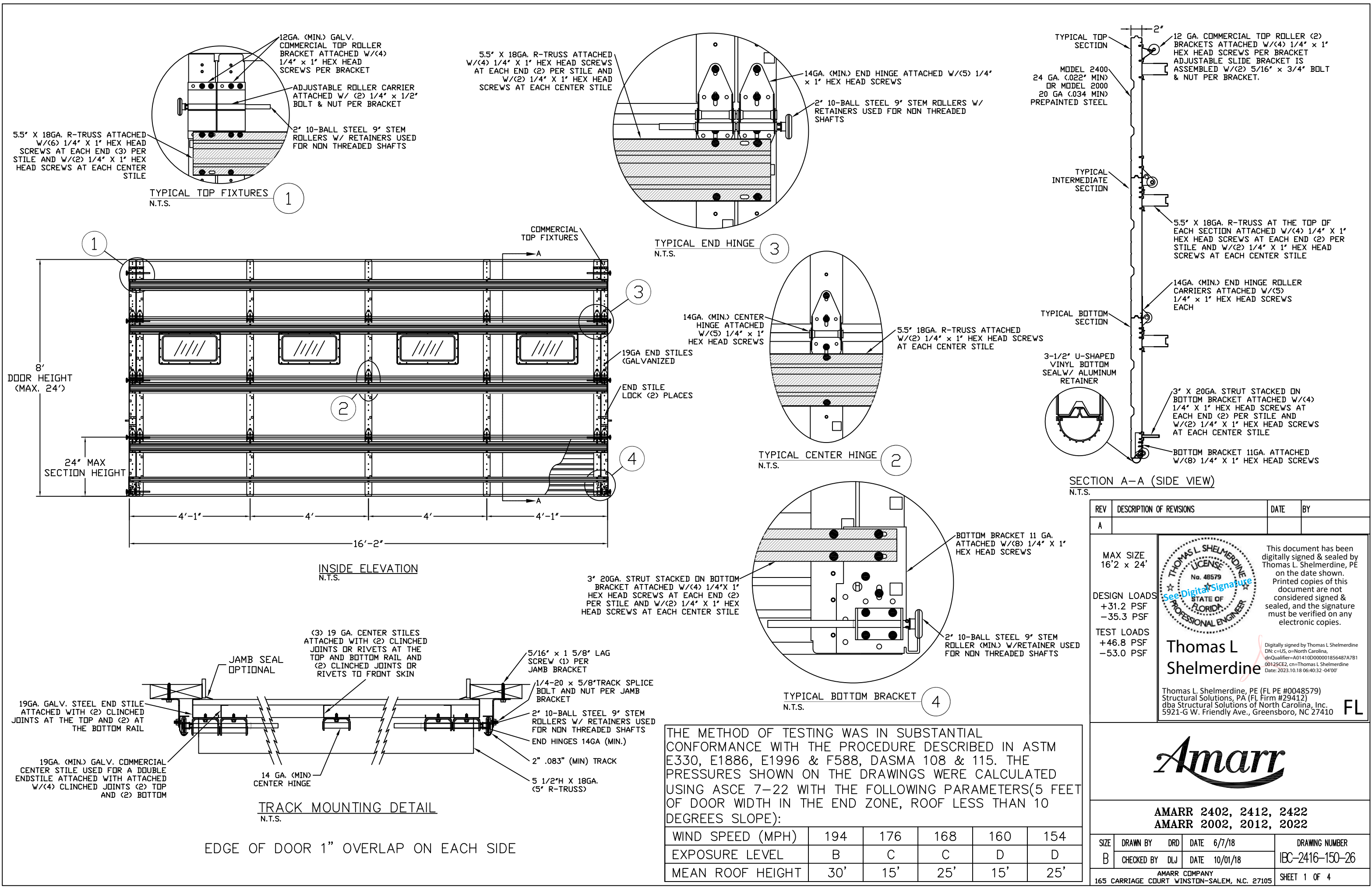




REV	DESCRIPTION OF REVISIONS	DATE	BY
A			

MAX SIZE
16'2" x 24'

DESIGN LOADS
+31.2 PSF
-35.3 PSF

TEST LOADS
+46.8 PSF
-53.0 PSF

THOMAS L. SHELDERDINE
No. 48579
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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Thomas L. Shelmerdine

Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)
dba Structural Solutions of North Carolina, Inc.
5921-G W. Friendly Ave., Greensboro, NC 27410

FL

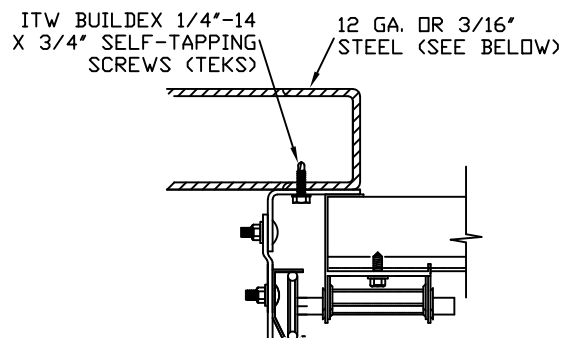
THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURE DESCRIBED IN ASTM E330, E1886, E1996 & F588, DASMA 108 & 115. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-22 WITH THE FOLLOWING PARAMETERS(5 FEET OF DOOR WIDTH IN THE END ZONE, ROOF LESS THAN 10 DEGREES SLOPE):

WIND SPEED (MPH)	194	176	168	160	154
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

AMARR 2402, 2412, 2422
AMARR 2002, 2012, 2022

SIZE	DRAWN BY	DRD	DATE	6/7/18	DRAWING NUMBER IBC-2416-150-26
B	CHECKED BY	DLJ	DATE	10/01/18	
AMARR COMPANY 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105					SHEET 1 OF 4

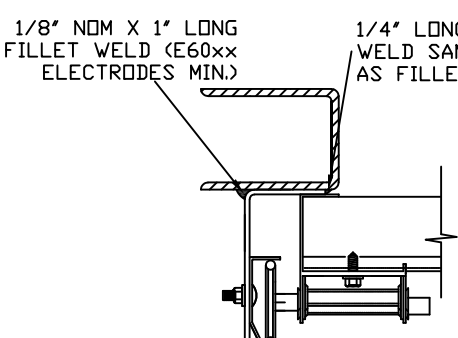
TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



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

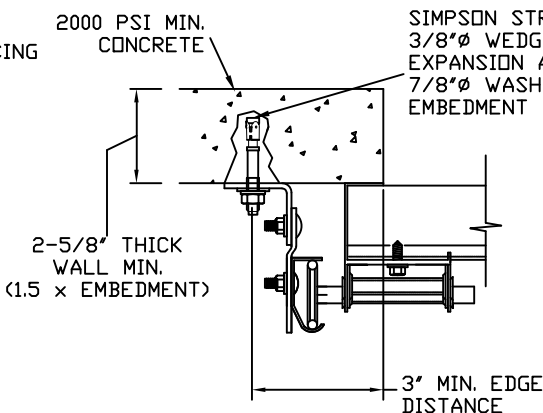
12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6"
FROM ENDS AND 10" O.C.
REFER TO NOTES: 1, 2 AND 5

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



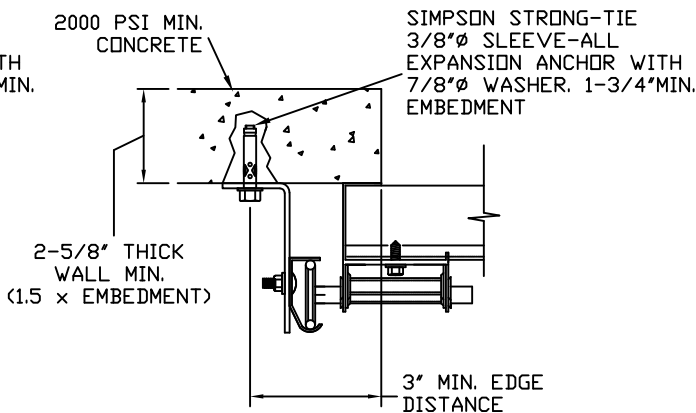
REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND
TAPERED ANGLE MOUNT AVAILABLE

