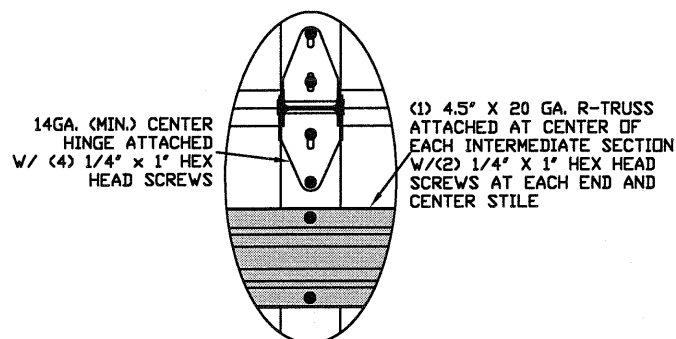


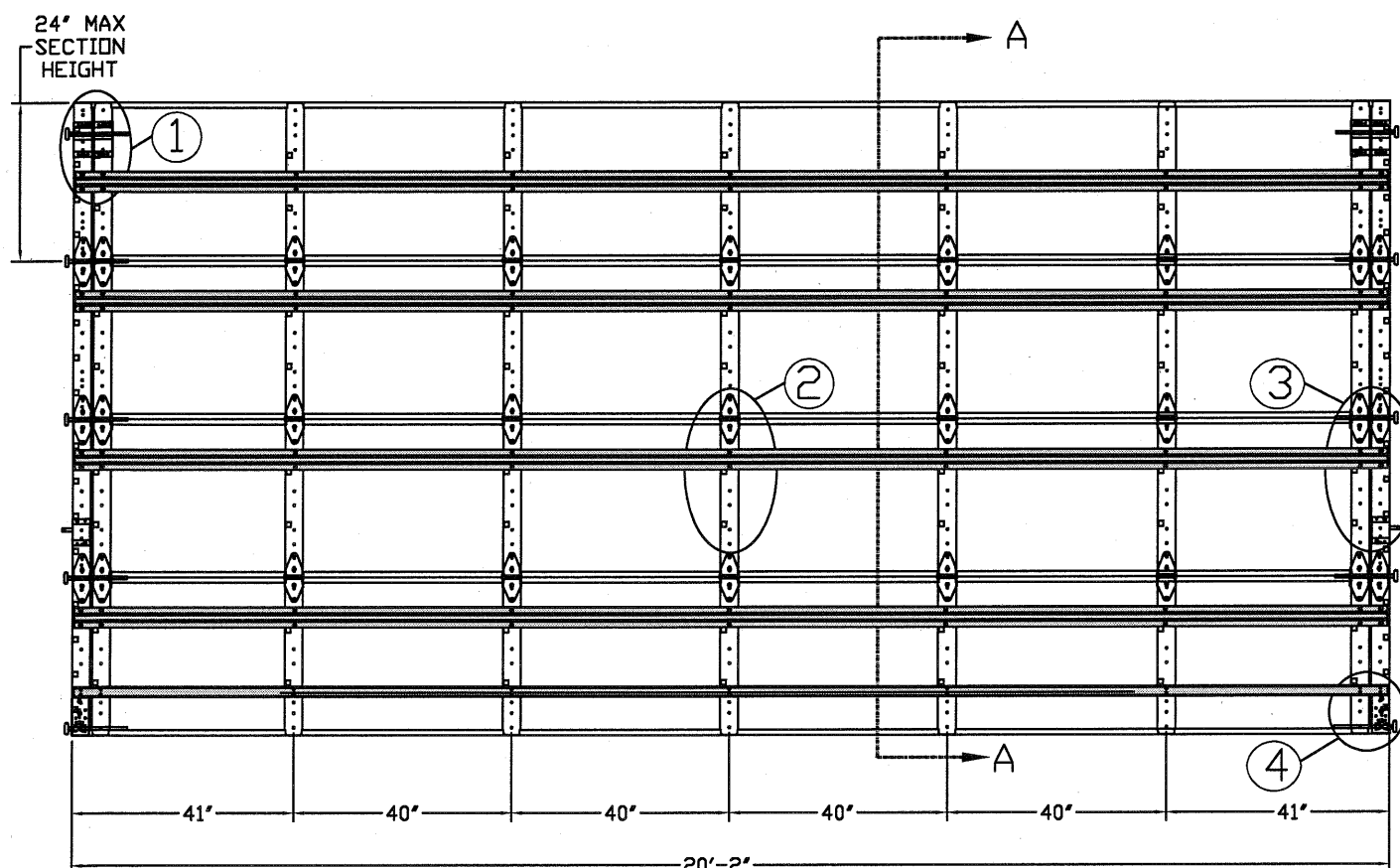
TYPICAL TOP FIXTURES
N.T.S.

