MIAMI-DADE

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)

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 .060 Aluminum Storm Panel Shutter

APPROVAL DOCUMENT: Drawing No. 99001, titled "0.060" Maximum Impact Storm Panel", sheets 1 through 8, prepared, signed sealed by Robert Monsour, P.E., dated 6/3/99, bearing the Miami-Dade County Product Control Approval stamp with the Notice of Acceptance number and approval date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and 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.

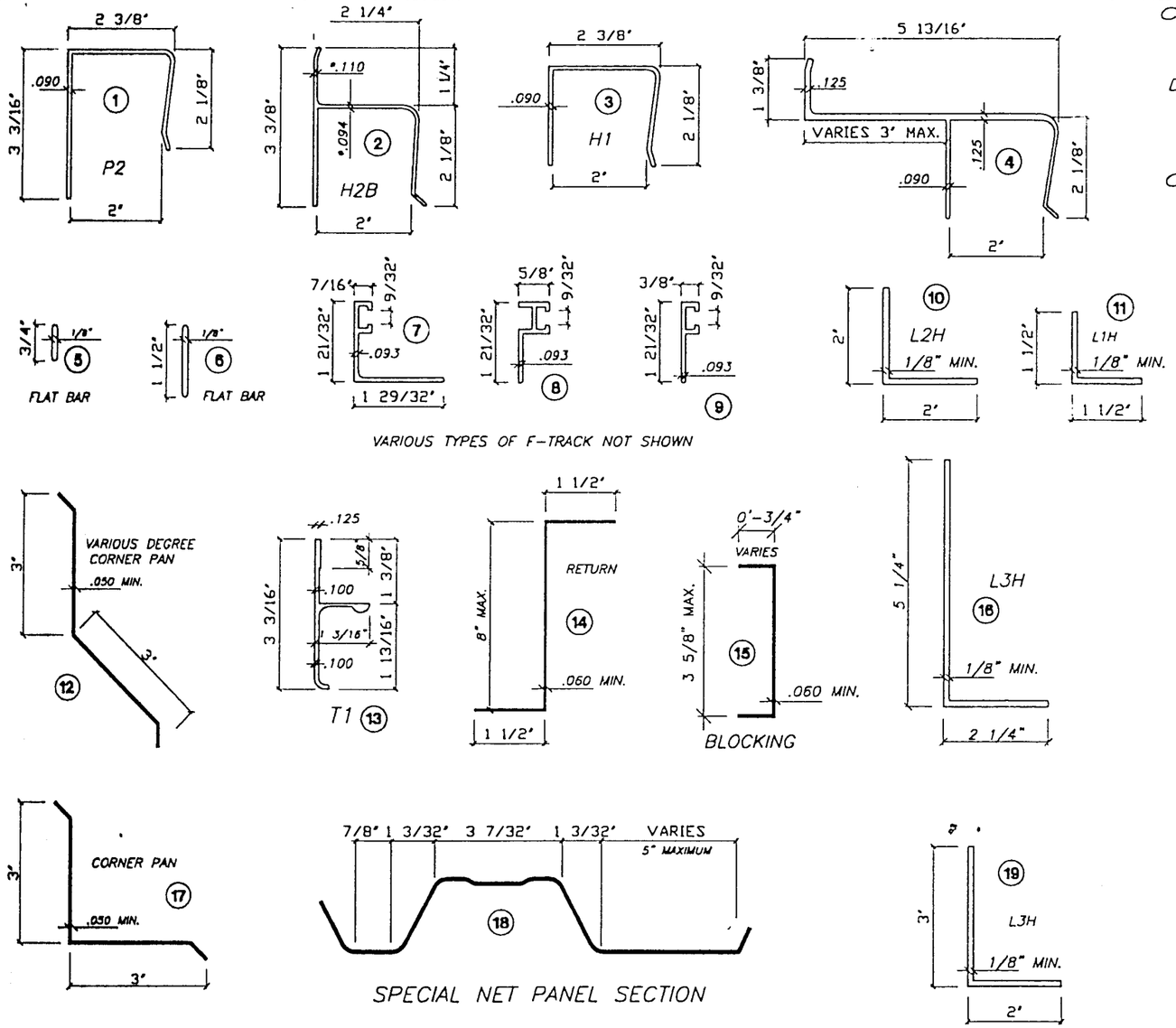
TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this 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.