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



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

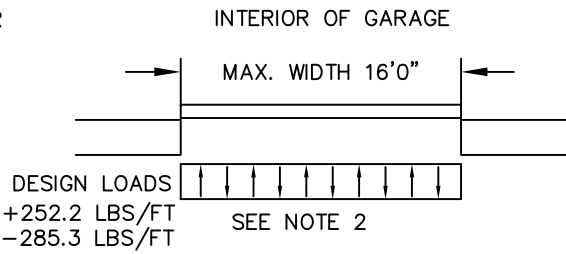
2000 PSI CONCRETE OR GREATER
336 LBS./EXPANSION ANCHOR ALLOWABLE
LOAD - 6" FROM ENDS AND 16" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

SPECIFICATIONS AND NOTES

NOTES:

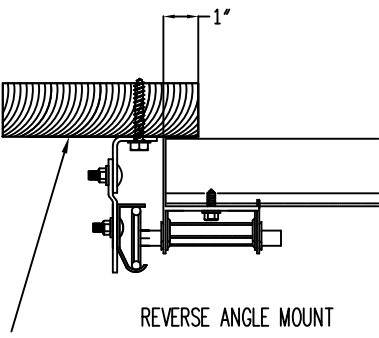
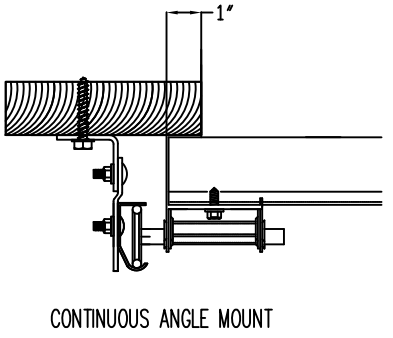
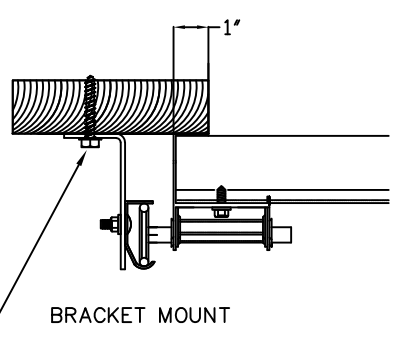
1. ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
2. FIRST (BOTTOM) ANCHOR STARTING AT NO MORE THAN HALF OF THE MAXIMUM ON-CENTER DISTANCE. HIGHEST ANCHOR INSTALLED AT LEAST AS HIGH AS THE DOOR OPENING.
3. MIN. EGDE DISTANCE OF 3" REQUIRED.
4. USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.
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.

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: +252.2 LBS/FT AND -285.3 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, GALVANIZATION W/ BAKED ON POLYESTER FINISH
5. DOORS UP TO 24' HIGH USE (1) 5 1/2" R-TRUSS ON EACH SECTION AND (1) 3" STRUT ON BOTTOM 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.



TRACK CONNECTION TO WOOD JAMB OPTIONS

FOR LAG SCREWS & BRACKET SPACING SEE TABLE 2 ON PAGE 3



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

2x6 WOOD JAMB SYP
(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 18" O.C. (1 1/2" EMBEDMENT)

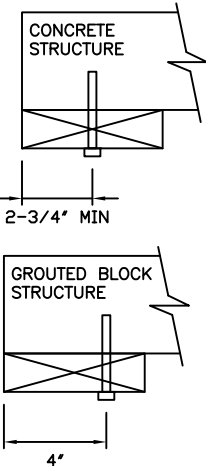
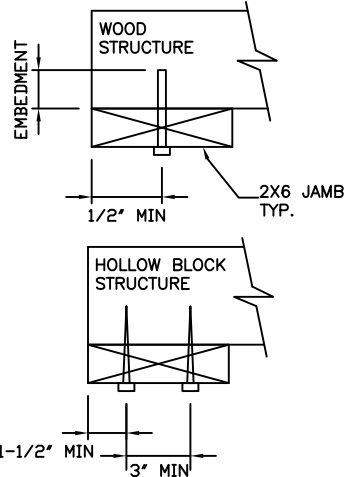
2 X 6 VERTICAL JAMB ATTACHMENT TO 2,000 PSI CONCRETE
HILTI KWIK BOLT 3/8" X 4" STARTING 6" FROM ENDS
THEN 24" O.C. (2 1/2" EMBEDMENT)
HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS
THEN 16" O.C. (1 1/4" EMBEDMENT)
ITW/RAMSET REDHEAD (TRU-BOLT) 3/8" X 4" STARTING 6" FROM ENDS
THEN 24" O.C. (2 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 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 20" 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



