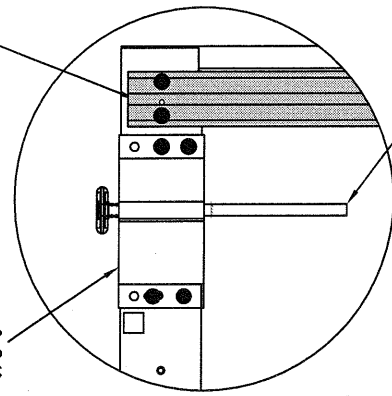


2" 20GA. STRUT STACKED ON TOP FIXTURES ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH CENTER STILE

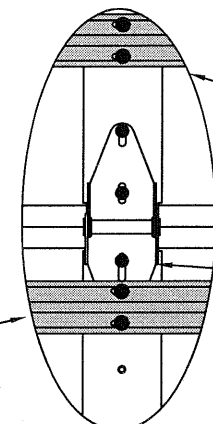


TYPICAL TOP FIXTURES  
N.T.S. ①

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

12 GA. COMMERCIAL TOP FIXTURE ATTACHED W/(4) 1/4" X 1" HEX HEAD SCREWS

3" 20GA. STRUT STACKED ON HINGES ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH CENTER STILE



TYPICAL CENTER HINGE  
N.T.S. ②

2" 20GA. STRUT ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH CENTER STILE

14GA. (MIN.) CENTER HINGE ATTACHED W/(5) 1/4" X 1" HEX HEAD SCREWS (2) SCREWS IN THE TOP LEAF (3) SCREWS IN THE BOTTOM LEAF

24 GA. (.022" MIN) OR 20 GA. PREPAINTED STEEL

2" X 20GA. STRUT ATTACHED ABOVE THE TOP FIXTURE W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND (2) 1/4" X 1" HEX HEAD SCREWS AT EACH CENTER STILE

12 GA. COMMERCIAL TOP FIXTURE ATTACHED WITH (4) 1/4" X 1" HEX HEAD UNIV. SCREWS PER BRACKET ADJUSTABLE SLIDE BRACKET IS ASSEMBLED WITH (2) 5/16" X 3/4" BOLT & NUT PER BRACKET

2" X 20GA. STRUT ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND (2) 1/4" X 1" HEX HEAD SCREWS AT EACH CENTER STILE

3" X 20GA. STRUT STACKED ON THE HINGES ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND (2) 1/4" X 1" HEX HEAD SCREWS AT EACH CENTER STILE

2" X 20GA. STRUT ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE AND (2) 1/4" X 1" HEX HEAD SCREWS AT EACH CENTER STILE

