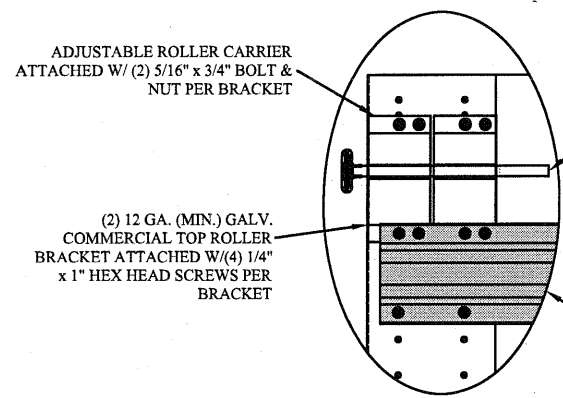
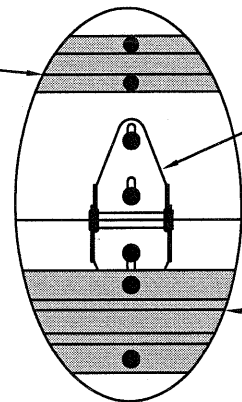




TYPICAL TOP FIXTURES
N.T.S.

1

3" 20GA. STRUT ATTACHED W/ (2) 1/4" x 1" SCREWS AT EACH CENTER STILE



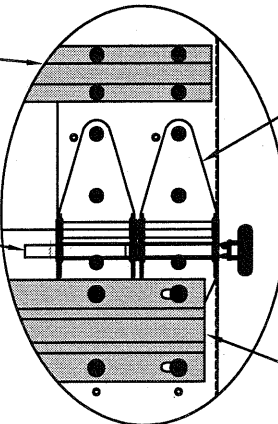
TYPICAL CENTER HINGE
N.T.S.

2

LARGE MISSILE IMPACT RESISTANT

3" 20GA. STRUT ATTACHED W/ (4) 1/4" x 1" SCREWS AT EACH END STILE

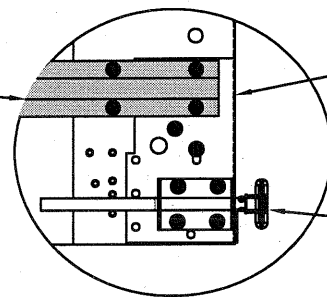
2"-10 BALL LONG STEM HURRICANE ROLLERS W/ RETAINERS USED FOR NON THREADED SHAFTS



TYPICAL END HINGE
N.T.S.

3

3" 20GA. STRUT ATTACHED W/ (4) 1/4" x 1" SCREWS AT EACH END STILE



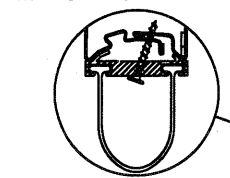
TYPICAL BOTTOM BRACKET
N.T.S.

