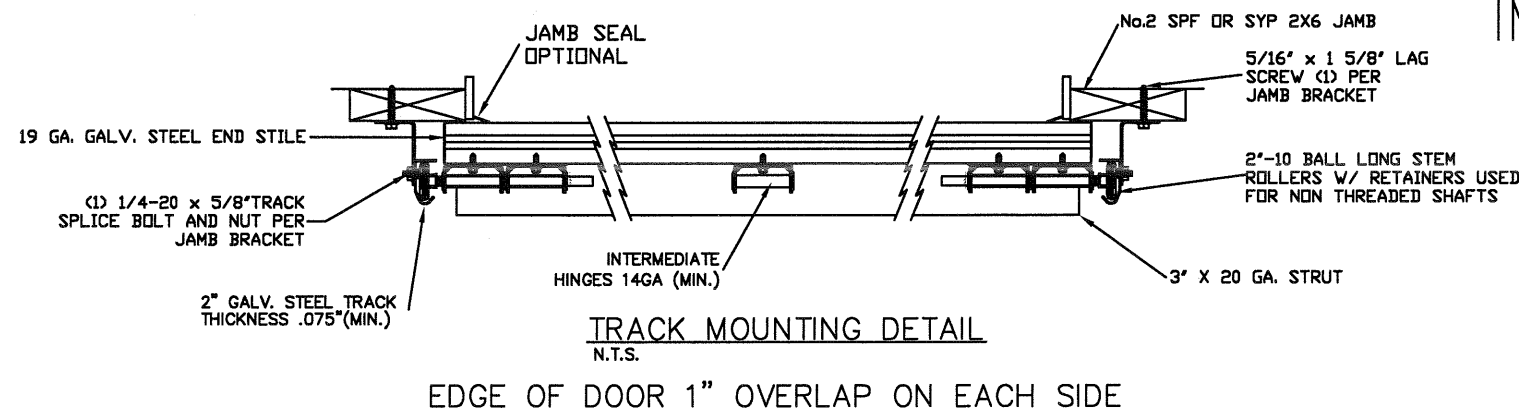
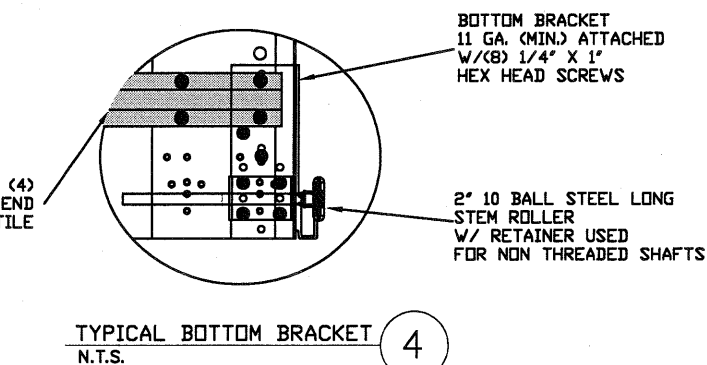