14 GA. (MIN.) GALV. STEEL ROLLER HINGE ATTACHED WITH (5) 1/4" X 1" HEX HEAD UNIV. SCREWS

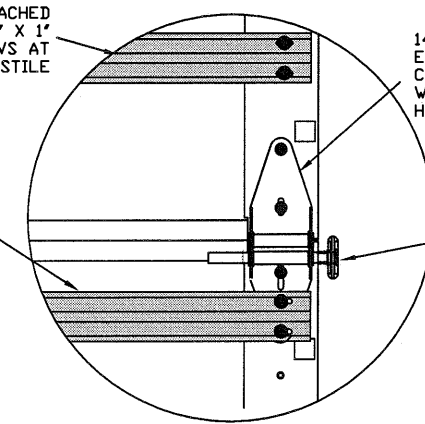
11 GA. BOTTOM BRACKET ATTACHED WITH (7) 1/4" X 1" HEX HEAD UNIV. SCREWS

CONT. ALUM. EXTRUSION WITH CONT. VINYL ASTRAGAL

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

2" 20GA. STRUT ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE

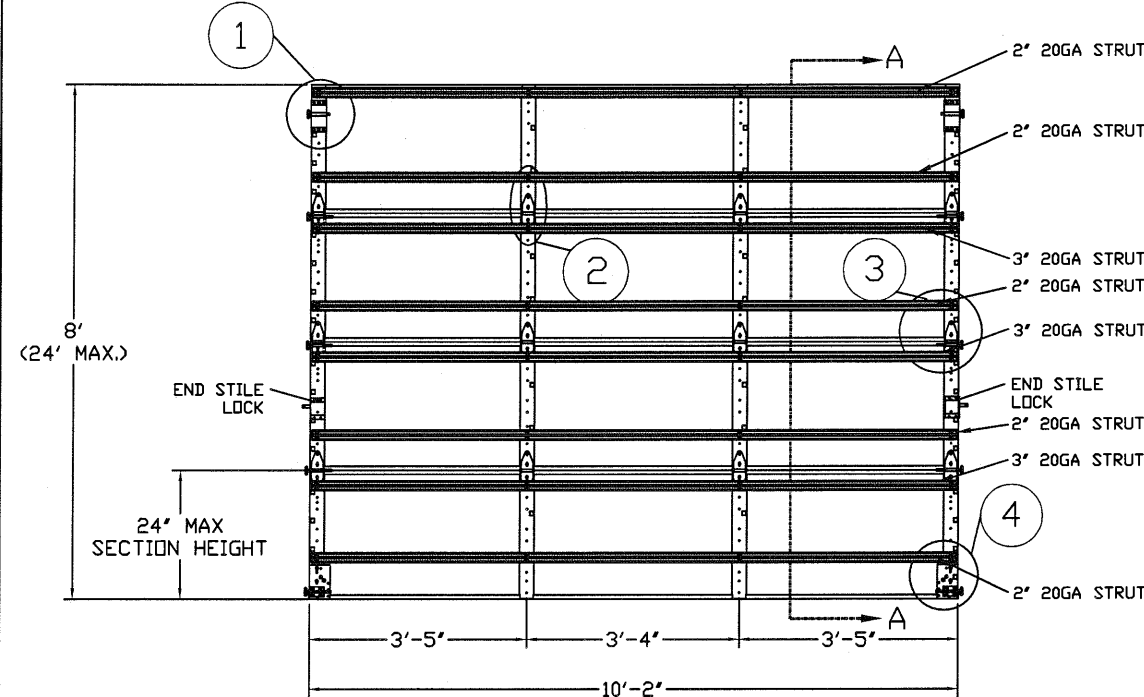
14 GA. (MIN.) END HINGE ROLLER CARRIERS ATTACHED W/(5) 1/4" X 1" HEX HEAD SCREWS



TYPICAL END HINGE  
N.T.S. ③

3" 20GA. STRUT STACKED ON HINGES ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE

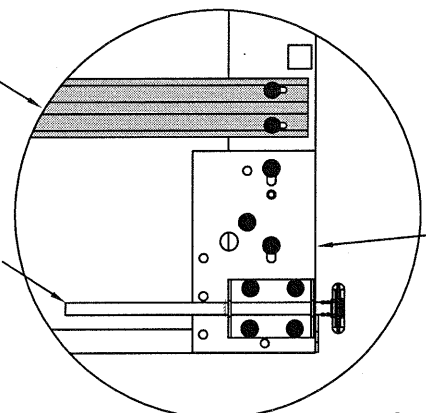
2"-10 BALL STEEL 4.5" (MIN) STEM ROLLERS W/ RETAINERS USED FOR NON THREADED SHAFTS



INSIDE ELEVATION  
N.T.S.

2" 20GA. STRUT ATTACHED W/(2) 1/4" X 1" HEX HEAD SCREWS AT EACH END STILE

BOTTOM BRACKET 11 GA. ATTACHED W/(7) 1/4" X 1" HEX HEAD SCREWS



TYPICAL BOTTOM BRACKET  
N.T.S. ④

2" 10 BALL STEEL LONG STEM ROLLER W/ RETAINER USED FOR NON THREADED SHAFTS

(2) 19 GA. CENTER STILES ATTACHED WITH (2) CLINCHED JOINTS OR RIVETS AT THE TOP AND BOTTOM RAIL AND (2) CLINCHED JOINTS OR RIVETS TO FRONT SKIN

5/16" X 1 5/8" LAG SCREW (1) PER JAMB BRACKET  
(1) 1/4"-20 X 5/8" TRACK SPLICE BOLT AND NUT PER JAMB BRACKET

2" OR 3" 10-BALL STEEL 4.5" (MIN) STEM ROLLERS W/ RETAINERS USED FOR NON THREADED SHAFTS

END HINGES 14GA. (MIN.)

