE OF ACCEPTANCE: STANDARD CONDITIONS

1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documents, including test-supporting data, engineering documents, are no older than eight (8) years.

2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.

3. Renewals of Acceptance will not be considered if:
   a. There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes.
   b. The product is no longer the same product (identical) as the one originally approved.
   c. If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product.
   d. The engineer, who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.

4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.

5. Any of the following shall also be grounds for removal of this Acceptance:
   a. Unsatisfactory performance of this product or process.
   b. Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.

6. The Notice of Acceptance 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 Notice of Acceptance is displayed, then it shall be done in its entirety.

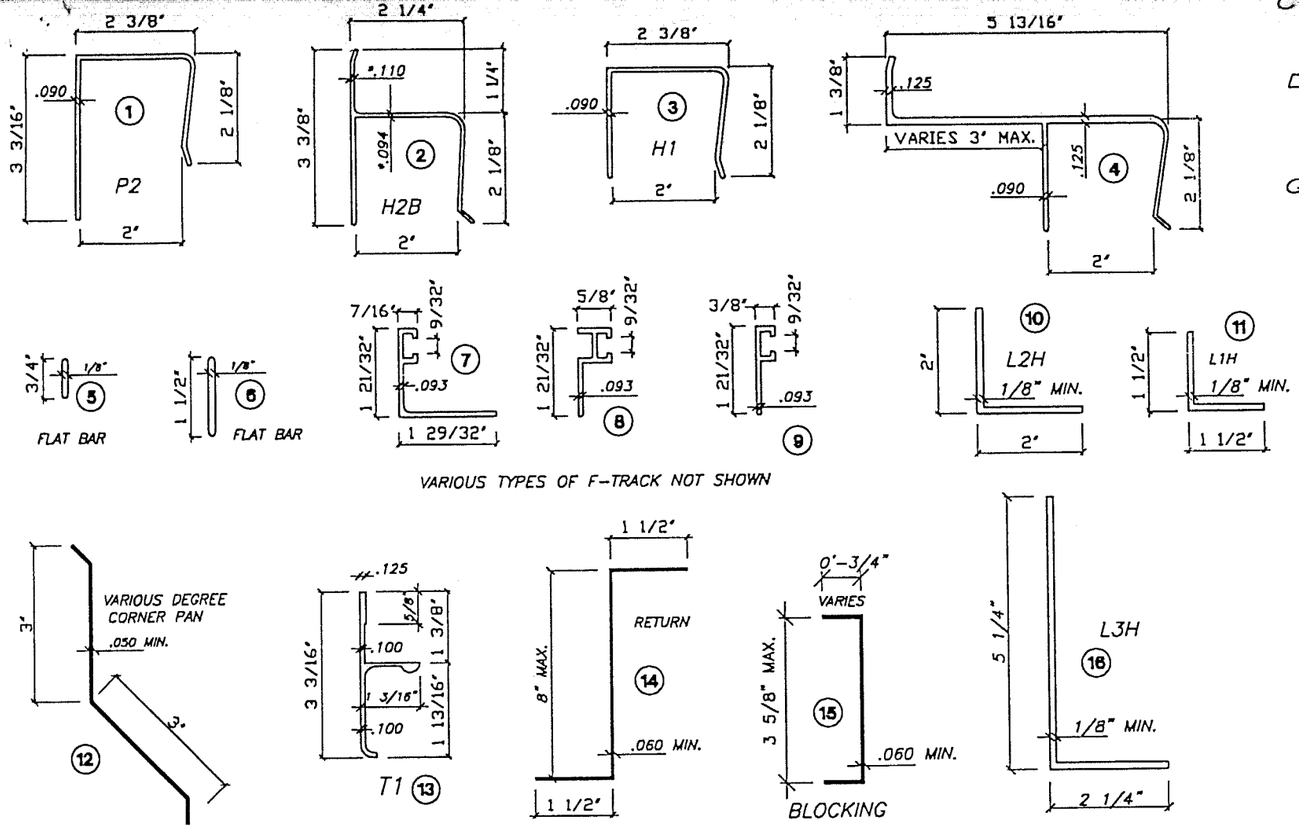
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all time. The engineer need not reseal the copies.

8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.

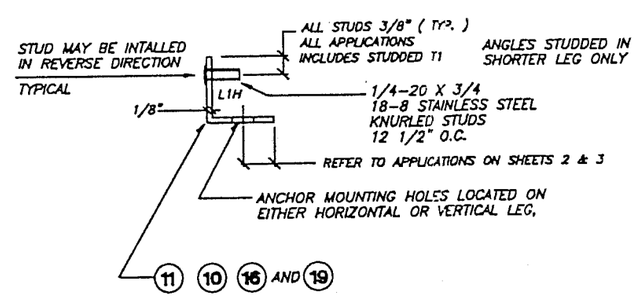
9. This Notice of Acceptance consists of pages 1, 2 and this last page 3.

END OF THIS ACCEPTANCE

Raul Rodriguez, Chief
Product Control Division



CROSS SECTIONS



STUDDED ANGLE DETAIL

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

COMPLIES WITH:

S.F.B.C. 1994 EDITION FOR DADE COUNTY, SOUTH FLORIDA BUILDING CODE
2314.5 FATIGUE LOAD TESTING AND 2315 IMPACT TESTS

DESIGN CRITERIA:

WIND LOADS PER CHAPTER 23 OF S.F.B.C. PRESSURE REQUIREMENT CALCULATIONS MUST BE PERFORMED PER ASCE 7-88 "MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES"

GENERAL NOTES:

ALL ALUMINUM EXTRUSIONS TO BE ALLOY 6063-T6 OR EQUAL

STORM PANELS SHALL BE:
.050 5052 H-32 ALUMINUM OR EQUAL
SMOOTH OR EMBOSSED 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

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 REQURED "

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.