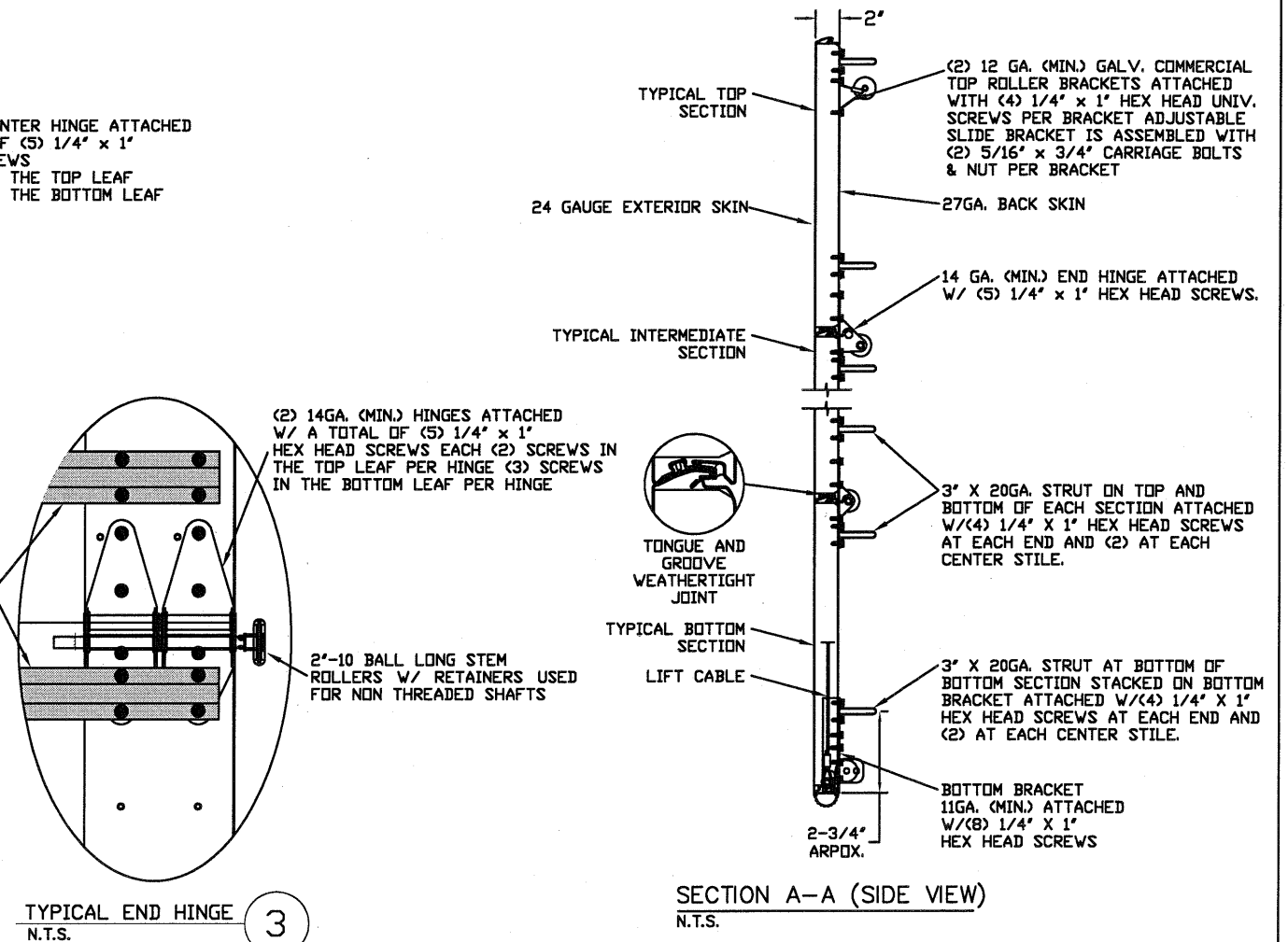
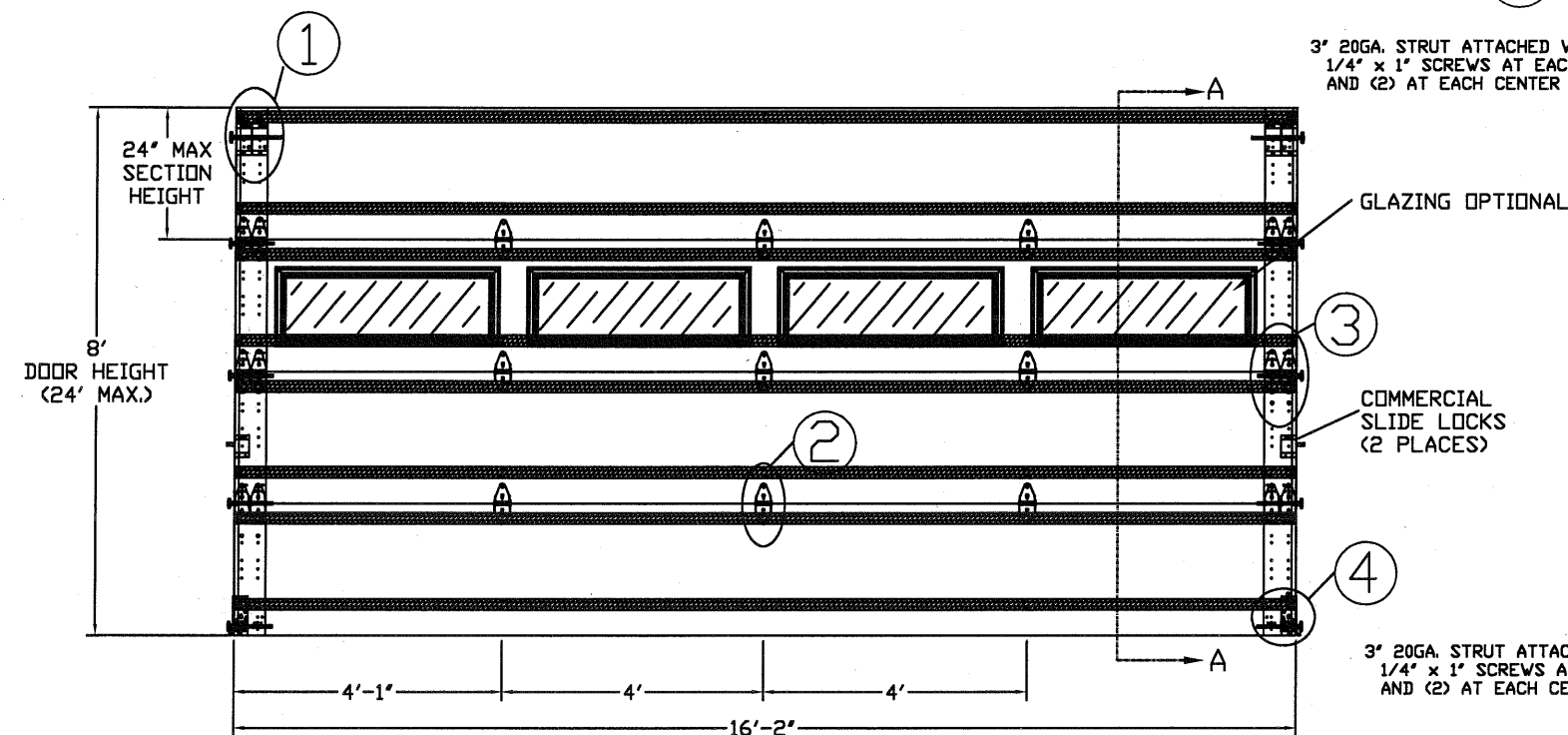