4

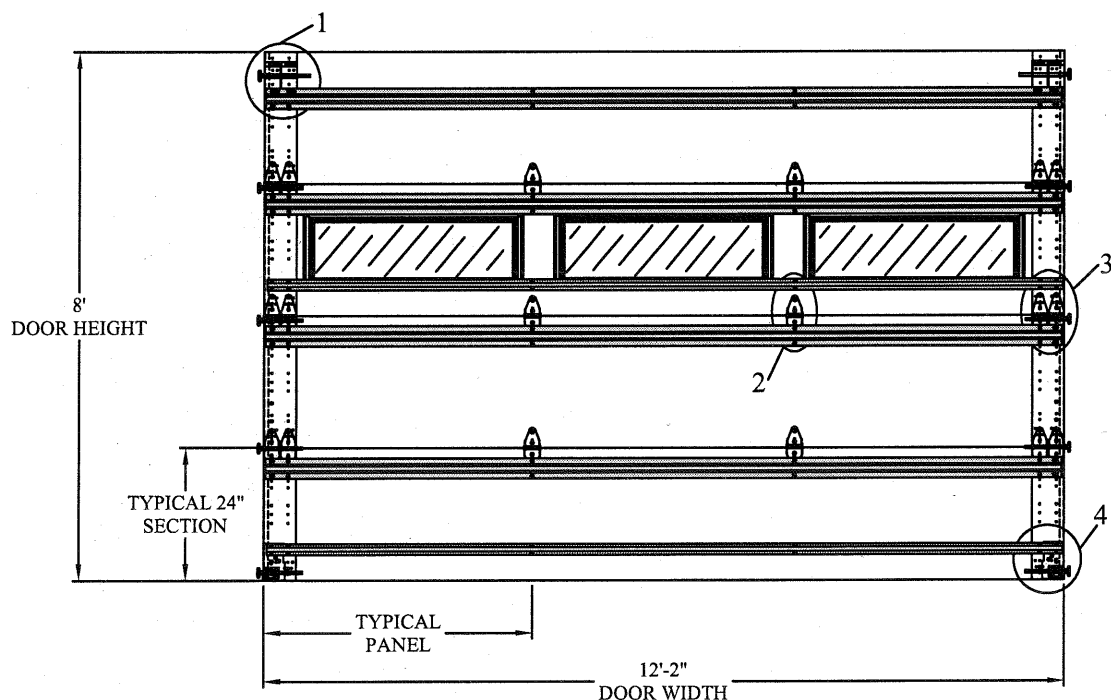
WEATHERTIGHT JOINT-WEAR SEAL

THERMAL BREAK

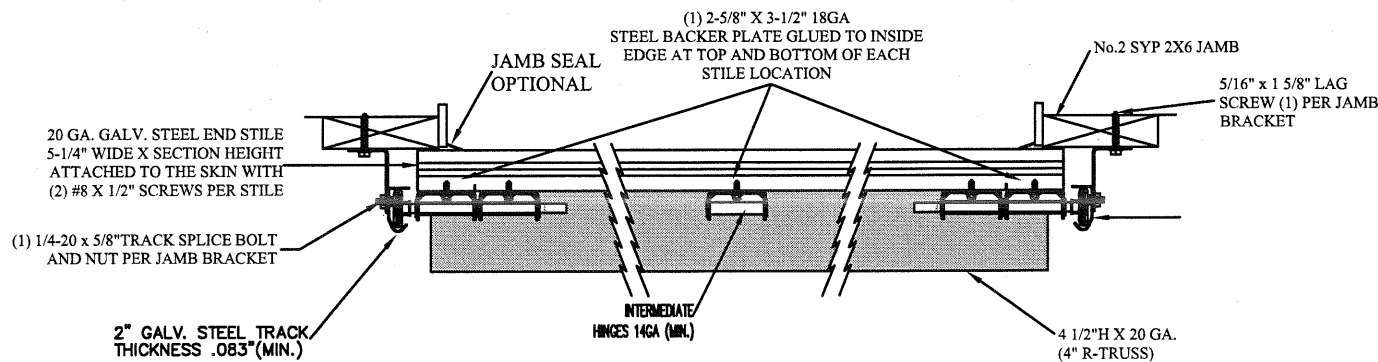
3-1/2" U-SHAPED VINYL BOTTOM SEAL W/ALUMINUM RETAINER



SECTION A-A (SIDE VIEW)
N.T.S.



DOOR INTERIOR ELEVATION
N.T.S.



TRACK MOUNTING DETAIL
N.T.S.