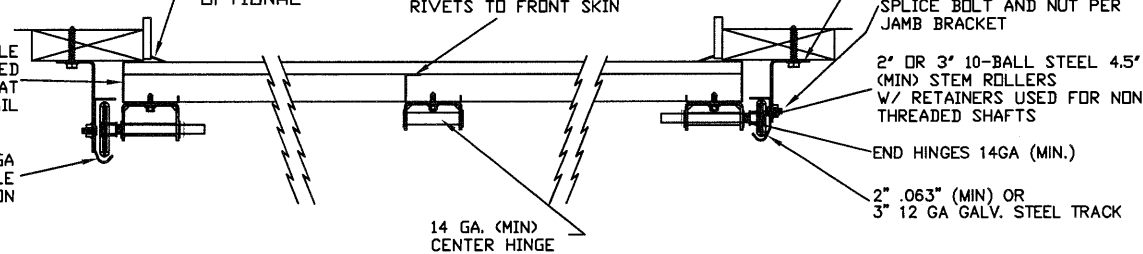
2" .063" (MIN) OR 3" 12 GA GALV. STEEL TRACK

19 GA. GALV. STEEL END STILE ATTACHED WITH (2) CLINCHED JOINTS AT THE TOP AND (2) AT THE BOTTOM RAIL

3" 12 GA TAPERED REVERSE ANGLE TRACK OPTION

JAMB SEAL OPTIONAL

14 GA. (MIN) CENTER HINGE



TRACK MOUNTING DETAIL  
N.T.S.

EDGE OF DOOR 1" OVERLAP ON EACH SIDE

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURES DESCRIBED IN DASMA 108. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-98/02/05 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN END ZONE, ROOF SLOPE 10' OR LESS, AND I=1.0):

WIND SPEED (MPH)	145	132	126	120	115
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE 10'2 x 24'

DESIGN LOADS +30.0 PSF -34.9 PSF

TEST LOADS +45.0 PSF -52.4 PSF

Thomas L. Shelmerdine, PE (TX PE #85829) Structural Solutions, PA (TX Firm #F-004063)

STATE OF TEXAS  
THOMAS L. SHELME RDINE  
85829  
LICENSED PROFESSIONAL ENGINEER  
TX

5921-G W. Friendly Ave., Greensboro, NC 27410

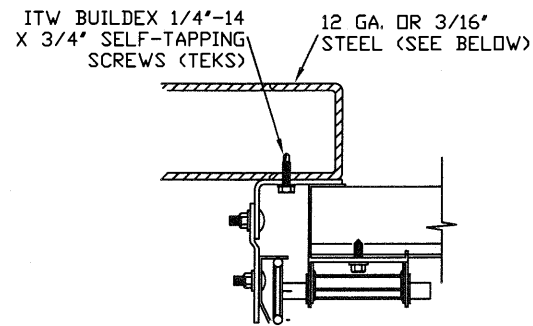
**ENTRE//MATIC**  
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

AMARR MODEL 2400 24GA  
AMARR MODEL 2000 20GA

SIZE	DRAWN BY	RS	DATE	1/21/15	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	1/21/15	IBC-2410-145-15

SHEET 1 OF 4

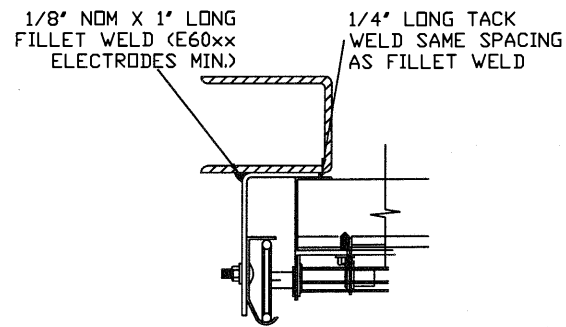
## TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