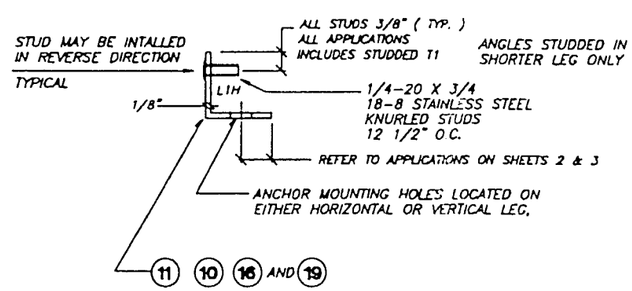
INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA # 99-0217.07** and, consists of this page 1 as well as approval document mentioned above. The submitted documentation was reviewed by **Raul Rodriguez.**

PRODUCT CONTROL ACCEPTED



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:
.060 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 REVISED
as complying with the Florida Buiding Code
Acceptance No 02-0312.06
Expiration Date July 1, 2002
By
Miami Dade Product Control Division

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE July 01 1999
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 99-0217.07

BUILDING CODE COMPLIANCE

Reviewed 1/22/99
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

.060

MAXIMUM IMPACT STORM PANEL

REVISIONS	BY

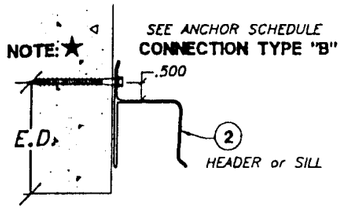
RAMMS ENGINEERING, INC.
Structural Design
2100 W 76th STREET, SUITE 311
HIALEAH, FLORIDA 33016
EB 0006024