EDGE OF DOOR 1" OVERLAP ON EACH SIDE

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURE DESCRIBED IN ASTM E330, E1886, E1996 & F588, DASMA 108 & 115. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-16 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN THE END ZONE, ROOF AT LESS THAN OR EQUAL TO 10 DEGREES SLOPE):

WIND SPEED (MPH)	253	230	218	209	200
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
12'2" x 24'

DESIGN LOADS
+54.0 PSF
-62.0 PSF

TEST LOADS
+81.0 PSF
-93.0 PSF

LARGE MISSILE IMPACT RESISTANCE

Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)

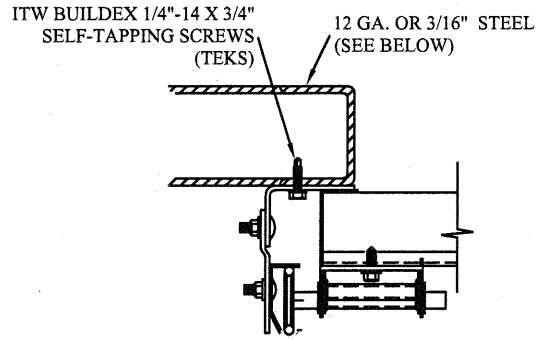
FL

dba Structural Solutions of North Carolina, Inc.
5921-G W. Friendly Ave., Greensboro, NC 27410

MODEL 1000 AMARR 2432

SIZE B	DRAWN BY RLR	DATE 03/23/17	DRAWING NUMBER IBC-1012-195-24-1
CHECKED BY RLR		DATE 03/23/17	SHEET 1 OF 4
ENTREMATICS 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			

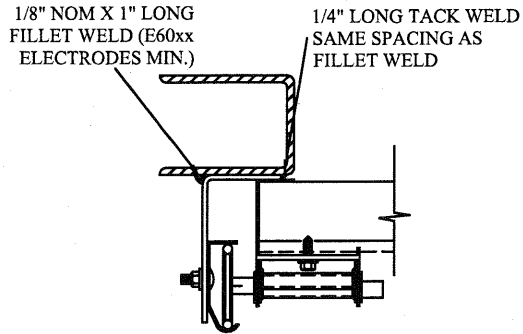
TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



CLIP STYLE REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE
MOUNT AVAILABLE

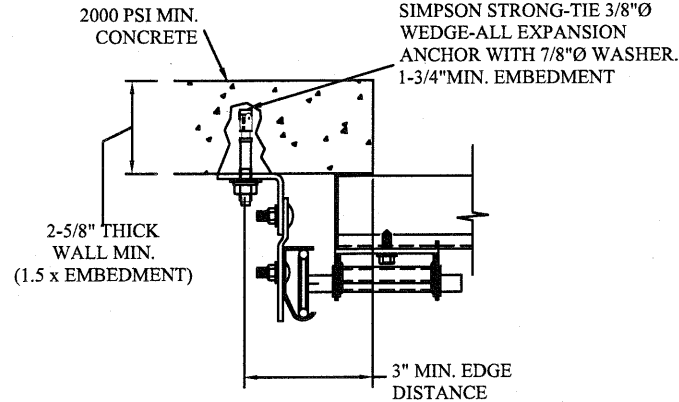
12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6" FROM ENDS
AND 8" O.C.
REFER TO NOTES: 1, 2 AND 5

3/16" STEEL FRAMING
569 LBS./SCREW ALLOWABLE LOAD - 6" FROM ENDS
AND 18" O.C.
REFER TO NOTES: 1, 2 AND 5



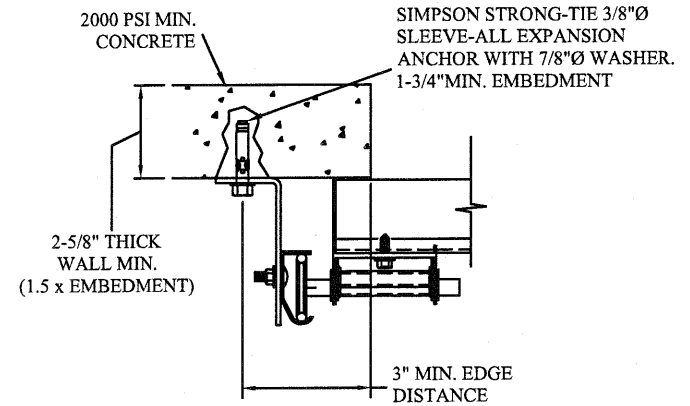
**REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED
ANGLE MOUNT AVAILABLE**