PRODUCT REVIEW
ACCEPTANCE No. 01-0718.09
EXPIRATION DATE Oct. 22, 2006
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE October 22 1998
BY Helena A. Mc
PRO CONTROL DIVISION
BU CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 98-0728.04

Monsour
9/11/98
ROBERT S. MONSOUR, PE
EB-0006024
RAMS ENGINEERING, INC.

BUILDING CODE COMPLIANCE

.050

MAXIMUM IMPACT STORM PANEL

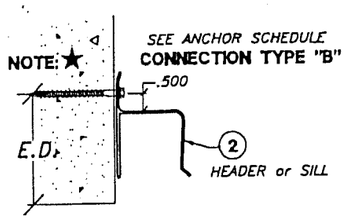
REVISIONS	BY
09/11/98	SP

RAMMS ENGINEERING, INC.
Structural Design
2100 W. 76th STREET, SUITE 311
HIALEAH, FLORIDA 33018
EB 0006024

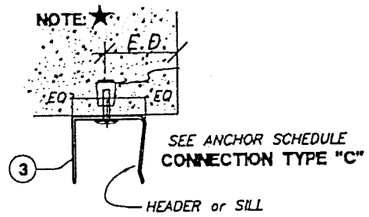
METALTECH, INC.
7635 W. SECOND CT. HIALEAH, FL 33014
EST. 1957
EXPORTED WORLD-WIDE

SEP/JRB/RSW
01/10/98
SHOWN
98002
1
7

MAXIMUM IMPACT STORM PANEL



DETAIL 1



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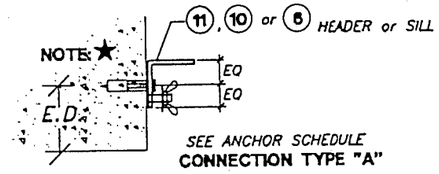

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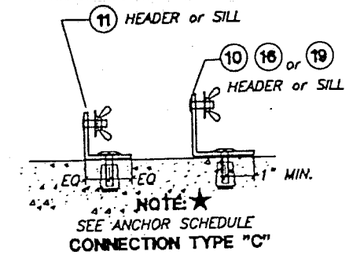

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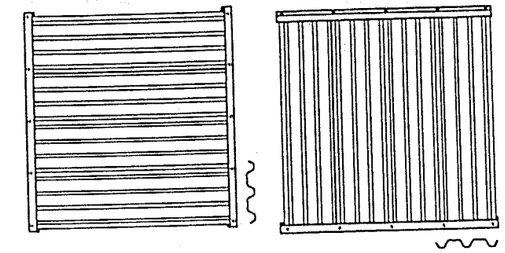
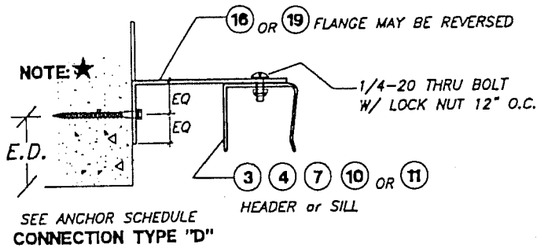


HORIZONTAL INSTALLATION
ELEVATION

VERTICAL INSTALLATION
ELEVATION



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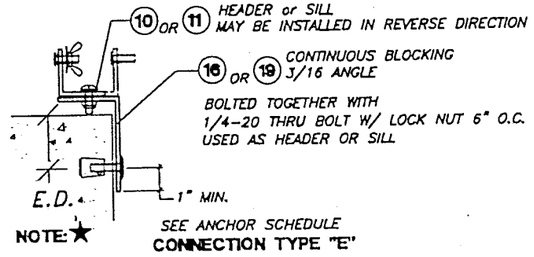

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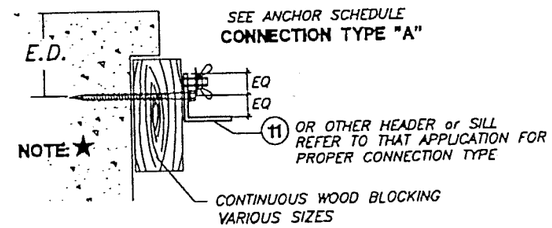
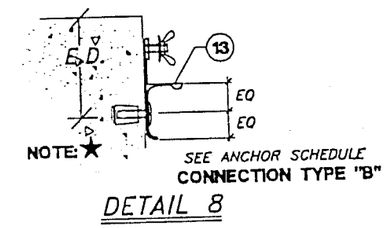


DETAIL 7



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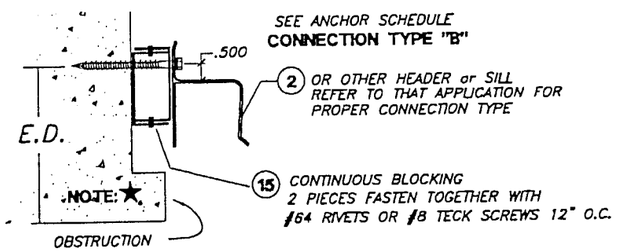