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

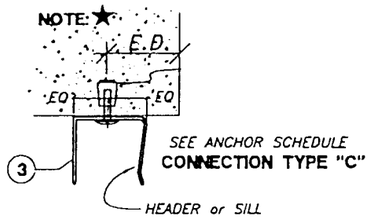
SEP/JRB/RSM
APPROVED
01/15/99
SCALE
SHOWN
JOB
99001
SHEET
1
OF 7 SHEETS

LP-1720-99

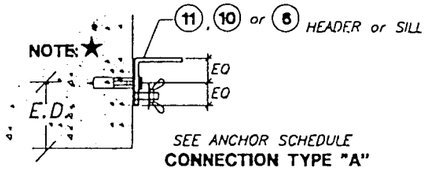
MAXIMUM IMPACT STORM PANEL



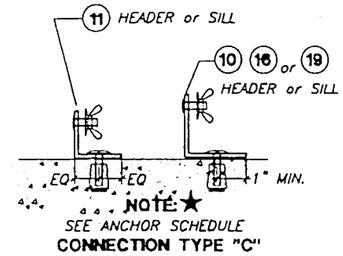
DETAIL 1



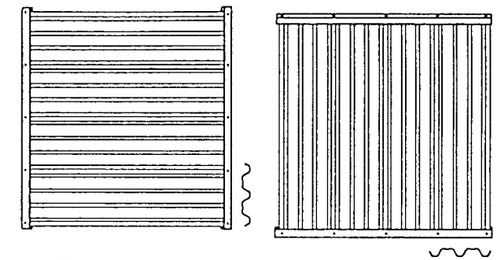
DETAIL 2

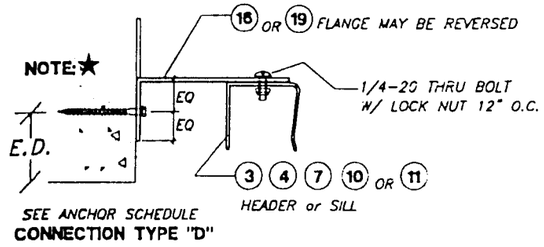


DETAIL 3

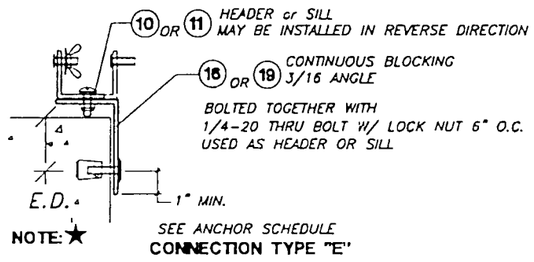


DETAIL 4

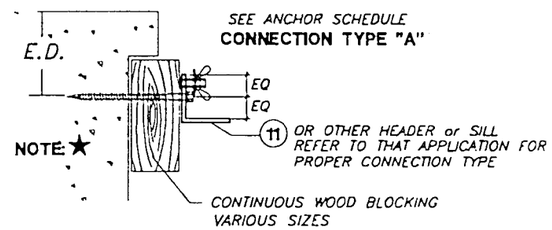




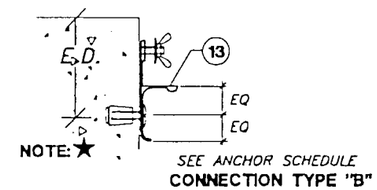
DETAIL 5



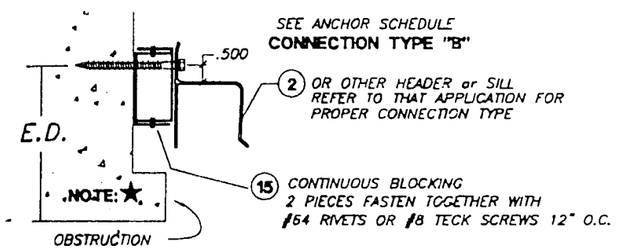
DETAIL 6



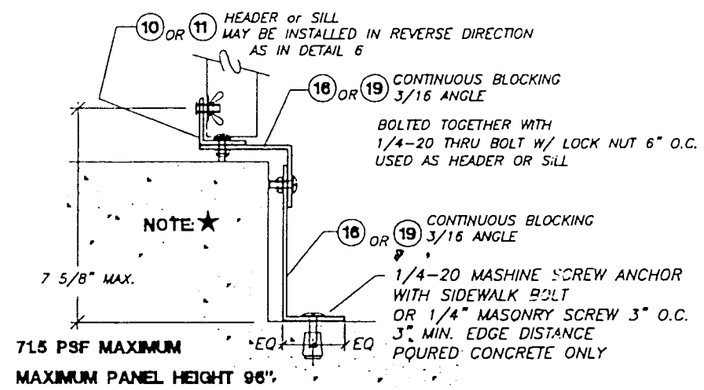
DETAIL 7



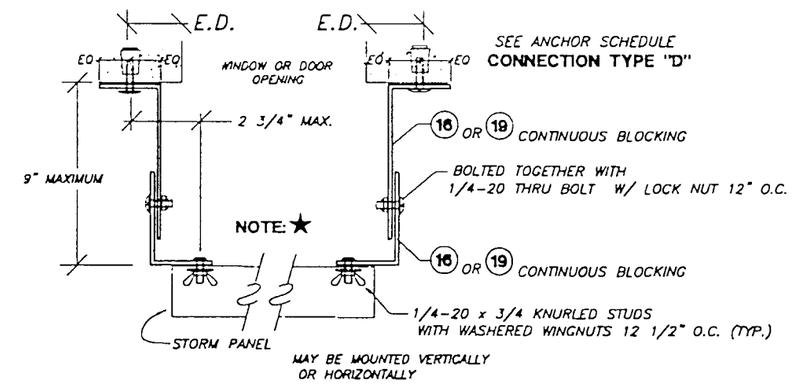
DETAIL 8



DETAIL 9



DETAIL 10

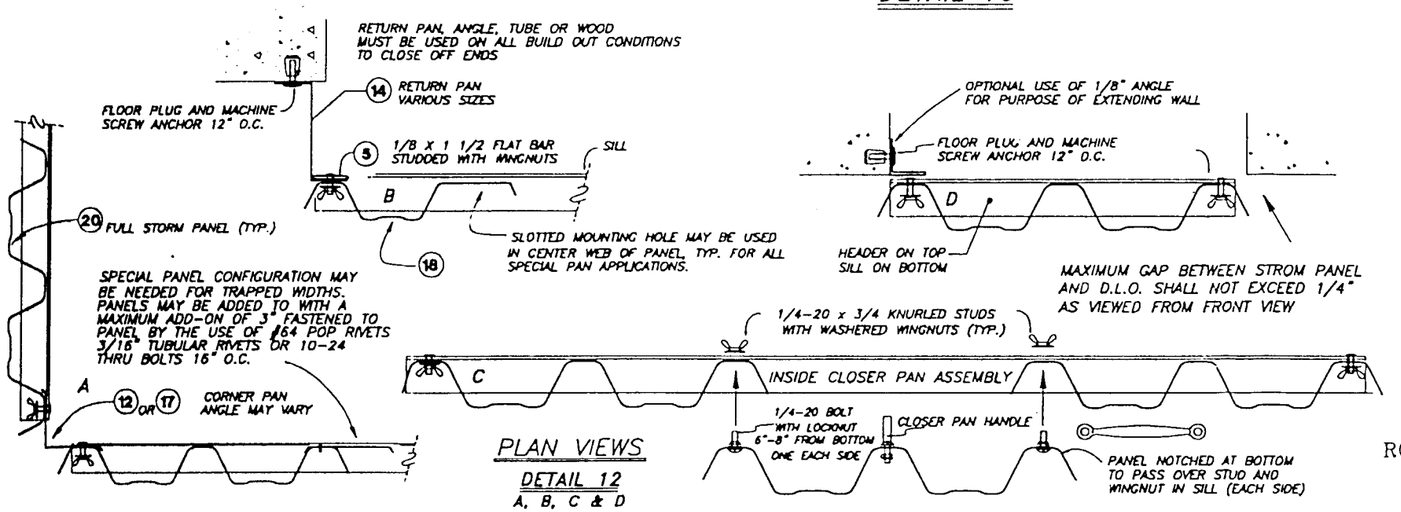


DETAIL 11