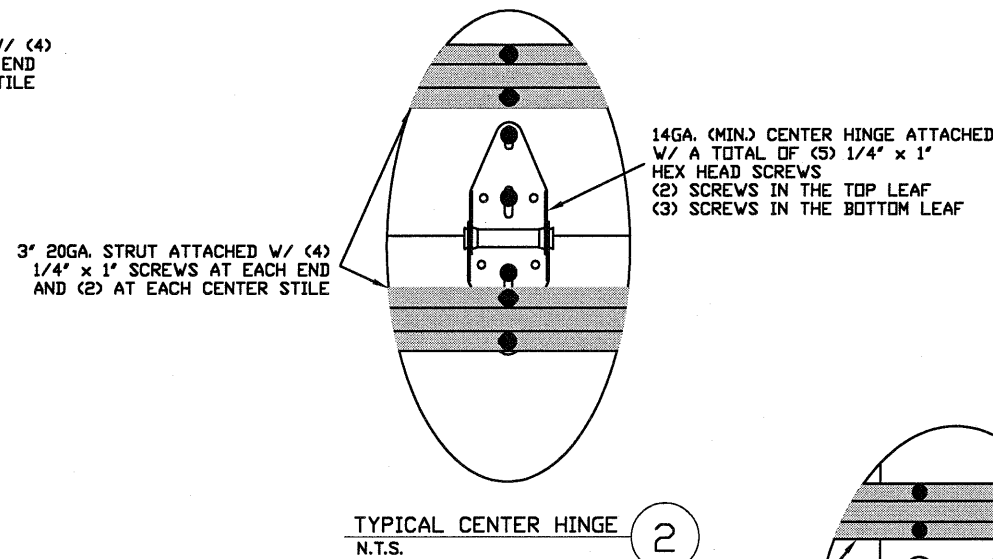
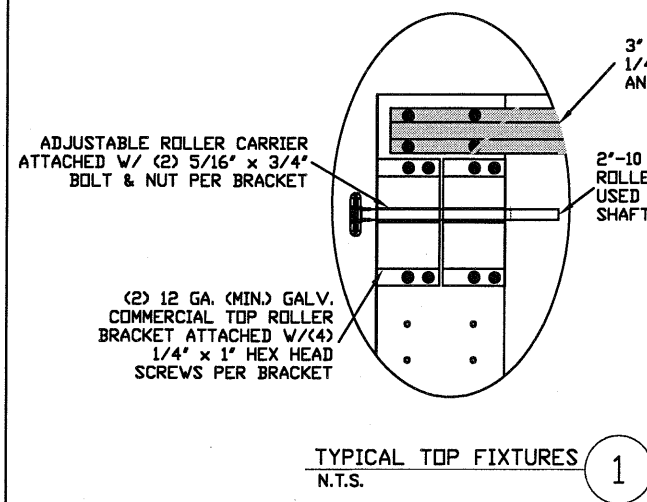