1

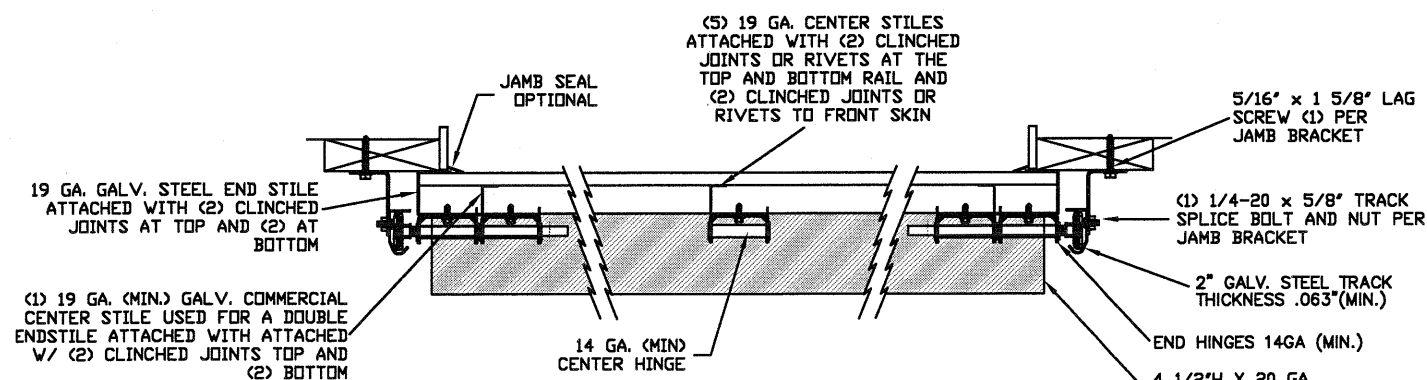


TYPICAL CENTER HINGE
N.T.S.

2

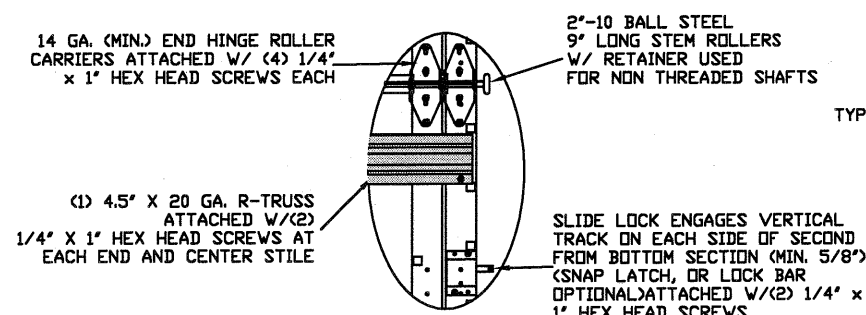


INSIDE ELEVATION
N.T.S.