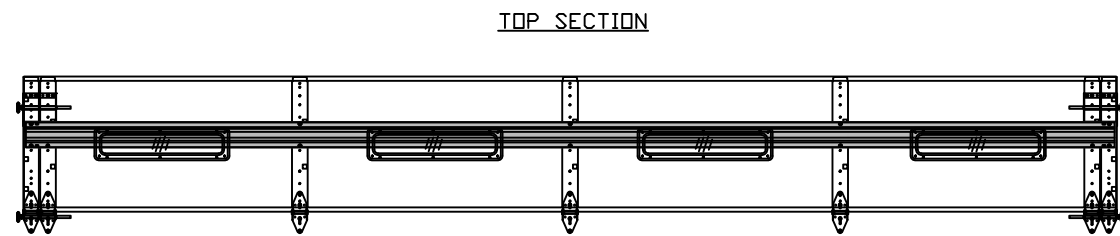
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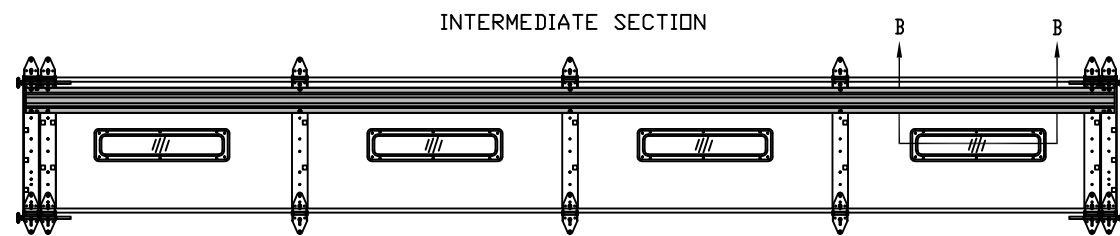


AMARR 2402, 2412, 2422
AMARR 2002, 2012, 2022

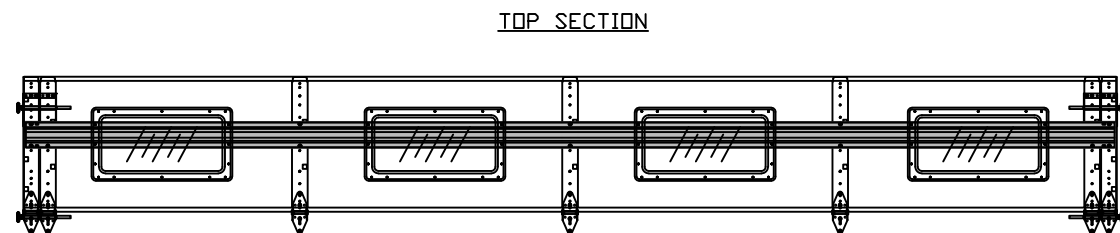
SIZE	DRAWN BY	DRD	DATE	6/7/18	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	10/01/18	IBC-2416-150-26
AMARR COMPANY 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105					SHEET 2 OF 4



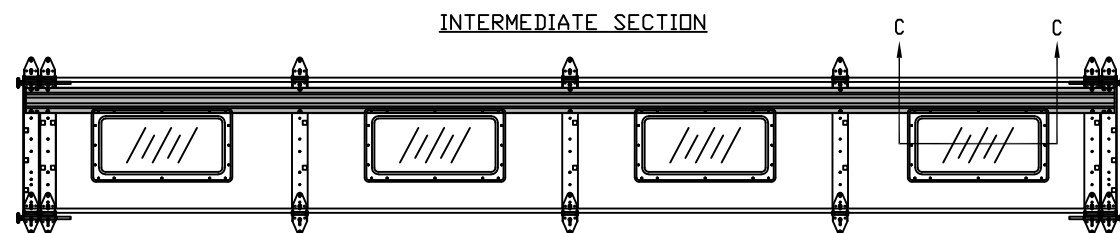
OPTIONAL GLAZED SECTION W/ 24" X 6" WINDOWS AND STRUT LAYOUT
N.T.S.