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

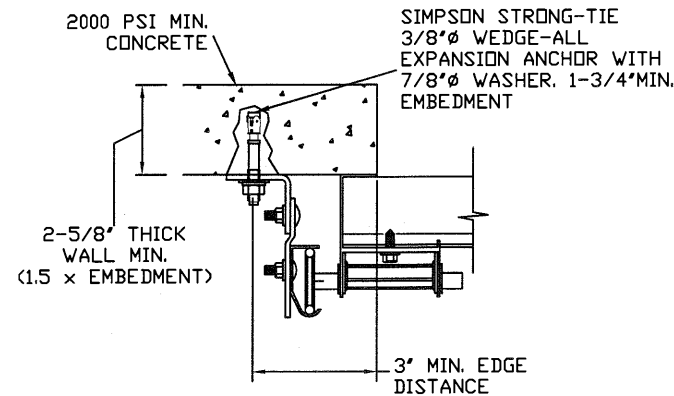
**12 GA. STEEL FRAMING**  
232 LBS./SCREW ALLOWABLE LOAD - 6'  
FROM ENDS AND 18" O.C.  
REFER TO NOTES: 1, 2 AND 5

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



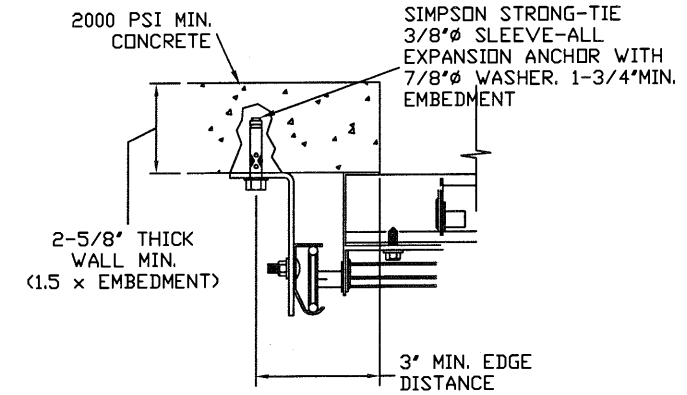
REVERSE ANGLE MOUNT SHOWN  
BRACKET, CONTINUOUS AND  
TAPERED ANGLE MOUNT AVAILABLE

**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 24" O.C.  
REFER TO NOTES: 1, 2, 3, 4 AND 5



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

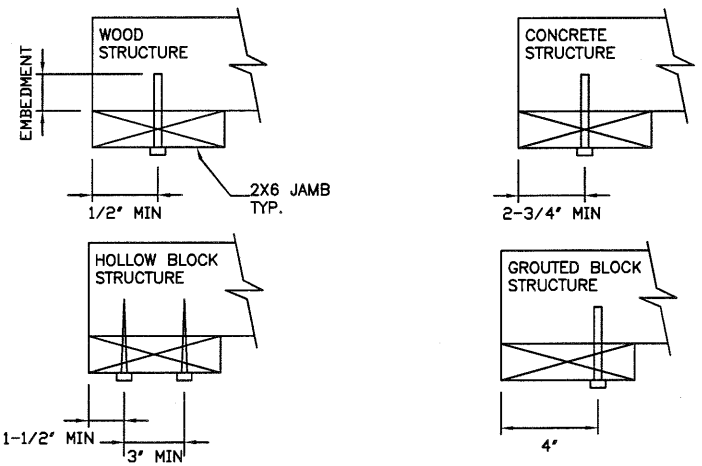
**2000 PSI CONCRETE OR GREATER**  
336 LBS./EXPANSION ANCHOR ALLOWABLE  
LOAD - 6' FROM ENDS AND 24" O.C.  
REFER TO NOTES: 1, 2, 3, 4 AND 5

### 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: +152.5 LBS/FT & -177.4 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. DOORS UP TO 24'0" HIGH HAVE (1) 3" 20GA STRUT AND (1) 2" 20GA STRUT ON BOTTOM AND INTERMEDIATE SECTIONS. TOP SECTION WILL HAVE (2) 2" 20GA STRUTS.
6. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.