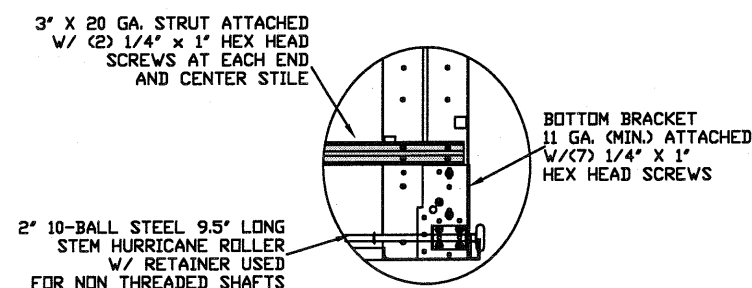
TRACK MOUNTING DETAIL
N.T.S.

EDGE OF DOOR 1" OVERLAP ON EACH SIDE



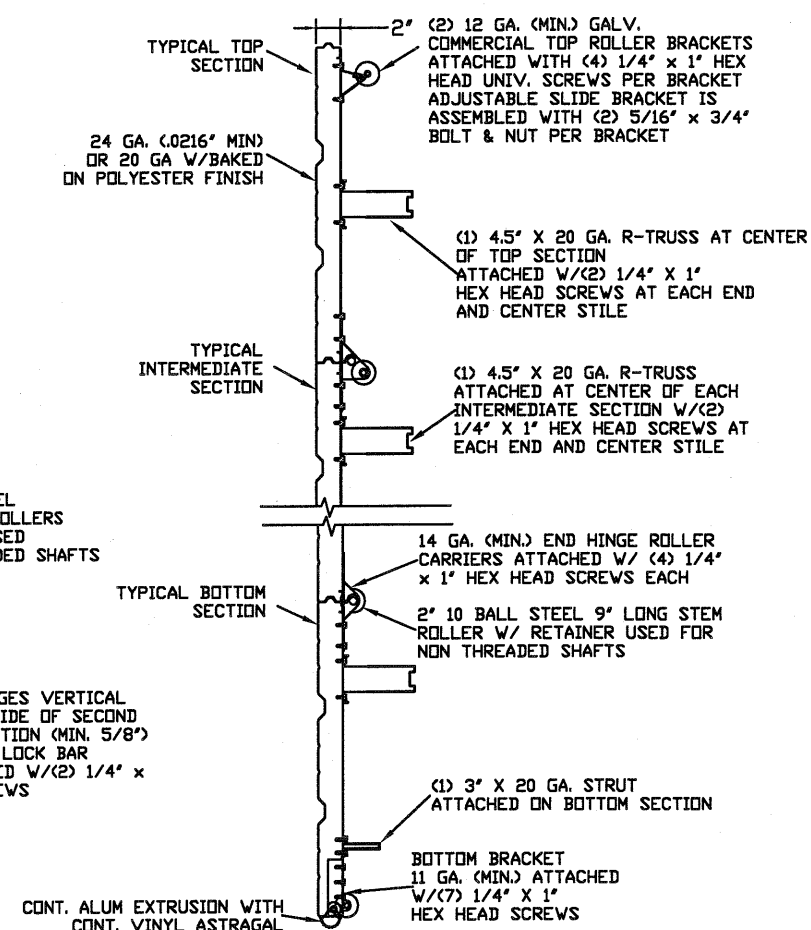
TYPICAL END HINGE
N.T.S.

3



TYPICAL BOTTOM BRACKET
N.T.S.

4



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

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 7-16 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN END ZONE, ROOF SLOPE 10° OR LESS):

WIND SPEED (MPH)	135	122	116	111	106
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
20'2" x 24'

DESIGN LOADS
+14.7 PSF
-16.5 PSF

TEST LOADS
+22.1 PSF
-24.8 PSF

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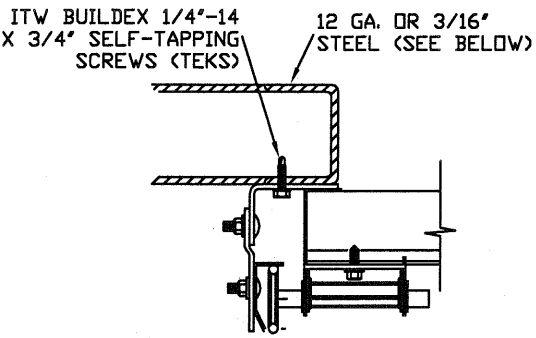
Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)