STEEL FRAMING 12GA OR BETTER
1590 LBS./IN. ALLOWABLE LOAD - 6"
FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 5, 6, 7, 8 AND 9



CLIP STYLE CONTINUOUS ANGLE MOUNT SHOWN
BRACKET, REVERSE AND TAPERED ANGLE MOUNT
AVAILABLE

2000 PSI CONCRETE OR GREATER
351 LBS./EXPANSION ANCHOR ALLOWABLE LOAD - 6"
FROM ENDS AND 12" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5



CONTINUOUS ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE
MOUNT AVAILABLE

2000 PSI CONCRETE OR GREATER
336 LBS./EXPANSION ANCHOR ALLOWABLE LOAD - 6"
FROM ENDS AND 12" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

WOOD JAMB ATTACHMENT TO STRUCTURE (OPTIONAL)

2 X 6 VERTICAL JAMB ATTACHMENT TO WOOD FRAME STRUCTURE

5/16" X 3" LAG SCREWS STARTING 6" FROM ENDS

THEN 14" O.C. (1 1/2" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO 2,000 PSI CONCRETE

HILTI KWIK BOLT 3/8" X 4" STARTING 6" FROM ENDS

THEN 24" O.C. (2 1/2" EMBEDMENT)

HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS

THEN 12" O.C. (1 1/4" EMBEDMENT)

ITW/RAMSET REDHEAD (TRU-BOLT) 3/8" X 4" STARTING 6" FROM ENDS

THEN 24" O.C. (2 1/2" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO HOLLOW C-90 BLOCK (1900 PSI MIN)

SIMPSON 1/4" X 3" TITEN SCREWS STARTING 6" FROM ENDS,

USE PAIRS OF FASTENERS (3" APART)

AT 8" O.C. (1 1/2" EMBEDMENT)

HILTI 1/4" X 2-3/4" KWIK-CON II+ SCREWS STARTING 6" FROM ENDS,

USE PAIRS OF FASTENERS (3" APART) AT 8" O.C. (1 1/4" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO GROUTED C-90 BLOCK (2000 PSI GROUT)

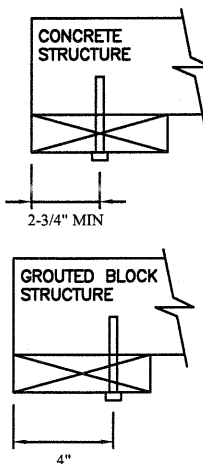
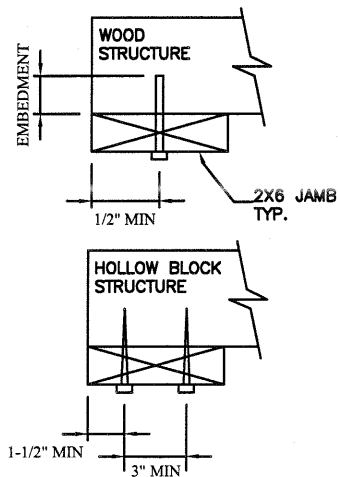
HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS

THEN 14" O.C. (1 1/4" EMBEDMENT)

(OR, USE FASTENERS FOR HOLLOW C-90 BLOCK)

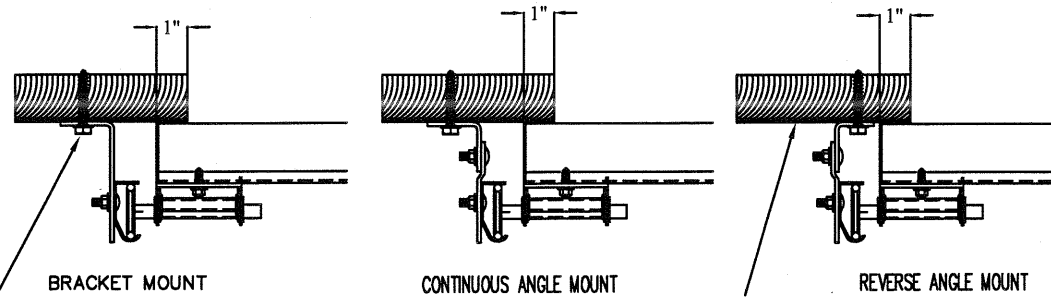
*LAGS AND BOLTS CAN BE COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.