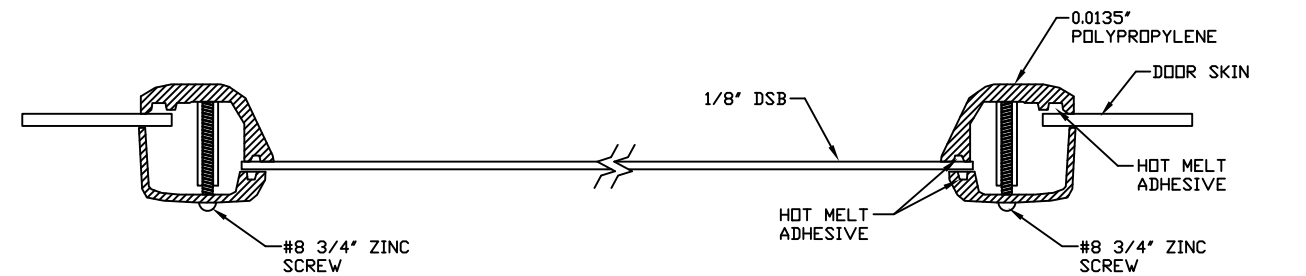
OPTIONAL GLAZED SECTION W/ 24" X 6" WINDOWS AND STRUT LAYOUT
N.T.S.



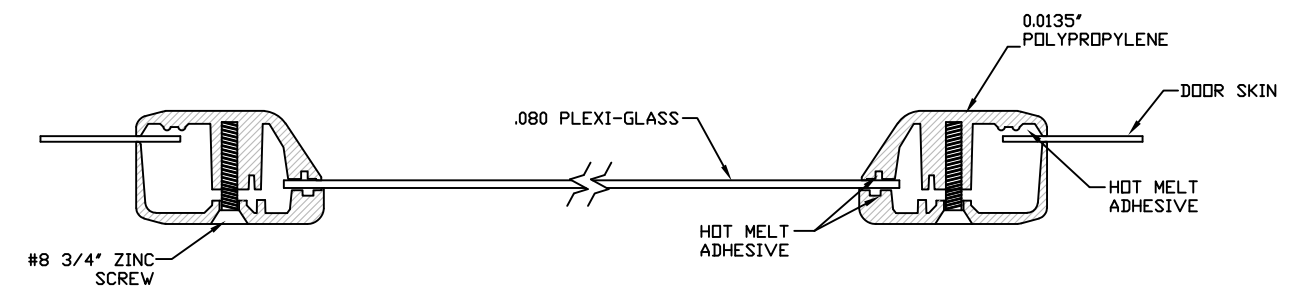
OPTIONAL GLAZED SECTION W/ 24" X 12" WINDOWS AND STRUT LAYOUT
N.T.S.



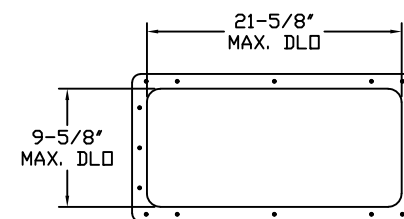
OPTIONAL GLAZED SECTION W/ 24" X 12" WINDOWS AND STRUT LAYOUT
N.T.S.



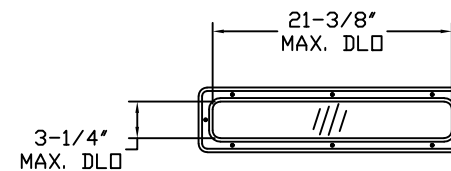
SECTION B-B 24" X 6" WINDOW DETAIL W/ 1/8" DSB
N.T.S. (ALSO AVAILABLE WITH .080" PLEXI-GLASS)



SECTION C-C 24" X 12" WINDOW DETAIL W/ .080 PLEXI-GLASS
N.T.S.