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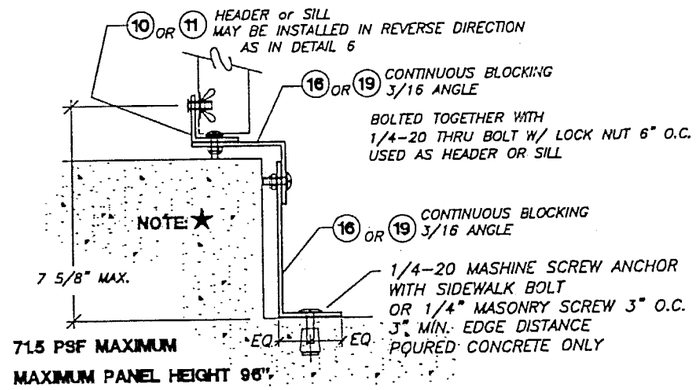
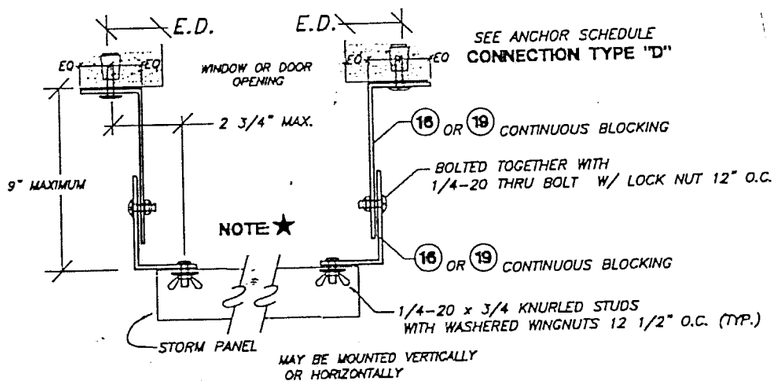


71.5 PSF MAXIMUM

MAXIMUM PANEL HEIGHT 96".

DETAIL 10

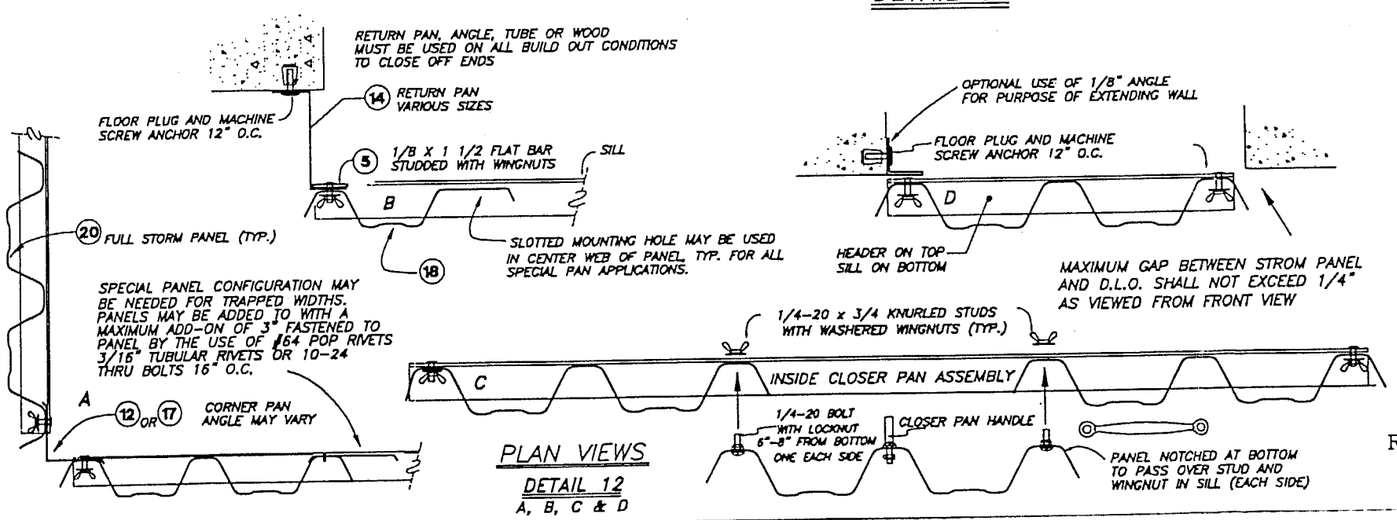


DETAIL 11

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

PRODUCT RENEWAL

ACCEPTANCE No. 01-0718.22

EXPIRATION DATE Oct. 22, 2006

BY PRODUCT CONTROL DIVISION

BUILDING CODE COMPLIANCE OFFICE

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE

DATE October 23 1998

BY Helmy A. Mata

PRODUCT CONTROL DIVISION

BUILDING CODE COMPLIANCE OFFICE

ACCEPTANCE NO. 98-0728.04

BUILDING CODE COMPLIANCE

Monsour 9/11/98

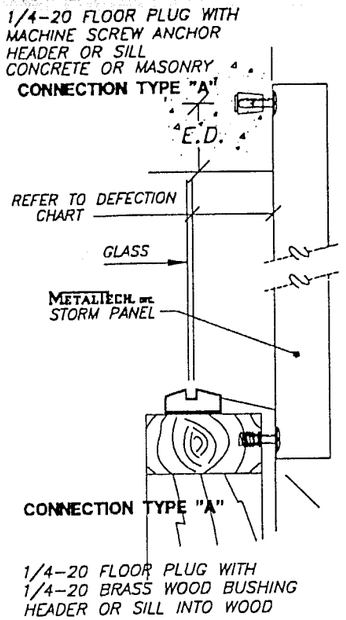
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