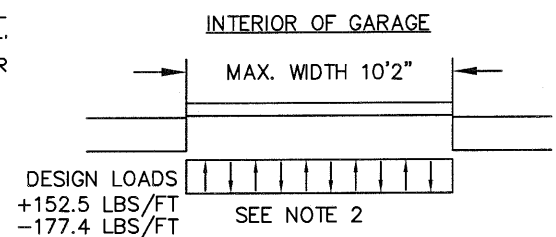
## WOOD JAMB ATTACHMENT TO STRUCTURE (OPTIONAL)

- 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 24" 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



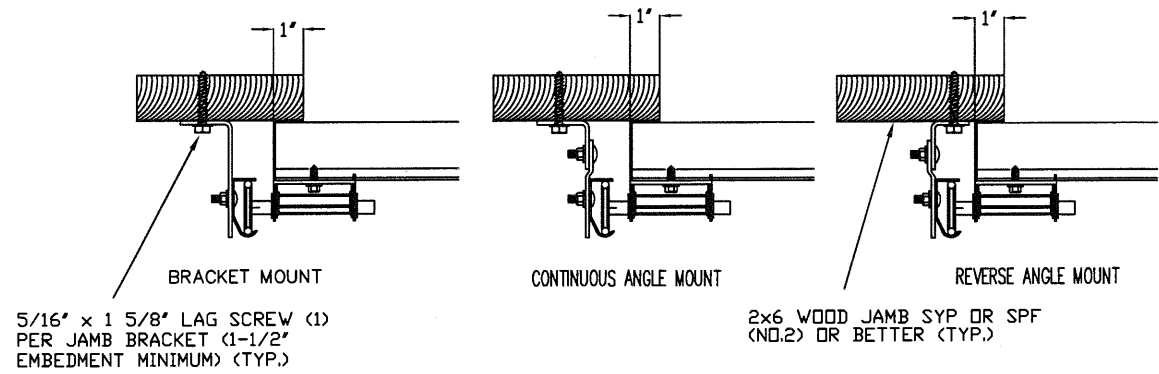
### NOTES:

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.



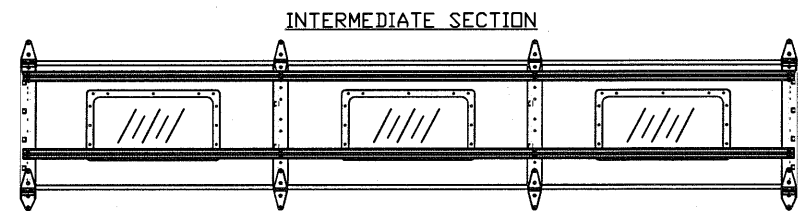
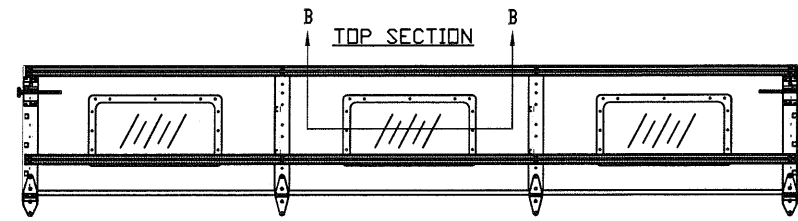
## TRACK CONNECTION TO WOOD JAMB OPTIONS

FOR LAG SCREWS & BRACKET SPACING SEE PAGE 3 FOR TRACK CONFIGURATION DETAIL

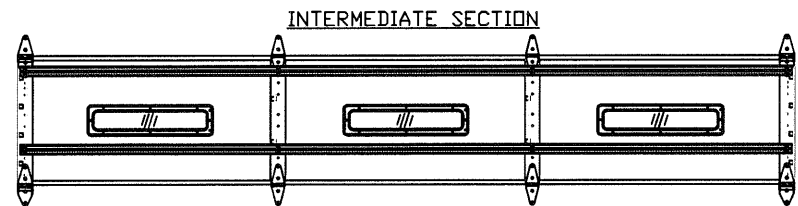
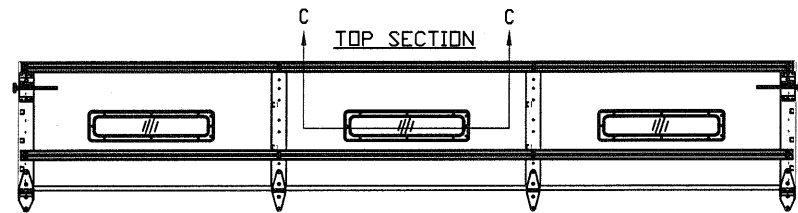