LARGE MISSILE IMPACT RESISTANT

NOTE: FOR STRUT SCHEDULE SEE TABLE 3 ON PAGE 4

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURE DESCRIBED IN ASTM E330, E1886, E1996 & F588, DASHA 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 10 DEGREES SLOPE):

WIND SPEED (MPH)	168	152	145	138	133
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
16'2 x 24'

DESIGN LOADS
+23.3 PSF
-26.3 PSF

TEST LOADS
+35.0 PSF
-39.5 PSF

LARGE MISSILE
IMPACT
RESISTANCE

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

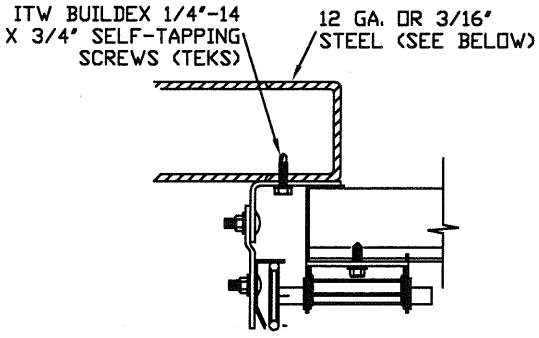
FL

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

MODEL 1000 AMARR 2432

SIZE	DRAWN BY	DRC	DATE	10/18/19	DRAWING NUMBER IEC-1016-130-15-1
B	CHECKED BY	DLJ	DATE	10/18/19	
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105					SHEET 1 OF 4

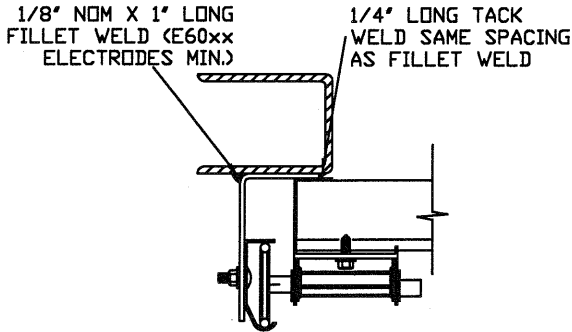
TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



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

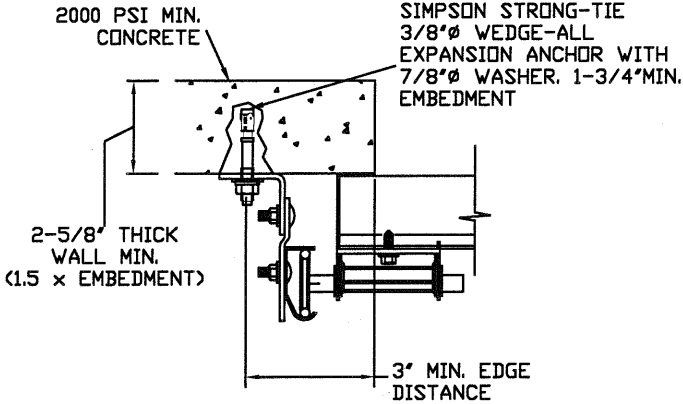
12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6'
FROM ENDS AND 14' O.C.
REFER TO NOTES: 1, 2 AND 5