REVISIONS	BY
09/11/98	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
EXPORTED WORLD-WIDE
EST. 1957

SEP / JRB / RSM
APPROVED
01/10/98
SCALE
SHOWN
JOB
98002
SHEET
2
OF 7 SHEETS



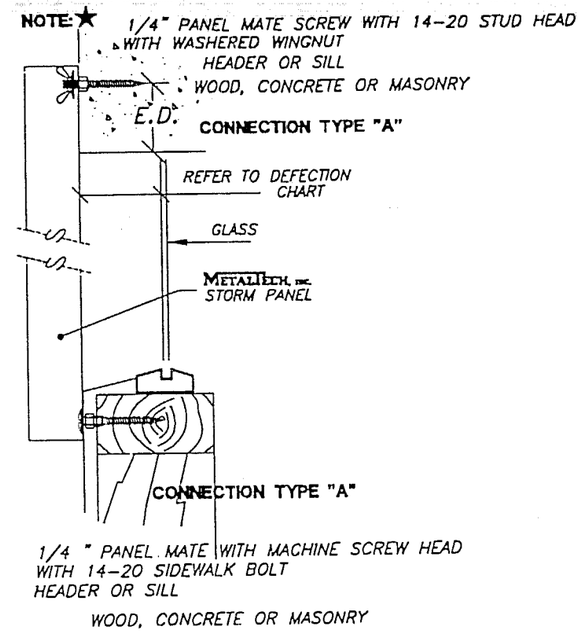
NOTE:

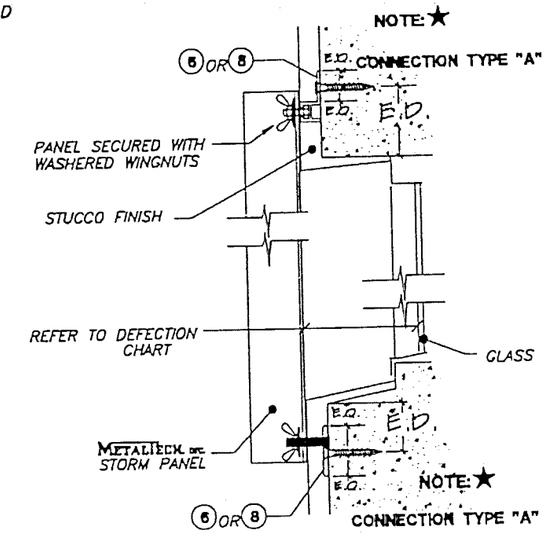
THE METALTECH STORM PANEL MAY BE INSTALLED WITHOUT THE USE OF AN EXTRUDED HEADER OR SILL.

THE SHUTTER MAY BE ANCHORED DIRECTLY TO THE STRUCTURE WITH THE USE OF ONE OR A COMBINATION OF DETAIL 13

NOTE:★

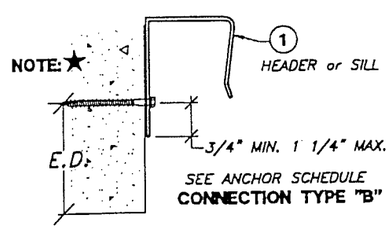
DETAIL 13



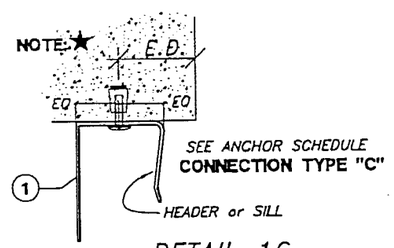


PRESTUCCO INSTALLATION

DETAIL 14



DETAIL 15



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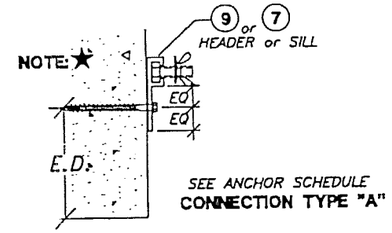
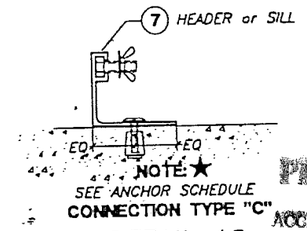
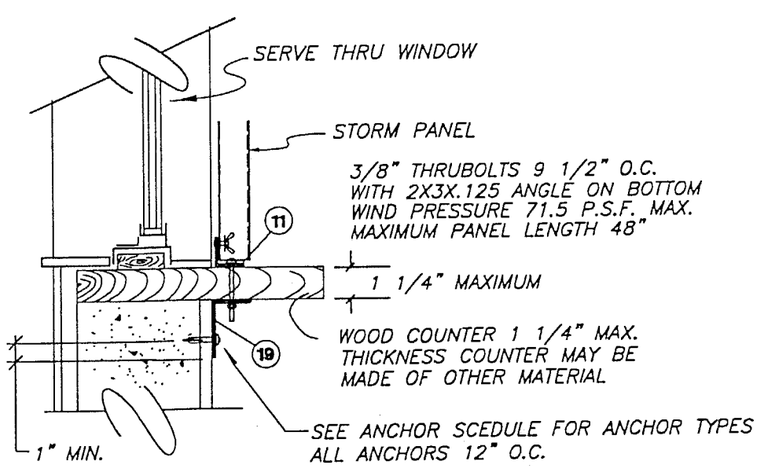