REV	DESCRIPTION OF REVISIONS	DATE	BY
	<p>MAX SIZE 10'2" x 24'</p> <p>DESIGN LOADS +30.0 PSF -34.9 PSF</p> <p>TEST LOADS +45.0 PSF -52.4 PSF</p>		
	<p>Thomas L. Shelmerdine, PE (TX PE #85829) Structural Solutions, PA (TX Firm #004063)</p> <p style="text-align: center;">   <b>TX</b> </p>		
	<p><b>ENTRE/MATIC</b></p> <p>165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105</p> <p><b>AMARR MODEL 2400 24GA</b> <b>AMARR MODEL 2000 20GA</b></p>		
	<p>SIZE B</p> <p>DRAWN BY RS</p> <p>CHECKED BY RLR</p>	<p>DATE 1/21/15</p> <p>DATE 1/21/15</p>	<p>DRAWING NUMBER IBC-2410-145-15</p> <p>SHEET 2 OF 4</p>

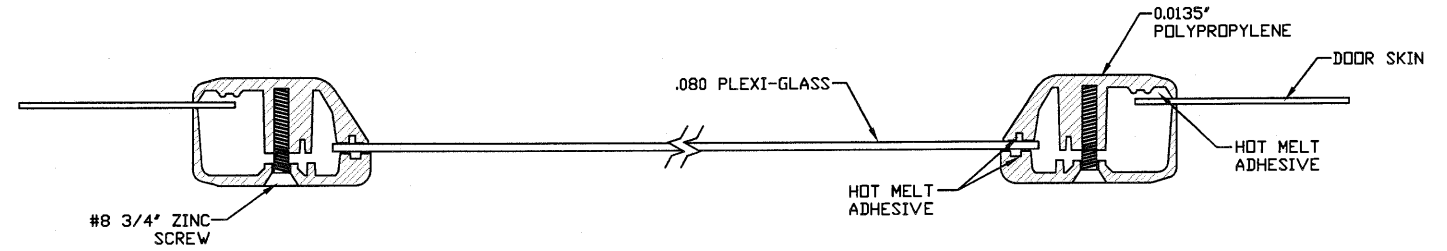
5921-G W. Friendly Ave., Greensboro, NC 27410



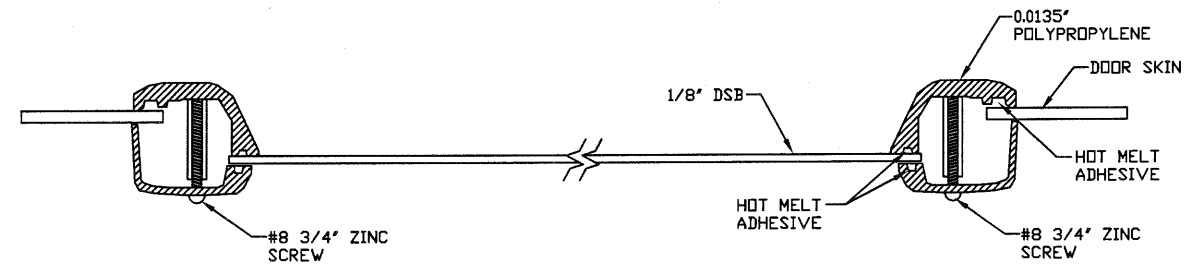
OPTIONAL GLAZED SECTION W/ 24' X 12' WINDOWS AND STRUT LAYOUT  
N.T.S.



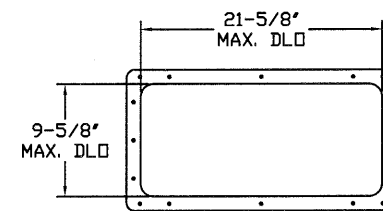
OPTIONAL GLAZED SECTION W/ 24' X 6' WINDOWS AND STRUT LAYOUT  
N.T.S.



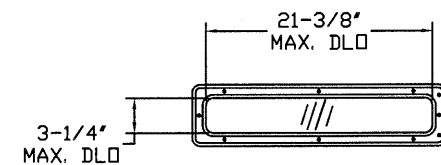
SECTION B-B 24' X 12' WINDOW DETAIL W/ .080 PLEXI-GLASS  
N.T.S.