*PREPARATION OF WOOD JAMBS BY OTHERS



TRACK CONNECTION TO WOOD JAMB OPTIONS

FOR LAG SCREWS & BRACKET SPACING SEE PAGE 4 FOR TRACK CONFIGURATION DETAIL

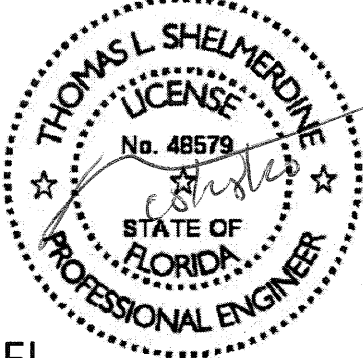


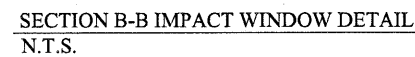
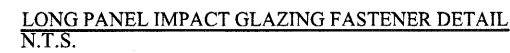
5/16" x 1 5/8" LAG SCREW (1) PER
JAMB BRACKET (1-1/2" EMBEDMENT
MINIMUM) (TYP.)

2x6 WOOD JAMB SYP OR SPF
(NO.2) OR BETTER (TYP.)

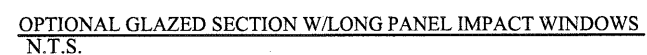
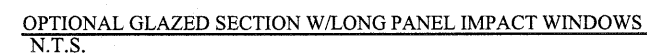
NOTES:

1. ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
2. FIRST (BOTTOM) ANCHOR STARTING AT NO MORE THAN HALF OF THE MAXIMUM ON-CENTER DISTANCE. HIGHEST ANCHOR INSTALLED AT LEAST AS HIGH AS THE DOOR OPENING.
3. MIN. EGDE DISTANCE OF 3" REQUIRED.
4. USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.
5. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS IN ADDITION TO OTHER LOADS.
6. MOST GARAGE DOOR TRACK IS GALVANIZED STEEL. USE ALL NECESSARY PRECAUTIONS WHEN WELDING GALVANIZED STEEL.
7. ALL WELDS SHOULD BE PERFORMED BY A CERTIFIED WELDER OR INSPECTED BY A CERTIFIED WELDING INSPECTOR TO VERIFY THE INTEGRITY OF THE WELD.
8. FILLET WELDS TO HAVE A STRAIGHT OR CONVEX FACE SURFACE.
9. TACK WELD TOE OF ANGLE AT SAME SPACING TO PREVENT ROTATION OF TRACK ANGLE.

REV	DESCRIPTION OF REVISIONS		DATE	BY
MAX SIZE 12'2" x 24' DESIGN LOADS +54.0 PSF -62.0 PSF TEST LOADS +81.0 PSF -93.0 PSF LARGE MISSILE IMPACT RESISTANCE		Thomas L. Shelmardine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412)  FL		
				
MODEL 1000 AMARR 2432				
SIZE	DRAWN BY	R/LR	DATE	DRAWING NUMBER
B	CHECKED BY	R/LR	DATE	IBC-1012-195-24-1
ENTREMATRIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105				SHEET 2 OF 4