DETAIL 17

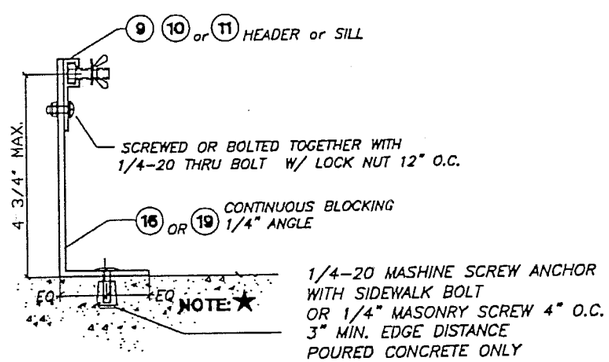


DETAIL 18

PRODUCT RENEWAL
ACCEPTANCE No. 01-0718.04
EXPIRATION DATE Oct. 22, 2006
By
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE



DETAIL 19



59.5 PSF MAXIMUM / PANEL HEIGHT 109" MAXIMUM

DETAIL 20

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

Monsour
9/11/98
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

BUILDING CODE COMPLIANCE

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE October 22 19 98
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 98-0728.04

MAXIMUM IMPACT STORM PANEL

REVISIONS	BY
09/11/98	SP

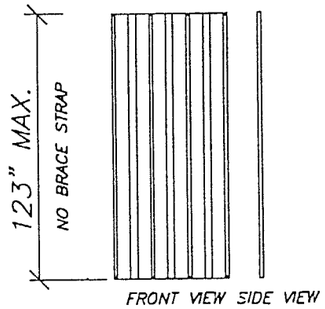
RAMMS ENGINEERING, INC.
Structural Design
2100 W. 76th STREET, SUITE 311
HIALEAH, FLORIDA 33016
EB 0006024

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

DRAWN	SEP / JRB / RSM
APPROVED	
DATE	01/10/97
SCALE	SHOWN
JOB	98002
SHEET	3
OF	7

.050 ALUMINUM MAXIMUM IMPACT STORM PANEL

THE METALTECH STORM PANELS MAY BE INSTALLED WITH OR WITHOUT THE HORIZONTAL BRACE STRAP. REFER TO PANEL DEFLECTION CHARTS.

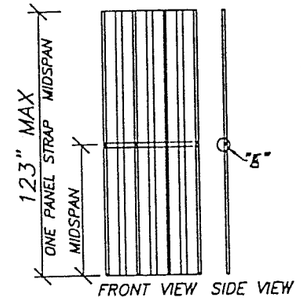


123" MAX. PANEL HEIGHT
NO PANEL STRAP
IS REQUIRED

PANEL DEFLECTION CHART WITHOUT HORIZONTAL STRAP

PANEL HEIGHT	0"–68"	over 68"–96"	over 96"–123"
WALL MOUNT	2 5/8"	3 5/8"	4"
INSIDE MOUNT	2 5/8"	3 5/8"	4"
BUILD OUT	2 5/8"	3 5/8"	4"

MINIMUM DISTANCE BETWEEN GLASS AND PANEL



123" MAX. PANEL HEIGHT
ONE PANEL STRAP
LOCATED MIDSPAN

PANEL DEFLECTION CHART WITH HORIZONTAL STRAP

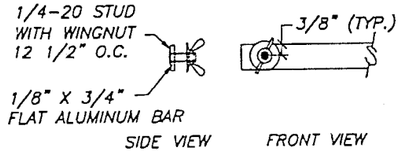
PANEL HEIGHT	0"–107"	over 107'–123'
WALL MOUNT	2 13/16"	3 3/16"
INSIDE MOUNT	2 13/16"	3 3/16"
BUILD OUT	2 13/16"	3 3/16"

MINIMUM DISTANCE BETWEEN GLASS AND PANEL

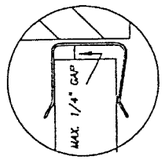
.050 ALUM

DESIGN PRESSURE	PANEL SPAN
44.40	123"
47.81	120"
51.23	117"
58.06	112"
61.47	110"
66.85	106"
71.46	102"
75.30	97"
81.45	90"
86.83	84"
91.44	80"