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
A			
MAX SIZE 16'2" x 24' DESIGN LOADS +31.2 PSF -35.3 PSF TEST LOADS +46.8 PSF -53.0 PSF THOMAS L. SHELMERDINE LICENSE No. 48579 See Digital Signature STATE OF FLORIDA PROFESSIONAL ENGINEER This document has been digitally signed & sealed by Thomas L. Shelmerdine, PE on the date shown. Printed copies of this document are not considered signed & sealed, and the signature must be verified on any electronic copies. Thomas L. Shelmerdine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412) dba Structural Solutions of North Carolina, Inc. 5921-G W. Friendly Ave., Greensboro, NC 27410 FL			
Amarr AMARR 2402, 2412, 2422 AMARR 2002, 2012, 2022			
SIZE B	DRAWN BY DRD	DATE 6/7/18	DRAWING NUMBER IBC-2416-150-26
	CHECKED BY RLR	DATE 10/01/18	
AMARR COMPANY 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			SHEET 3 OF 4

TABLE 1

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"	-	39.6	44.8
9'	6"	37"	77"	-	39.1	44.2
9'	8"	38"	78"	-	38.6	43.6
9'	10"	39"	79"	-	38.1	43.1
10'	0"	40"	80"	-	37.6	42.5
10'	2"	41"	81"	-	37.1	42.0
10'	4"	42"	82"	-	36.7	41.5
10'	6"	43"	83"	-	36.2	41.0
10'	8"	44"	84"	-	35.8	40.5
10'	10"	45"	85"	-	35.4	40.0
11'	0"	46"	86"	-	35.0	39.6
11'	2"	47"	87"	-	34.6	39.1
11'	4"	48"	88"	-	34.2	38.7
11'	6"	49"	89"	-	33.8	38.2
11'	8"	50"	90"	-	33.4	37.8
11'	10"	51"	91"	-	33.0	37.4
12'	0"	48"	96"	-	31.3	35.4
12'	2"	49"	97"	-	31.0	35.1
12'	4"	50"	98"		30.7	34.7
12'	6"	51"	99"		30.4	34.4
12'	8"	52"	100"		30.1	34.0
12'	10"	53"	101"		29.8	33.7
13'	0"	36"	78"	120"	35.8	40.5
13'	2"	37"	79"	121"	35.8	40.5
13'	4"	38"	80"	122"	35.8	40.5
13'	6"	39"	81"	123"	35.8	40.5
13'	8"	40"	82"	124"	35.8	40.5
13'	10"	41"	83"	125"	35.8	40.5
14'	0"	42"	84"	126"	35.8	40.5
14'	2"	43"	85"	127"	35.4	40.0
14'	4"	44"	86"	128"	35.0	39.6
14'	6"	45"	87"	129"	34.6	39.1
14'	8"	46"	88"	130"	34.2	38.7
14'	10"	47"	89"	131"	33.8	38.2
14'	0"	48"	90"	132"	33.4	37.8
15'	2"	49"	91"	133"	33.0	37.4
15'	4"	50"	92"	134"	32.7	37.0
15'	6"	51"	93"	135"	32.3	36.6
15'	8"	52"	94"	136"	32.0	36.2
15'	10"	53"	95"	137"	31.6	35.8
16'	0"	48"	96"	144"	31.3	35.4
16'	2"	49"	97"	145"	31.2	35.3

TABLE 2

DOOR HEIGHT		TRACK ATTACHMENT																					TYPICAL	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	SPLICE
7'	0"	10.0"	22.0"	34"	46"	58"																		76"
7'	6"	10.0"	22.0"	34"	46"	58"	70"																	82"
8'	0"	10.0"	22.0"	34"	46"	58"	70"																	88"
8'	6"	10.0"	22.0"	34"	46"	58"	70"	82"																94"
9'	0"	10.0"	22.0"	34"	46"	58"	70"	82"																100"
9'	6"	10.0"	22.0"	34"	46"	58"	70"	82"	94"															106"
10'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"															112"
11'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"														124"
12'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"													136"
13'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"												148"
14'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"											160"
15'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"										172"
16'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"									184"
17'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"								196"
18'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"							208"
19'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"						220"
20'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"					232"
21'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"				244"
22'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"			256"
23'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"		268"
24'	0"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"	262"	280"