SECTION C-C 24' X 6' WINDOW DETAIL W/ 1/8' DSB  
N.T.S. (ALSO AVAILABLE WITH .080' PLEXI-GLASS)



24' X 12' DAY LIGHT OPENING AND FASTENER DETAIL  
N.T.S.



24' X 6' DAY LIGHT OPENING AND FASTENER DETAIL  
N.T.S.

REV	DESCRIPTION OF REVISIONS	DATE	BY
	MAX SIZE 10'2 x 24'  DESIGN LOADS +30.0 PSF -34.9 PSF  TEST LOADS +45.0 PSF -52.4 PSF		
	Thomas L. Shelmerdine, PE (TX PE #85829) Structural Solutions, PA (TX Firm #004063)		
	<b>ENTRE/MATIC</b> 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105 <b>AMARR MODEL 2400 24GA</b> <b>AMARR MODEL 2000 20GA</b>		
	SIZE B DRAWN BY RS CHECKED BY RLR	DATE 1/21/15 DATE 1/21/15	DRAWING NUMBER IBC-2410-145-15 SHEET 3 OF 4

5921-G W. Friendly Ave., Greensboro, NC 27410

TABLE 1

Section Width (ft)	Center Stile Locations		Max Design Loads Allowed	
	1st (in)	2nd (in)	Positive (PSF)	Negative (PSF)
6' 0"	36"	-	33.5	39.0
6' 2"	37"	-	32.6	38.0
6' 4"	38"	-	31.8	37.0
6' 6"	39"	-	30.9	36.0
6' 8"	40"	-	30.2	35.1
6' 10"	41"	-	29.4	34.3
7' 0"	42"	-	28.7	33.4
7' 2"	43"	-	28.1	32.7
7' 4"	44"	-	27.4	31.9
7' 6"	45"	-	26.8	31.2
7' 8"	46"	-	26.2	30.5
7' 10"	47"	-	25.7	29.9
8' 0"	48"	-	25.1	29.2
8' 2"	49"	-	24.6	28.7
8' 4"	50"	-	24.1	28.1
8' 6"	51"	-	23.7	27.5
8' 8"	52"	-	23.2	27.0
8' 10"	53"	-	22.8	26.5
9' 0"	54"	-	22.3	26.0
9' 2"	37"	73"	33.1	38.5
9' 4"	36"	76"	31.8	37.0
9' 6"	37"	77"	31.4	36.5
9' 8"	38"	78"	30.9	36.0
9' 10"	39"	79"	30.6	35.6
10' 0"	40"	80"	30.2	35.1
10' 2"	41"	81"	30.0	34.9