HORIZONTAL BRACE STRAP



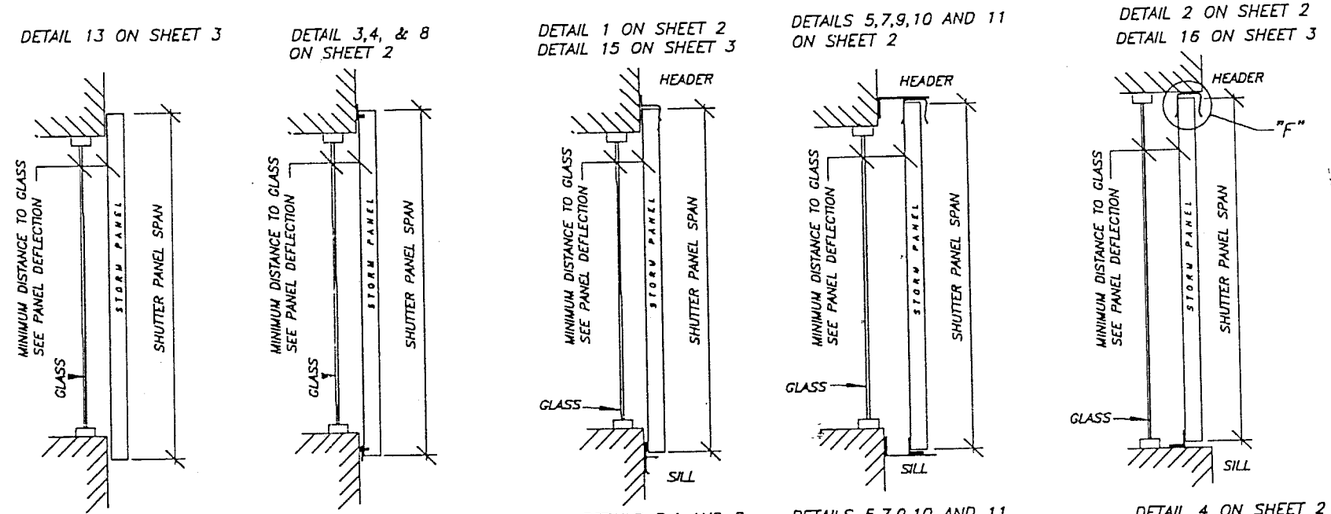
DETAIL "E"



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

DETAIL "F"

HEADER AND SILL TYPE MAY VARY, DEPENDING ON APPLICATION



WALL MOUNT
ANCHORING PANEL TOP & BOTTOM NO HDR. OR SILL

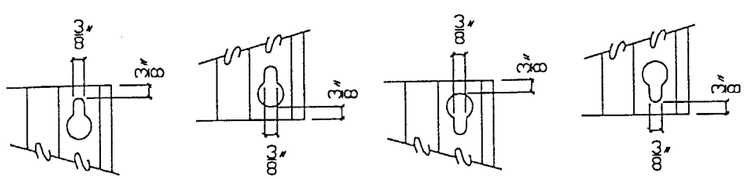
WALL MOUNT
ANCHORING PANEL TOP & BOTTOM WITH STUDDED HDR/SILL

WALL MOUNT
WITH HDR. AND SILL

BUILD OUT
WITH HDR. AND SILL

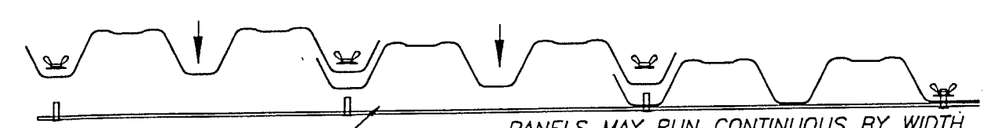
INSIDE MOUNT
WITH HDR. AND SILL

TYPICAL SECTION VIEWS



FASTENER MUST BE IN NORROW PORTION OF KEY HOLE
MOUNTING HOLE MAY ALSO BE A 9/16" DIA. CIRCLE

DETAIL "G"



HORIZONTAL BRACE STRAP
HEADER AND SILL

PANELS MAY RUN CONTINUOUS BY WIDTH
EITHER HORIZONTALLY OF VERTICALLY

EXPLODED ASSEMBLY

PRODUCT CONTROL
ACCEPTANCE NO. 01-0718.09
EXPIRATION DATE Oct 22, 2006
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE

9/11/98

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

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE October 22, 1998
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 98-0728.04

BUILDING CODE COMPLIANCE

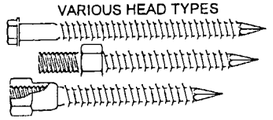
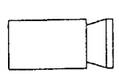
REVISIONS	BY
09/11/98	SP

RAMMS ENGINEERING, INC.
Structural Design
7100 W. 20th STREET, SUITE 311
HIALEAH, FLORIDA 33018
EB 0006024