1. ALL THE LOAD FROM THE DOOR IS TRANSFERRED TO THE VERTICAL TRACK, FROM THE TRACK THE LOAD IS TRANSFERRED TO THE VERTICAL JAMBS. THE HORIZONTAL JAMB OR HEADER RECEIVES NO PORTION OF THE LOAD TRANSFERRED FROM THE DOOR.
2. EACH VERTICAL JAMBS RECEIVES MAXIMUM DESIGN LOADS OF: +328.5 LBS/FT & -377.2 LBS/FT
3. DOOR AND HARDWARE WILL BE DESIGNED, MANUFACTURED AND INSTALLED WITH STANDARDS AS SET FORTH BY DASMA.
4. DOOR SECTIONS SHALL BE 24 GA. (.021) MIN. EXTERIOR SKIN ROLLED FORMED, W/ BAKED ON POLYESTER FINISH
5. DOORS UP TO 24'0" HIGH HAVE (1) 3" 20GA STRUT ON THE BOTTOM SECTION AND EVERY OTHER SECTION AFTER THAT, AND (1) 4.5" 20GA ON EVERY SECTION.
6. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.

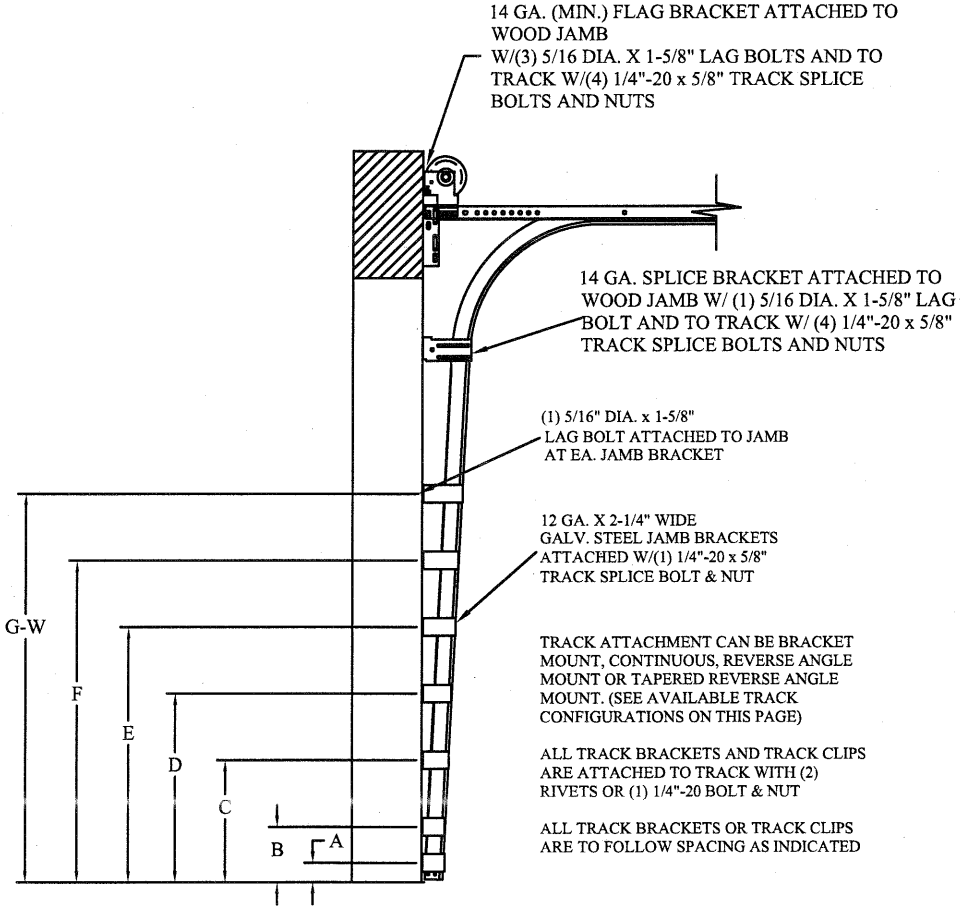


REV	DESCRIPTION OF REVISIONS	DATE	BY
MAX SIZE 12'2 x 24' DESIGN LOADS +54.0 PSF -62.0 PSF TEST LOADS +81.0 PSF -93.0 PSF LARGE MISSILE IMPACT RESISTANCE		THOMAS L. SHELDERMINE, PE (FL PE #00048579) Structural Solutions, PA (FL Firm #29412) FL THOMAS L. SHELDERMINE LICENSE No. 48579 03/23/17 STATE OF FLORIDA PROFESSIONAL ENGINEER dba Structural Solutions of North Carolina, Inc. 5921-G W. Friendly Ave., Greensboro, NC 27410	
<i>Amarr</i>			
MODEL 1000 AMARR 2432			
SIZE	DRAWN BY	RLR	DATE 03/23/17
B	CHICKED BY	RLR	DATE 03/23/17
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			DRAWING NUMBER IBC-1012-195-24-1 SHEET 3 OF 4