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

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 02-0312.06
Expiration Date July 1, 2001
By
Miami Dade Product Control Division

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE July 01 1999
BY Helena A. Mc
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 99-0217.67

BUILDING CODE COMPLIANCE

1/22/99

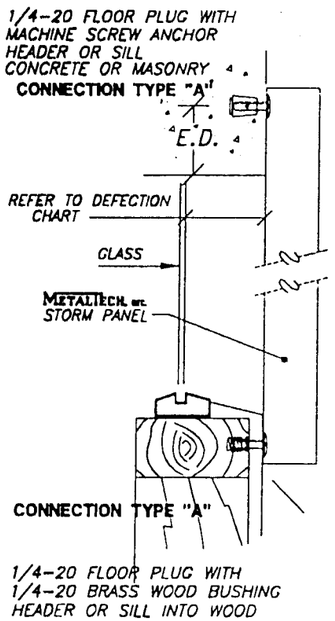
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

REVISIONS	BY

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

DRAWN	SEP / JRB / RSM
APPROVED	
DATE	01/15/99
SCALE	SHOWN
JOB	99001
SHEET	2
OF	7



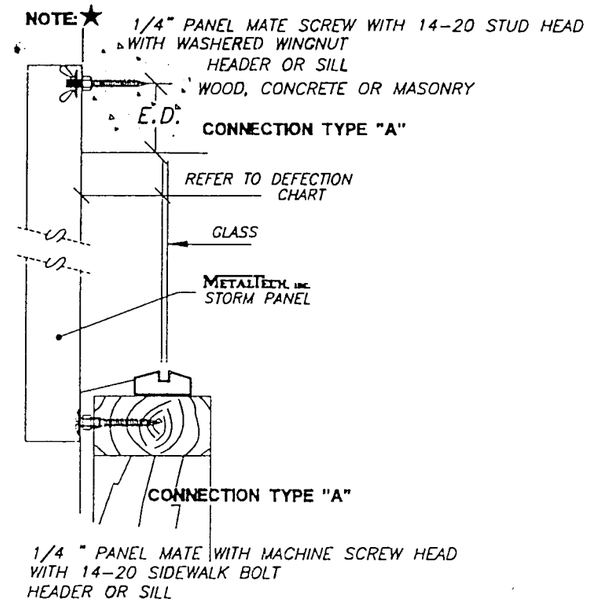
NOTE:

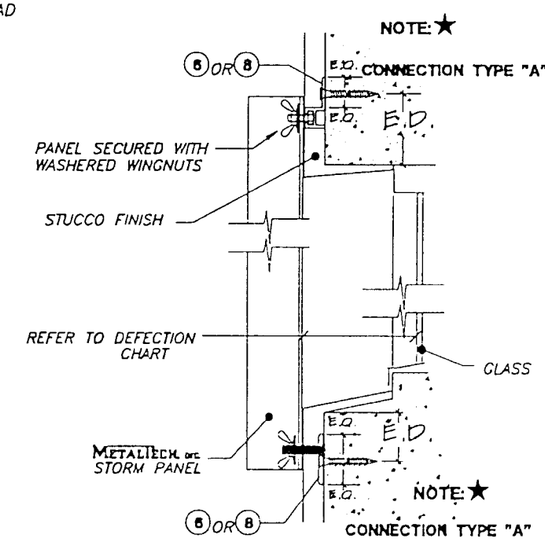
THE METALTECH STORM PANEL MAY BE INSTALLED WITHOUT THE USE OF AN EXTRUDED HEADER OR SILL.