METALTECH, INC.
7655 W. SECOND CT. HIALEAH, FL 33014
EST. 1957
SUPPORTED WORLD-WIDE

SEP/JRB
APPROVED
01/10/98
SCALE
SHOWN
JOB
98002
SHEET
4
OF 7

ANCHOR SCHEDULE

ANCHOR SPACING vs DESIGN PRESSURE AND CONNECTION TYPE			UP TO 59.6 PSF										UP TO 71.5 PSF									
			POURED CONCRETE					CONCRETE BLOCK					POURED CONCRETE					CONCRETE BLOCK				
			CONNECTION TYPE					CONNECTION TYPE					CONNECTION TYPE					CONNECTION 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	11	13	13	16	13	13	13	13	16	13	9	13	13	16	13	11	13	13
		2"	16	13	9	13	13	16	13	10	13	13	16	13	7	13	13	16	13	9	13	13
		1 1/4"	16	13	7	13	13	16	13	8	13	13	16	13	6	13	13	16	13	7	13	13
	88" SPAN	3"	16	13	8	13	13	16	13	10	13	13	16	8	7	12	13	16	9	8	12	13
		2"	16	13	7	13	13	16	13	8	13	13	16	8	6	10	12	16	8	7	11	12
		1 1/4"	16	13	5	13	13	16	13	6	13	13	15	7	5	9	10	15	7	5	9	11
	105" span	3"	16	9	7	12	13	16	9	8	12	13	15	5	6	7	6	15	5	7	7	6
		2"	16	8	6	11	12	16	8	7	11	12	14	5	5	6	5	14	5	6	6	5
		1 1/4"	15	7	5	10	11	15	7	5	10	11	12	4	4	6	5	12	4	4	6	5
	123" span	3"	15	5	6	7	6	15	5	7	7	6										
		2"	14	5	5	6	5	14	5	6	6	5										
		1 1/4"	12	4	4	6	5	12	4	4	6	5										
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	10	13	13	16	13	8	13	13	16	13	8	13	13	14	13	7	13	13
		2"	16	13	7	13	13	15	13	7	13	13	16	13	7	13	13	13	13	6	13	13
		1 1/4"	16	13	6	13	13	14	13	6	13	13	15	13	6	13	13	12	12	5	12	12
	88" SPAN	3"	16	13	8	13	13	13	10	6	13	13	15	7	6	10	11	11	5	5	7	8
		2"	16	12	6	13	13	12	9	5	12	12	13	6	5	9	10	10	5	4	6	7
		1 1/4"	14	11	5	13	13	11	8	4	11	11	12	6	4	8	9	9	4	4	6	6
	105" span	3"	15	7	6	10	11	11	5	5	7	8	13	4	6	6	5	9	3	4	4	3
		2"	13	6	5	9	10	10	5	4	7	7	11	4	4	5	4	8	3	4	4	3
		1 1/4"	12	6	4	8	9	9	4	4	6	7	10	4	4	5	4	7	3	3	4	3
	123" span	3"	13	4	5	6	5	9	3	4	4	3										
		2"	11	4	4	5	4	8	3	4	4	3										
		1 1/4"	10	4	4	5	4	7	3	3	4	3										
VARIOUS HEAD TYPES  (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	13	13	13	16	13	9	13	13	16	16	13	13	13	16	13	7	13	16
		2"	16	13	12	13	13	16	13	7	13	13	16	16	10	13	13	15	13	6	13	15
		1 1/4"	16	13	10	13	13	16	13	6	13	13	16	16	8	13	13	14	13	5	14	14
	88" SPAN	3"	16	13	12	13	13	16	12	7	13	13	16	11	10	13	13	13	6	6	9	10
		2"	16	13	10	13	13	14	11	6	13	13	16	10	8	13	13	12	6	5	8	9
		1 1/4"	16	13	8	13	13	13	10	5	13	13	16	9	7	12	13	11	5	4	7	8
	105" span	3"	16	11	10	13	13	13	6	6	9	10	16	7	8	9	7	11	4	5	5	4
		2"	16	10	8	13	13	12	6	5	8	9	16	6	7	8	6	10	4	4	5	4
		1 1/4"	16	9	7	12	13	11	5	4	7	8	16	6	5	7	6	9	3	3	4	3
	123" span	3"	16	7	8	9	7	11	4	5	5	4										
		2"	16	6	7	8	6	10	4	4	5	4										
		1 1/4"	16	6	6	7	6	9	3	3	4	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	13	13	13	16	13	9	13	13	16	13	13	13	13	16	13	8	13	13
		2.5"	16	13	13	13	13	16	13	8	13	13	16	13	11	13	13	16	13	6	13	13
		2"	16	13	11	13	13	16	13	6	13	13	16	13	9	13	13	14	13	5	13	13
	88" SPAN	3"	16	13	13	13	13	16	12	7	13	13	16	13	11	13	13	13	6	6	9	10
		2.5"	16	13	11	13	13	14	11	6	13	13	16	12	9	13	13	12	6	5	8	9
		2"	16	13	8	13	13	13	10	5	13	13	16	11	7	13	13	11	5	4	7	8
	105" span	3"	16	13	11	13	13	13	6	6	9	10	16	8	9	11	9	11	4	5	5	4
		2.5"	16	12	9	13	13	12	6	5	8	9	16	8	7	10	8	10	4	4	5	4
		2"	16	11	7	13	13	11	5	4	7	8	16	7	6	9	7	9	3	3	4	3
	123" span	3"	16	8	9	11	9	11	4	5	5	4										
		2.5"	16	8	7	10	8	10	4	4	5	4										
		2"	16	7	6	9	7	9	3	3	4	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 .

PRODUCT RENEWAL
ACCEPTANCE NO. 01-0728.04
EXPIRATION DATE Oct. 22, 2006
By
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE October 22 1998
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 98-0728.04

BUILDING CODE COMPLIANCE

Monsour 9/11/98
ROBERT S. MONSOUR, PE
EB-0006024
RAMS ENGINEERING, INC.