TABLE 1

DOOR HEIGHT	TRACK ATTACHMENT																				TYPICAL SPLICE
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
7' 0"	3.5"	10.0"	22.0"	34"	46"	58"															76"
7' 6"	3.5"	10.0"	22.0"	34"	46"	58"	70"														82"
8' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"														88"
8' 6"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"													94"
9' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"													100"
9' 6"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"												106"
10' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"											112"
11' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"										124"
12' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"									136"
13' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"								148"
14' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"							160"
15' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"						172"
16' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"					184"
17' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"				196"
18' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"			208"
19' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"		220"
20' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	232"
21' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	244"
22' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	256"
23' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	268"
24' 0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	280"

ALL TRACK ATTACHMENTS +/- 2" ALLOWED USING SYP OR SPF NO.2 OR BETTER ONLY



TRACK CONFIGURATION FOR UP TO 24' TALL DOORS
SEE TABLE 1

TABLE 2

Section Width (ft)		Center Stile Locations		Max Design Loads Allowed	
		1st (in)	2nd (in)	Positive (PSF)	Negative (PSF)
6'	0"	36"	-	72.7	83.5
6'	2"	37"	-	70.7	81.2
6'	4"	38"	-	68.9	79.1
6'	6"	39"	-	67.1	77.1
6'	8"	40"	-	65.4	75.1
6'	10"	41"	-	63.8	73.3
7'	0"	42"	-	62.3	71.5
7'	2"	43"	-	60.9	69.9
7'	4"	44"	-	59.5	68.3
7'	6"	45"	-	58.2	66.8
7'	8"	46"	-	56.9	65.3
7'	10"	47"	-	55.7	63.9
8'	0"	48"	-	54.5	62.6
9'	4"	36"	76"	68.5	78.7
9'	6"	37"	77"	67.6	77.7
9'	8"	38"	78"	66.8	76.7
9'	10"	39"	79"	65.9	75.7
10'	0"	40"	80"	65.1	74.7
10'	2"	41"	81"	64.2	73.8
10'	4"	42"	82"	63.2	72.6
10'	6"	43"	83"	62.2	71.4
10'	8"	44"	84"	61.2	70.3
10'	10"	45"	85"	60.3	69.2
11'	0"	46"	86"	59.4	68.2
11'	2"	47"	87"	58.5	67.2
11'	4"	48"	88"	57.6	66.2
11'	6"	49"	89"	56.8	65.2
11'	8"	50"	90"	56.0	64.3
11'	10"	51"	91"	55.2	63.4
12'	0"	48"	96"	54.2	62.3
12'	2"	49"	97"	54.0	62.0

* CONTACT ENGINEERING FOR SIZES 8'2" THROUGH 9'2"

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
12'2 x 24'

DESIGN LOADS
+54.0 PSF
-62.0 PSF

TEST LOADS
+81.0 PSF
-93.0 PSF

LARGE MISSILE IMPACT
RESISTANCE

Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)

THOMAS L. SHELMERDINE
LICENSE
No. 48579
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
FL

dba Structural Solutions of North Carolina, Inc.
5921-G W. Friendly Ave., Greensboro, NC 27410

Amarr

MODEL 1000 AMARR 2432

SIZE B	DRAWN BY RLR	DATE 03/23/17	DRAWING NUMBER IBC-1012-195-24-1
	CHECKED BY RLR	DATE 03/23/17	

ENTREMATICS
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 4 OF 4