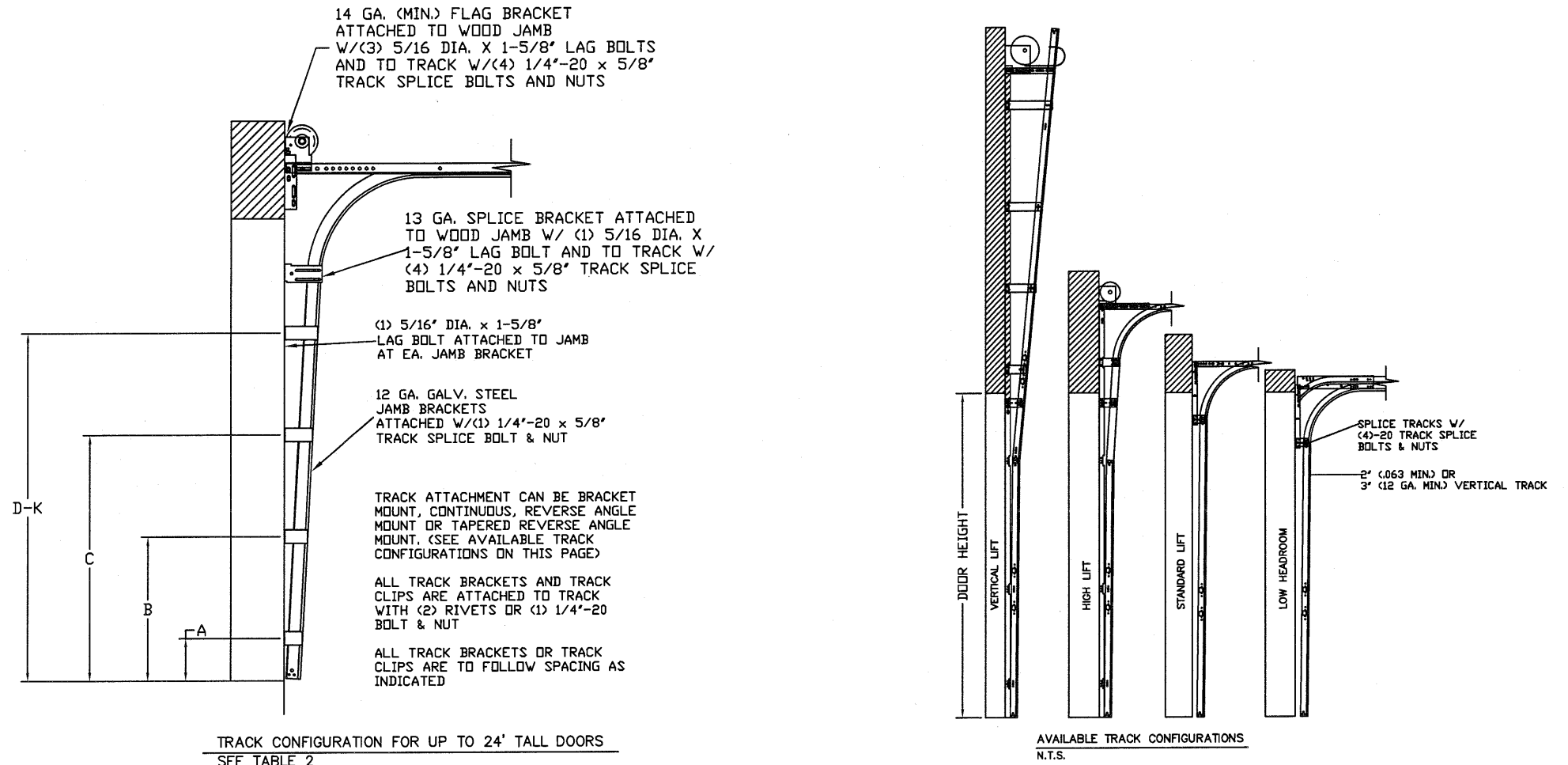


TABLE 2

DOOR HEIGHT	TRACK ATTACHMENT											TYPICAL SPLICE
	A	B	C	D	E	F	G	H	I	J	K	
7' 0"	10"	34"	58"									76"
7' 6"	10"	34"	58"									82"
8' 0"	10"	34"	58"									88"
8' 6"	10"	34"	58"	82"								94"
9' 0"	10"	34"	58"	82"								100"
9' 6"	10"	34"	58"	82"								106"
10' 0"	10"	34"	58"	82"								112"
11' 0"	10"	34"	58"	82"	106"							124"
12' 0"	10"	34"	58"	82"	106"							136"
13' 0"	10"	34"	58"	82"	106"	130"						148"
14' 0"	10"	34"	58"	82"	106"	130"						160"
15' 0"	10"	34"	58"	82"	106"	130"	154"					172"
16' 0"	10"	34"	58"	82"	106"	130"	154"					184"
17' 0"	10"	34"	58"	82"	106"	130"	154"	178"				196"
18' 0"	10"	34"	58"	82"	106"	130"	154"	178"				208"
19' 0"	10"	34"	58"	82"	106"	130"	154"	178"	202"			220"
20' 0"	10"	34"	58"	82"	106"	130"	154"	178"	202"			232"
21' 0"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"		244"
22' 0"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"		256"
23' 0"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"	250"	268"
24' 0"	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"	250"	280"

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

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE, 10'2 x 24'

DESIGN LOADS  
+30.0 PSF  
-34.9 PSF

TEST LOADS  
+45.0 PSF  
-52.4 PSF

Thomas L. Shelmerdine, PE (TX PE #85829)  
Structural Solutions, PA (TX Firm #F-004063)

STATE OF TEXAS  
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**ENTRE/MATIC**  
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

**AMARR MODEL 2400 24GA**  
**AMARR MODEL 2000 20GA**

SIZE	DRAWN BY	RS	DATE	1/21/15	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	1/21/15	IBC-2410-145-15

SHEET 4 OF 4