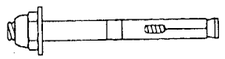
REVISIONS	BY
09/11/98	SP

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

METALTECH, INC.
7835 W. SECOND CT. HIALEAH, FL 33014
EXPORTED WORLD-WIDE
EST. 1957

SEP/JRB
01/10/98
SHOWN
98002
5
7

ANCHOR SCHEDULE

ANCHOR SPACING vs DESIGN PRESSURE AND CONNECTION TYPE			UP TO 81.5 PSF										UP TO 91.4 PSF									
			POURED CONCRETE					CONCRETE BLOCK					POURED CONCRETE					CONCRETE BLOCK				
			CONNECTION TYPE					CONNECTION TYPE					CONNECTION TYPE					CONNECTION 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	9	13	13	16	9	8	12	13	16	9	9	12	13
		2"	16	12	6	13	13	16	12	7	13	13	16	8	7	11	13	16	8	7	11	13
		1 1/4"	16	11	5	13	13	16	11	6	13	13	15	7	5	10	11	15	7	6	10	11
	88" SPAN	3"	16	6	6	8	7	16	6	7	8	7	14	5	5	6	5	14	5	6	6	5
		2"	14	5	5	7	6	14	5	6	7	6	13	4	4	5	4	13	4	5	5	4
		1 1/4"	13	5	4	6	5	13	5	5	6	5	11	4	4	5	4	11	4	4	5	4
	105" span	3"																				
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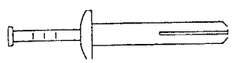 1/4" RAWL ZAMAC NAILIN DRIVE (HAMMER DRIVE) 1 3/8" MIN. EMBEDMENT IN CONCRETE 1 1/4" MIN. EMBEDMENT IN BLOCK	68" SPAN	3"	16	11	7	13	13	13	8	6	12	13	15	7	7	10	12	11	5	5	7	9
		2"	15	10	6	13	13	11	7	5	11	11	13	6	5	9	10	10	5	4	7	8
		1 1/4"	14	9	5	13	13	10	6	4	9	10	12	6	4	8	9	9	4	4	6	7
	88" SPAN	3"	13	5	6	7	6	10	4	4	5	4	12	4	5	5	4	9		4	4	3
		2"	12	4	5	6	5	9	3	4	4	4	10	3	4	4	3	8		3	3	
		1 1/4"	10	4	4	5	4	8	3	3	4	3	9	3	3	4	3	7			3	
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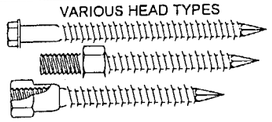
VARIOUS HEAD TYPES  (MASONRY SCREWS) 1/4" RAWL PERMA-SEAL TAPPER 1/4" ELCO PANEL MATES 1 1/2" MIN. EMBEDMENT IN CONCRETE 1 1/4" MIN. EMBEDMENT IN BLOCK	68" SPAN	3"	16	13	11	13	13	15	10	7	13	13	16	11	10	16	18	14	7	6	9	11
		2"	16	13	9	13	13	14	9	5	13	14	16	10	8	14	16	12	6	5	8	9
		1 1/4"	16	13	7	13	13	12	8	4	11	12	16	9	7	12	15	11	5	4	7	8
	88" SPAN	3"	16	8	9	10	9	12	4	5	6	5	16	6	8	8	6	11	3	5	5	3
		2"	16	7	7	9	8	10	4	4	5	4	16	5	6	7	5	9	3	4	4	3
		1 1/4"	16	6	6	8	7	9	4	3	5	4	15	5	5	6	5	8	3	3	4	3
	105" span	3"																				
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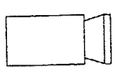 1/4-20 x 7/8" , 1/2" DIA. RAWL CALK-IN (MACHINE SCREW ANCHOR) 7/8" MIN. EMBEDMENT	68" SPAN	3"	16	13	12	13	13	15	10	7	14	13	16	13	11	13	13	14	7	6	9	11
		2.5"	16	13	10	13	13	14	9	6	13	13	16	12	9	13	13	12	6	5	8	9
		2"	16	13	8	13	13	12	8	5	11	12	16	11	7	13	13	11	5	4	7	8
	88" SPAN	3"	16	9	9	13	11	12	4	5	6	5	16	7	8	10	7	11	3	5	5	3
		2.5"	16	8	8	11	9	11	4	4	5	4	16	7	7	9	6	9	3	4	4	3
		2"	16	8	6	10	8	9	4	4	5	4	16	6	5	8	6	8	3	3	4	3
	105" span	3"																				
		2.5"																				
		2"																				
	123" span	3"																				
		2.5"																				
		2"																				

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PRODUCT RENEWAL
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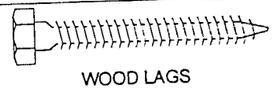
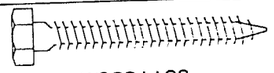
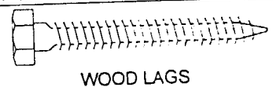
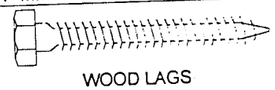
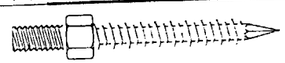
EST. 1957

SEP/JRB/RSM
01/10/98
SHOWN
98002
6
7

ANCHOR SCHEDULE

WOOD APPLICATIONS			UP TO 59.5 PSF CONNECTION TYPE					UP TO 71.5 PSF CONNECTION TYPE					UP TO 81.5 PSF CONNECTION TYPE					UP TO 91.4 PSF CONNECTION TYPE				
ANCHOR TYPE	DIA.	SPAN	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										
		123" SPAN	8	3	3	4	3															
 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										
		123" SPAN	10	4	3	5	4															
 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										
		123" SPAN	12	4	5	6	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										
		123" SPAN	13	5	6	6	5															
 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										
		123" SPAN	15	5	7	7	6															
 1/4" 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										
		123" SPAN	10	4	3	5	4															
1/4" 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										
		123" SPAN	10	4	3	5	4															

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.

PRODUCT RENEWAL
ACCEPTANCE No. 01-0718.09
EXPIRATION DATE Oct. 22, 2006
By
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE October 22, 1998
BY Helmy A. Mahmoud
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 98-0728.04

BUILDING CODE COMPLIANCE

9/11/98
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

REVISIONS	BY
09/11/98	SP

RAMMS ENGINEERING, INC.
Structural Design
2100 W. 76th STREET, SUITE 311
HIALEAH, FLORIDA 33018
EB 0006024

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

SEP/JRB/RSM
APPROVED
01/10/98
SCALE
SHOWN
JOB
98002
SHEET
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