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

NOTE:★

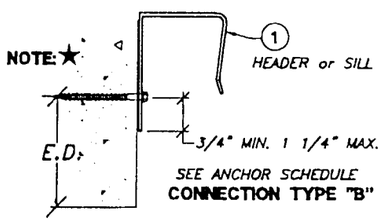
DETAIL 13



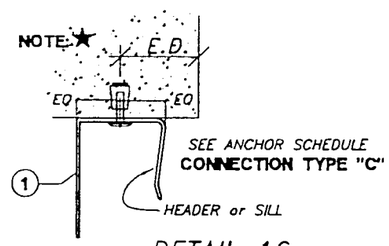


PRESTUCCO INSTALLATION

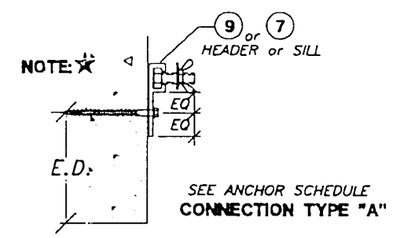
DETAIL 14



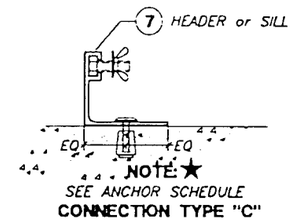
DETAIL 15



DETAIL 16

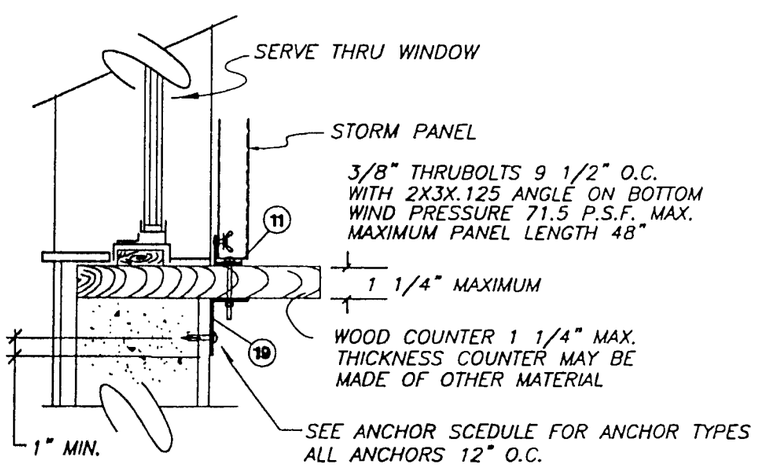


DETAIL 17

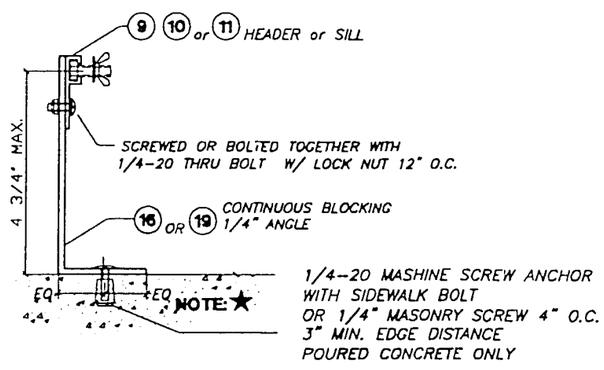


DETAIL 18

PRODUCT REVISED
as complying with the Florida Buiding Code
Acceptance No 02-0812.06
Expiration Date July 1, 2002
By
Miami Dade Product Control Division



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 1/12/99
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

BUILDING CODE COMPLIANCE

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE July 01 1999
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 99-0217.07

MAXIMUM IMPACT STORM PANEL

REVISIONS	BY

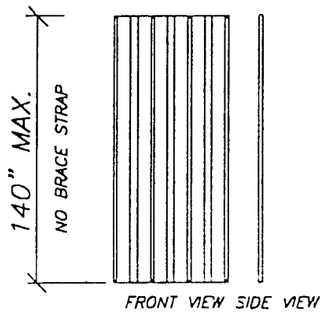
RAMMS ENGINEERING, INC.
Structural Design
2100 W. 76th STREET, SUITE 311
HIALEAH, FLORIDA 33016
EB 0006024