3/16" STEEL FRAMING
569 LBS./SCREW ALLOWABLE LOAD - 6'
FROM ENDS AND 24' O.C.
REFER TO NOTES: 1, 2 AND 5



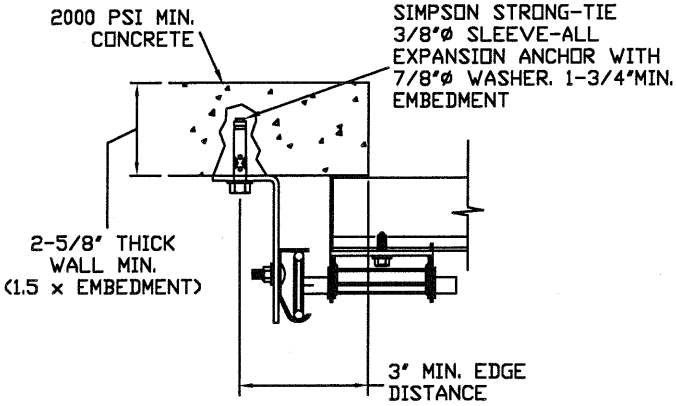
REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND
TAPERED ANGLE MOUNT AVAILABLE

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 22' O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5



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

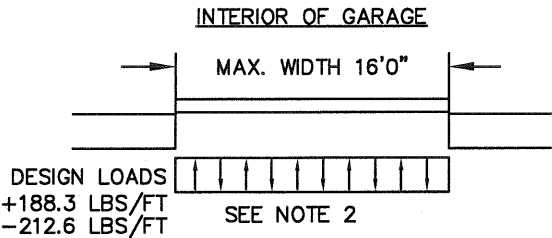
2000 PSI CONCRETE OR GREATER
336 LBS./EXPANSION ANCHOR ALLOWABLE
LOAD - 6' FROM ENDS AND 20' O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

SPECIFICATIONS AND NOTES

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: +188.3 LBS/FT & -212.6 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. (.022) MIN. EXTERIOR SKIN ROLLED FORMED, W/ BAKED ON POLYESTER FINISH
5. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.

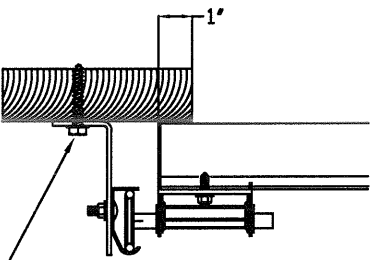
NOTES:

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. EDGE 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.

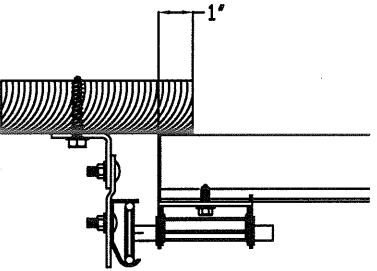


TRACK CONNECTION TO WOOD JAMB OPTIONS

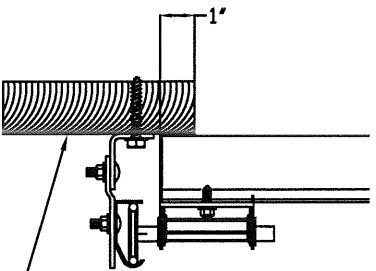
FOR LAG SCREWS & BRACKET SPACING SEE TABLE 1 ON PAGE 4



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



CONTINUOUS ANGLE MOUNT



REVERSE ANGLE MOUNT

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

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 24" 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 22" 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)

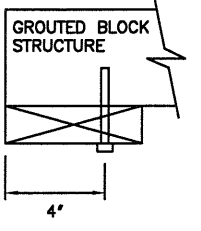
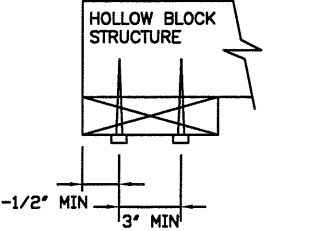
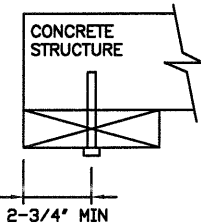
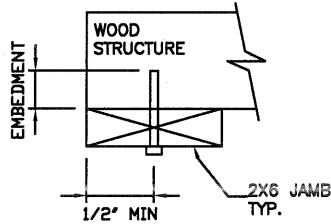
2 X 6 VERTICAL JAMB ATTACHMENT TO HOLLOW C-90 BLOCK

SIMPSON 1/4" X 3" TITEN SCREWS STARTING 6" FROM ENDS,
USE PAIRS OF FASTENERS (3" APART)
AT 16" 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 16" 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 24" 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



REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
16'2 x 24'

DESIGN LOADS
+23.3 PSF
-26.3 PSF

TEST LOADS
+35.0 PSF
-39.5 PSF

LARGE MISSILE
IMPACT
RESISTANCE

Thomas L. Shelmerdine, PE (FL PE #00048579)
Structural Solutions, PA (FL Firm #29412)

FL

THOMAS L. SHELMERDINE
LICENSE
No. 48579
10/18/23
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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

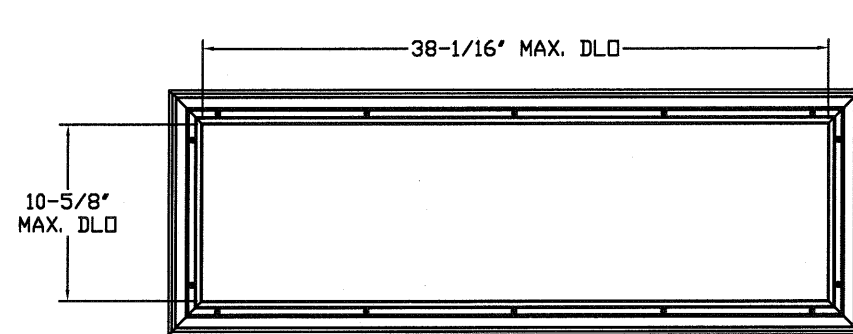
Amarr

MODEL 1000 AMARR 2432

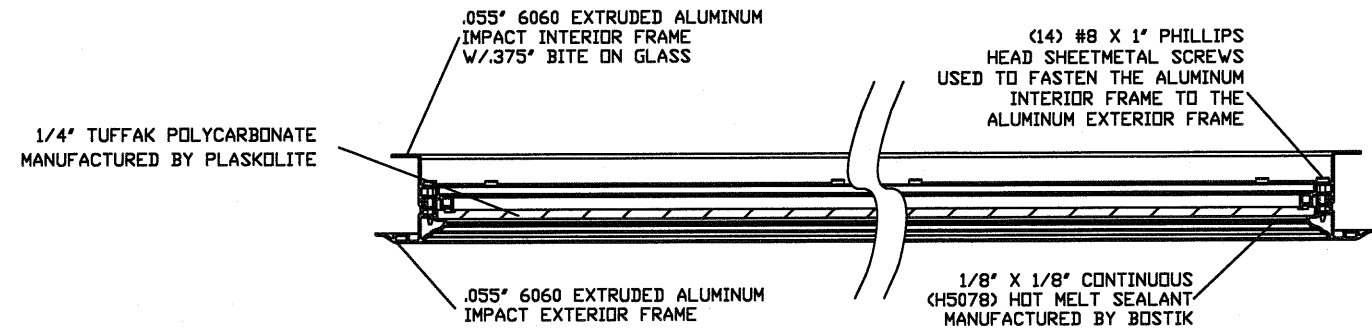
SIZE	DRAWN BY	DRC	DATE	10/18/19	DRAWING NUMBER
B	CHECKED BY	DLJ	DATE	10/18/19	IBC-1016-130-15-1

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

SHEET 2 OF 4

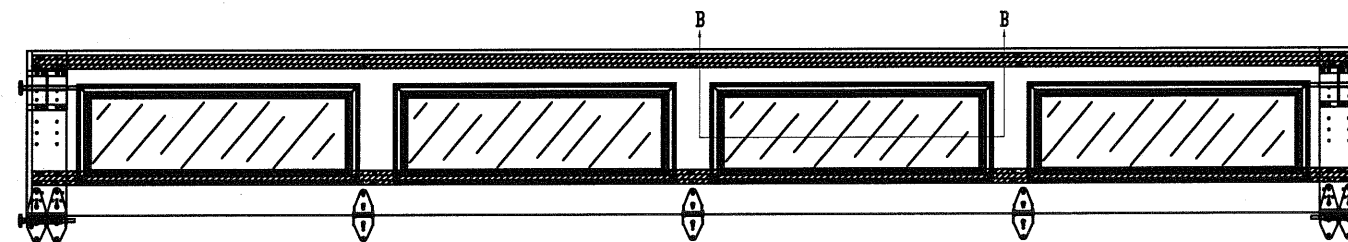


LONG PANEL IMPACT GLAZING FASTENER DETAIL
N.T.S.