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

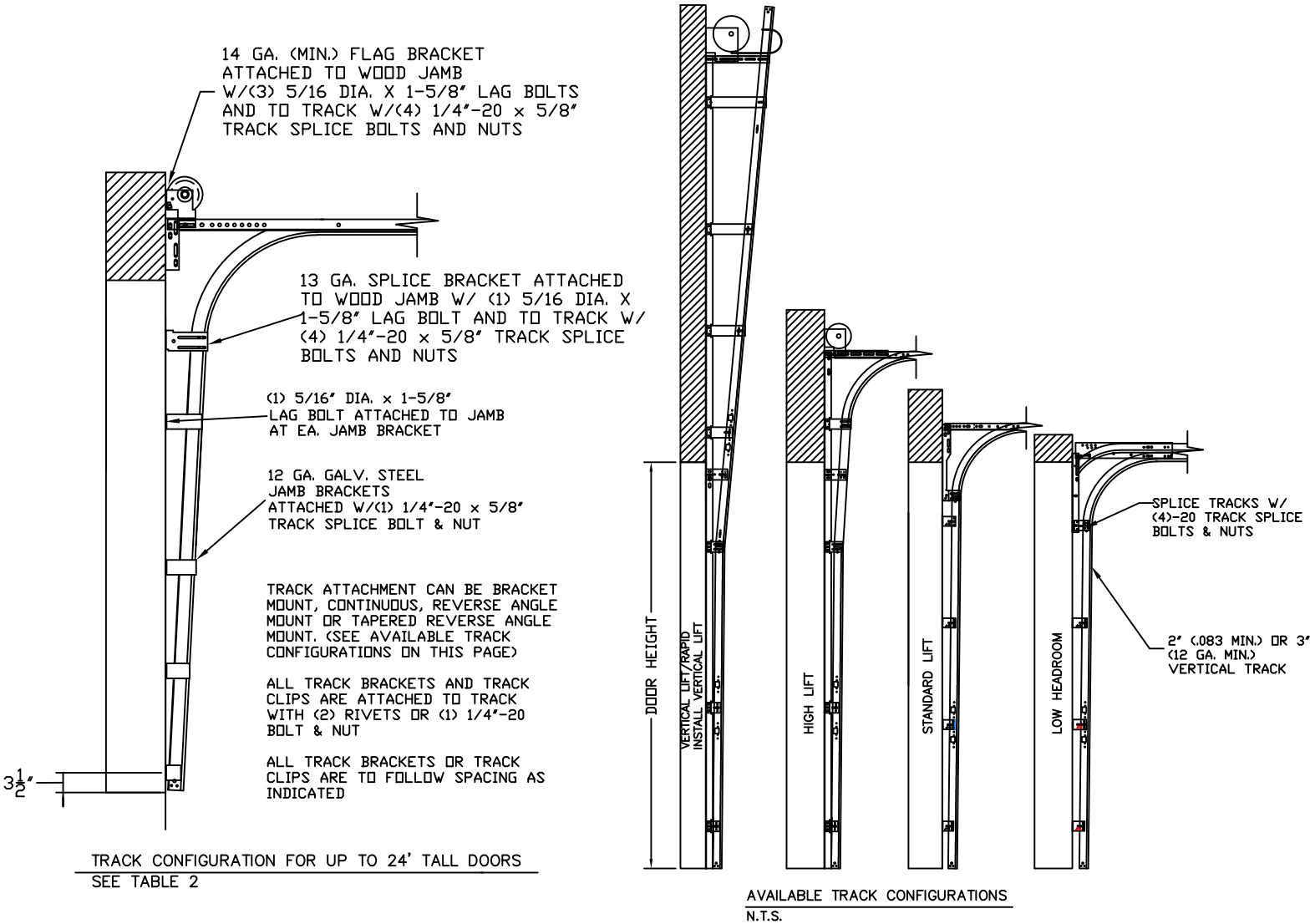


TABLE 3

SECTION	
TOP	5.5"
11TH	5.5"
10TH	5.5"
9TH	5.5"
8TH	5.5"
8TH	5.5"
7TH	5.5"
6TH	5.5"
5TH	5.5"
4TH	5.5"
3RD	5.5"
2ND	5.5"
BTM	3"

REV	DESCRIPTION OF REVISIONS	DATE	BY
A			

MAX SIZE
16'2" x 24'

DESIGN LOADS
+31.2 PSF
-35.3 PSF

TEST LOADS
+46.8 PSF
-53.0 PSF

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LICENSE
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STATE OF FLORIDA
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Amarr

AMARR 2402, 2412, 2422
AMARR 2002, 2012, 2022

SIZE	DRAWN BY	DRD	DATE	6/7/18	DRAWING NUMBER
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AMARR COMPANY
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 4 OF 4