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

DRAWN	SEP / JRB / RSM
APPROVED	
DATE	01/15/99
SCALE	SHOWN
JOB	99001
SHEET	3
OF	7

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

.060 ALUMINUM MAXIMUM IMPACT STORM PANEL

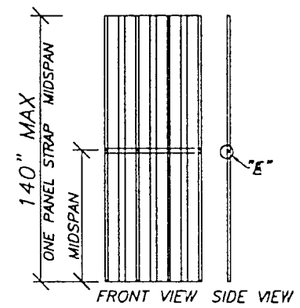


140" MAX. PANEL HEIGHT
NO PANEL STRAP
IS REQUIRED

PANEL DEFLECTION CHART WITHOUT HORIZONTAL STRAP

PANEL HEIGHT	0–78"	over 78"–96"	over 96"–140"
WALL MOUNT	2"	2 1/2"	4 1/8"
INSIDE MOUNT	2"	2 1/2"	4 1/8"
BUILD OUT	2"	2 1/2"	4 1/8"

MINIMUM DISTANCE BETWEEN GLASS AND PANEL



140" MAX. PANEL HEIGHT
ONE PANEL STRAP
LOCATED MIDSPAN

PANEL DEFLECTION CHART WITH HORIZONTAL STRAP

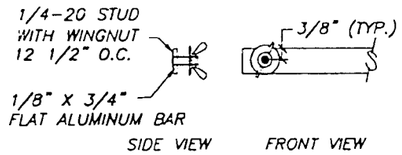
PANEL HEIGHT	over 96"–107"	over 107'–140'
WALL MOUNT	2 1/2"	2 13/16"
INSIDE MOUNT	2 1/2"	2 13/16"
BUILD OUT	2 1/2"	2 13/16"

MINIMUM DISTANCE BETWEEN GLASS AND PANEL

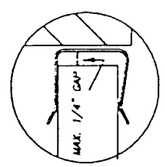
.060 ALUM

DESIGN PRESSURE	PANEL SPAN
36.88	140"
44.40	135"
47.81	132"
51.23	128"
58.06	120"
61.47	118"
66.85	113"
71.46	108"
75.30	106"
81.45	100"
86.83	94"
91.44	89"

HORIZONTAL BRACE STRAP



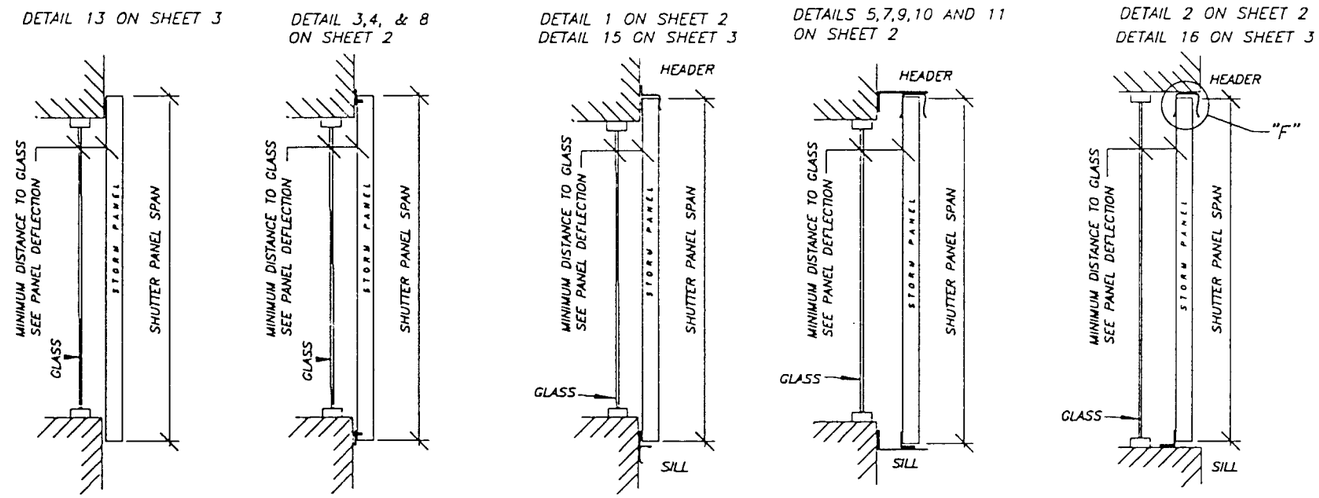
DETAIL "E"