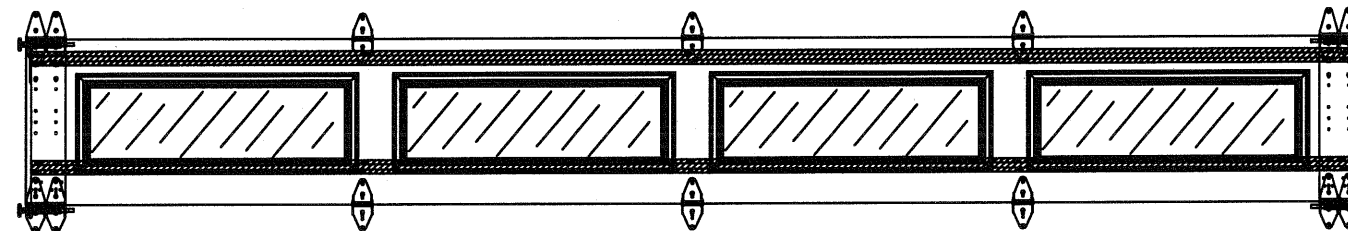
SECTION B-B IMPACT WINDOW DETAIL
N.T.S.

TOP SECTION



OPTIONAL GLAZED SECTION W/LONG PANEL IMPACT WINDOWS
N.T.S.

INTERMEDIATE SECTION



OPTIONAL GLAZED SECTION W/LONG PANEL IMPACT WINDOWS
N.T.S.

REV	DESCRIPTION OF REVISIONS	DATE	BY
MAX SIZE 16'2" x 24' DESIGN LOADS +23.3 PSF -26.3 PSF TEST LOADS +35.0 PSF -39.5 PSF LARGE MISSILE IMPACT RESISTANCE Thomas L. Shelmerdine, PE (FL PE #00048579) Structural Solutions, PA (FL Firm #29412) THOMAS L. SHELMERDINE LICENSE No. 48579 10/16/20 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	DRAWN BY	DRC	DATE
B	CHECKED BY	DLJ	DATE
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			DRAWING NUMBER IEC-1016-130-15-1
SHEET 3 OF 4			

DOOR HEIGHT	TRACK ATTACHMENT											
	A	B	C	D	E	F	G	H	I	J	K	L
6' 6	3.5"	10"	34"	58"								
7' 0	3.5"	10"	34"	58"								
7' 6	3.5"	10"	34"	58"								
8' 0	3.5"	10"	34"	58"								
8' 6	3.5"	10"	34"	58"	82"							
9' 0	3.5"	10"	34"	58"	82"							
9' 6	3.5"	10"	34"	58"	82"							
10' 0	3.5"	10"	34"	58"	82"							
10' 6	3.5"	10"	34"	58"	82"	100"						
11' 0	3.5"	10"	34"	58"	82"	106"						
11' 6	3.5"	10"	34"	58"	82"	100"						
12' 0	3.5"	10"	34"	58"	82"	106"						
12' 6	3.5"	10"	34"	58"	82"	98"	124"					
13' 0	3.5"	10"	34"	58"	82"	106"	130"					
13' 6	3.5"	10"	34"	58"	82"	98"	124"					
14' 0	3.5"	10"	34"	58"	82"	106"	130"					
15' 0	3.5"	10"	34"	58"	82"	106"	130"	154"				
16' 0	3.5"	10"	34"	58"	82"	106"	130"	154"				
17' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"			
18' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"			
19' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"	202"		
20' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"	202"		
21' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"	
22' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"	
23' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"	250"
24' 0	3.5"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"	250"

Diagram illustrating three types of vertical lift mechanisms for doors, showing the door height and the lift system components.

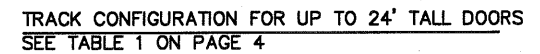
- VERTICAL LIFT/RAPID INSTALL VERTICAL LIFT:** Shows a door with a vertical lift mechanism. The door height is indicated as 2' 0" (MIN.) DR. The lift system includes a vertical track and a roller assembly.
- HIGH LIFT:** Shows a door with a vertical lift mechanism. The door height is indicated as 2' 0" (MIN.) DR. The lift system includes a vertical track and a roller assembly.
- STANDARD LIFT:** Shows a door with a vertical lift mechanism. The door height is indicated as 2' 0" (MIN.) DR. The lift system includes a vertical track and a roller assembly.
- LOW HEADROOM:** Shows a door with a vertical lift mechanism. The door height is indicated as 2' 0" (MIN.) DR. The lift system includes a vertical track and a roller assembly.