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

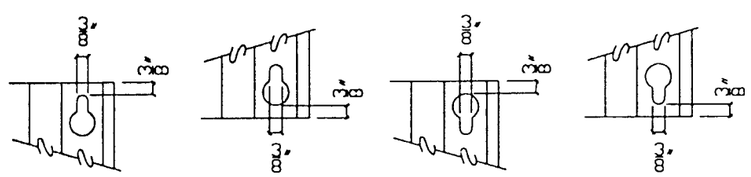
WALL MOUNT
ANCHORING PANEL TOP & BOTTOM WITH STUDDED HDR/SILL

WALL MOUNT
WITH HDR. AND SILL

BUILD OUT
WITH HDR. AND SILL

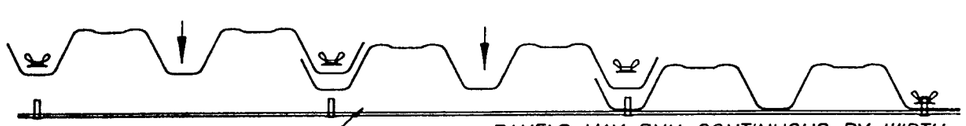
INSIDE MOUNT
WITH HDR. AND SILL

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 REVISED
as complying with the Florida Buiding Code
Acceptance No 62-0312.06
Expiration Date July 1, 2007
By
Miami Dade Product Control Division

APPROVED AS COMPLYING WITH THE
SOUTH FLORIDA BUILDING CODE
DATE July 06 1999
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 99-0217.07

BUILDING CODE COMPLIANCE

Monsour
06/4/99

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

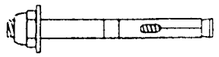
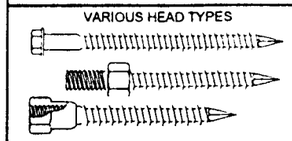
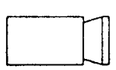
REVISIONS	BY
06/03/99	SF

RAMMS ENGINEERING, INC.
Structural Design
2100 W 76th STREET, Suite 311
HIALEAH, FLORIDA 33016
LH 0000024

METALTECH, INC.
7035 W. SECOND CT. HIALEAH, FL 33014
EST. 1957

SEP/JRB/RSM
01/15/99
SHOWN
99001
4
7

A N C H O R S C H E D U L E

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	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
	126" span	3"	15	5	6	7	6	15	5	7	7	6	13	4	5	5	3	13	4	6	5	3
		2"	14	5	5	6	5	14	5	6	6	5	11	3	4	4	3	11	3	5	4	3
		1 1/4"	12	4	4	6	5	12	4	4	6	5	10	3	3	4	3	10	3	4	4	3
	140" span	3"	13	4	5	5	3	13	4	6	5	3										
		2"	11	3	4	4	3	11	3	5	4	3										
		1 1/4"	10	3	3	4	3	10	3	4	4	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	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
	126" span	3"	13	4	5	6	5	9	3	4	4	3	10	3	5	4	3	8		4	3	
		2"	11	4	4	5	4	8	3	4	4	3	9	3	4	4		7		3	3	
		1 1/4"	10	4	4	5	4	7	3	3	4	3	8		3	3		6		3		
	140" span	3"	11	3	5	4	3	8		4	3											
		2"	9	3	4	4		7		3	3											
		1 1/4"	8		3	3		6														
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
	126" span	3"	16	7	8	9	7	11	4	5	5	4	16	5	7	6	4	9		4	4	
		2"	16	6	7	8	6	10	4	4	5	4	14	4	6	5	4	8		4	3	
		1 1/4"	16	6	6	7	6	9	3	3	4	3	13	4	5	5	3	8		3	3	
	140" span	3"	16	5	7	6	4	9	3	4	4	3										
		2"	15	4	6	6	4	8		3	3											
		1 1/4"	13	4	5	5	3	8		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	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
	126" span	3"	16	8	9	11	9	11	4	5	5	4	16	6	8	8	5	9	3	4	4	
		2.5"	16	8	7	10	8	10	4	4	5	4	16	5	6	7	5	8		4	3	
		2"	16	7	6	9	7	9	3	3	4	3	16	5	5	6	4	8		3	3	
	140" span	3"	16	6	7	8	5	9	3	4	4	3										
		2.5"	16	5	6	7	5	9	3	4	3											
		2"	16	5	5	6	4	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.

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 REVISED
as complying with the Florida Building Code
Acceptance No. 02-0312.06
Expiration Date July 1, 2002
By
Miami Dade Product Control Division

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE July 01 19 99
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 99-0217.07

BUILDING CODE COMPLIANCE

Monsour 6/4/99
ROBERT S. MONSOUR, PE
EB-0006024
RAMMS ENGINEERING, INC.