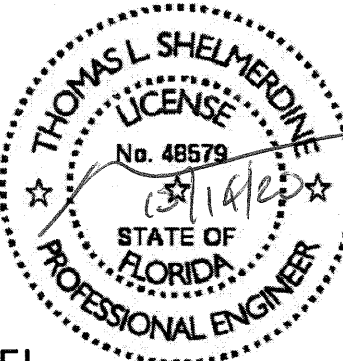
Additional labels and dimensions:

- DOOR HEIGHT
- 2' 0" (MIN.) DR
- 2" (12 GA. MIN.) VERTICAL TRACK

Section Width (ft)	Center Stile Locations (From Left Edge)			Max Design Loads Allowed		
	1st (in)	2nd (in)	3rd (in)	Positive (PSF)	Negative (PSF)	
9'	4"	36"	76"	-	29.5	33.3
9'	6"	37"	77"	-	29.2	32.9
9'	8"	38"	78"	-	28.8	32.5
9'	10"	39"	79"	-	28.4	32.1
10'	0"	40"	80"	-	28.1	31.7
10'	2"	41"	81"	-	27.7	31.3
10'	4"	42"	82"	-	27.4	30.9
10'	6"	43"	83"	-	27.0	30.5
10'	8"	44"	84"	-	26.7	30.2
10'	10"	45"	85"	-	26.4	29.8
11'	0"	46"	86"	-	26.1	29.5
11'	2"	47"	87"	-	25.8	29.1
11'	4"	48"	88"	-	25.5	28.8
11'	6"	49"	89"	-	25.2	28.5
11'	8"	50"	90"	-	24.9	28.2
11'	10"	51"	91"	-	24.7	27.8
12'	0"	48"	96"	-	23.4	26.4
12'	2"	49"	97"	-	23.1	26.1
12'	4"	50"	98"	-	22.9	25.9
12'	6"	51"	99"	-	22.7	25.6
12'	8"	52"	100"	-	22.4	25.3
12'	10"	53"	101"	-	22.2	25.1
13'	0"	36"	78"	120"	26.7	30.2
13'	2"	37"	79"	121"	26.7	30.2
13'	4"	38"	80"	122"	26.7	30.2
13'	6"	39"	81"	123"	26.7	30.2
13'	8"	40"	82"	124"	26.7	30.2
13'	10"	41"	83"	125"	26.7	30.2
14'	0"	42"	84"	126"	26.7	30.2
14'	2"	43"	85"	127"	26.4	29.8
14'	4"	44"	86"	128"	26.1	29.5
14'	6"	45"	87"	129"	25.8	29.1
14'	8"	46"	88"	130"	25.5	28.8
14'	10"	47"	89"	131"	25.2	28.5
14'	0"	48"	90"	132"	24.9	28.2
15'	2"	49"	91"	133"	24.7	27.8
15'	4"	50"	92"	134"	24.4	27.5
15'	6"	51"	93"	135"	24.1	27.2
15'	8"	52"	94"	136"	23.9	27.0
15'	10"	53"	95"	137"	23.6	26.7
16'	0"	48"	96"	144"	23.4	26.4
16'	2"	49"	97"	145"	23.3	26.3

SECTION	STRUT SIZE
12TH	3"
	3"
11TH	3"
	3"
10TH	3"
	3"
9TH	3"
	3"
8TH	3"
	3"
7TH	3"
	3"
6TH	3"
	3"
5TH	3"
	3"
4TH	3"
	3"
3RD	3"
	3"
2ND	3"
	3"
BOTTOM	3"
	3"



REV	DESCRIPTION OF REVISIONS	DATE	BY
MAX SIZE, 16'2 x 24' DESIGN LOADS +23.3 PSF -26.3 PSF TEST LOADS +35.0 PSF -39.5 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 DRC	DATE 10/18/19	DRAWING NUMBER IBC-1016-130-15-1
	CHECKED BY DLJ	DATE 10/18/19	
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			SHEET 4 OF 4