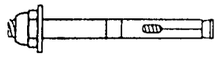
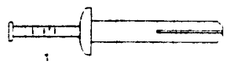
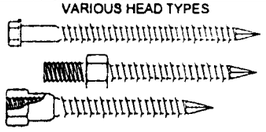
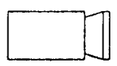
REVISIONS	BY
06/03/99	SP

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

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

SEP/JRB
01/15/99
SHOWN
99001
5
7

A N C H O R S C H E D U L E

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
 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"	13	4	5	5	4	13	4	6	5	4										
		2"	12	4	4	5	3	12	4	5	5	3										
		1 1/4"	11	3	3	4	3	11	3	4	4	3										
	126" span	3"																				
		2"																				
		1 1/4"																				
	140" span	3"																				
		2"																				
		1 1/4"																				
 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	
	105" span	3"	11	3	5	4	3	8	3	4	3											
		2"	10	3	4	4	3	7		3	3											
		1 1/4"	9	3	3	4		7		3	3											
	126" span	3"																				
		2"																				
		1 1/4"																				
	140" span	3"																				
		2"																				
		1 1/4"																				
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	13	13	14	7	6	9	11
		2"	16	13	9	13	13	14	9	5	13	13	16	10	8	13	13	12	6	5	8	9
		1 1/4"	16	13	7	13	13	12	8	4	11	12	16	9	7	12	13	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"	16	5	8	7	5	10	3	5	4	3										
		2"	15	5	6	6	4	9	3	4	4											
		1 1/4"	14	4	5	5	4	8		3	3											
	126" span	3"																				
		2"																				
		1 1/4"																				
	140" span	3"																				
		2"																				
		1 1/4"																				
 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	13	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"	16	6	8	8	6	10	3	5	4	3										
		2.5"	16	6	7	8	5	9	3	4	4	3										
		2"	16	5	5	7	5	8		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.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 02-0312.06
Expiration Date July 4, 2002
By
Miami-Dade Product Control Division

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE July 01 19 99
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 99-0217.07

BUILDING CODE COMPLIANCE

Monsour 6/4/99
ROBERT S. MONSOUR, PE
EB-0006024
RAMS ENGINEERING, INC.

REVISIONS	BY
06/03/99	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 01/15/99
SCALE SHOWN
JOB 99001
SHEET 6
7

A N C H O R S C H E D U L E

WOOD APPLICATIONS			UP TO 59.5 PSF					UP TO 71.5 PSF					UP TO 81.5 PSF					UP TO 91.4 PSF				
			CONNECTION TYPE					CONNECTION TYPE					CONNECTION TYPE					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	1/4-20	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						
		126" SPAN	8	3	3	4	3	6				3										
1" MIN. PENETRATION		140" SPAN	6																			
WOOD LAGS	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						
		126" SPAN	10	4	3	5	4	8		3	3	4										
1" MINIMUM TREAD PENETRATION		140" SPAN	8		3	3																
WOOD LAGS	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					
		126" SPAN	12	4	5	6	4	10	3	4	4	4										
1" MINIMUM TREAD PENETRATION		140" SPAN	10	3	4	4																
WOOD LAGS	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					
		126" SPAN	13	5	6	6	5	11	3	5	4	5										
1" MINIMUM TREAD PENETRATION		140" SPAN	11	3	5	4	3															
WOOD LAGS	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					
		126" SPAN	15	5	7	7	6	13	4	5	5	6										
1" MINIMUM TREAD PENETRATION		140" SPAN	13	4	5	5	3															
1/4" ELCO PANEL MATES	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						
		126" SPAN	10	4	3	5	4	8		3	3	4										
1 7/8" MIN. THREAD PENETRATION		140" SPAN	8		3	3																
1/4" ELCO PANEL MATES	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						
		126" SPAN	10	4	3	5	4	8		3	3	4										
1 7/8" MIN. THREAD PENETRATION		140" 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.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No. 02-0312.06
Expiration Date July 1, 2002
By
Miami Dade Product Control Division

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE
DATE July 01 1999
BY
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 99-0217-07

BUILDING CODE COMPLIANCE

1/27/99

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

REVISIONS	BY

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

SEP/JRB/RSM
APPROVED
01/15/99
SCALE
SHOWN
JOB
99001
SHEET
7
7