Amarr

MODEL 2400 AMARR 2402, 2412, 2422
MODEL 2000 AMARR 2002, 2012, 2022

SIZE B	DRAWN BY RS	DATE 10/06/14	DRAWING NUMBER IBC-2420-104-24
	CHECKED BY RLR	DATE 10/06/14	
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			SHEET 1 OF 4

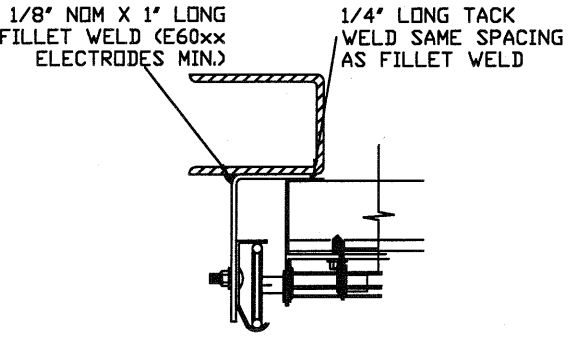
TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



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

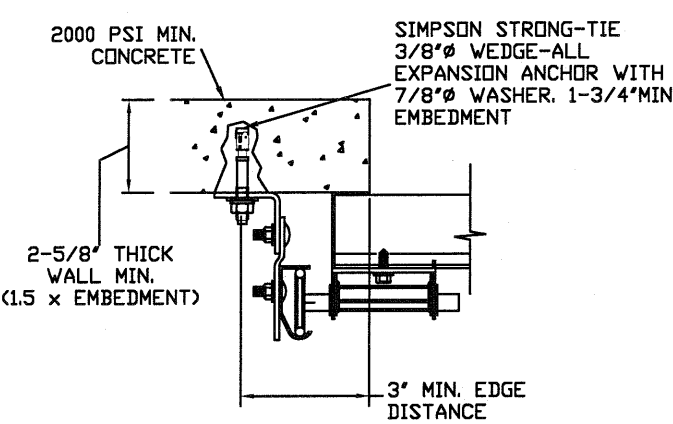
12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6'
FROM ENDS AND 18" O.C.
REFER TO NOTES: 1, 2 AND 5

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



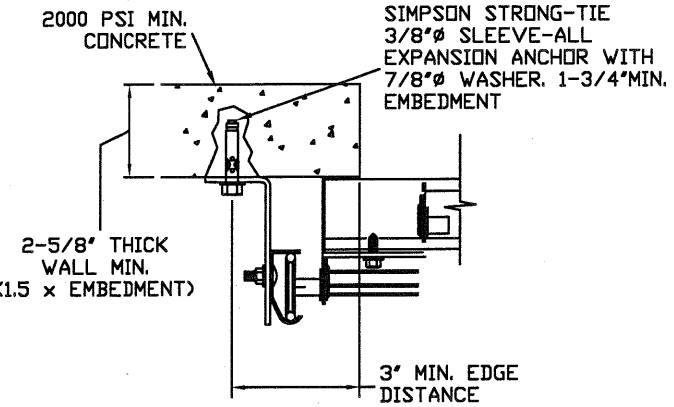
REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND
TAPERED ANGLE MOUNT AVAILABLE

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:
+148.2 LBS/FT & -166.4 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 USE (1) 4-1/2" 20GA R-TRUSS ON EVERY SECTION & (1) 3" 20GA STRUT ON THE 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.

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 24" 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 24" 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. 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.

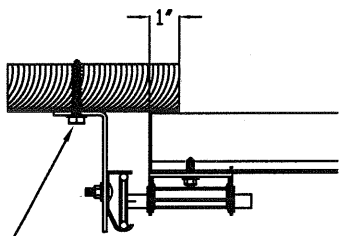
INTERIOR OF GARAGE

MAX. WIDTH 20'2"

DESIGN LOADS
+148.2 LBS/FT
-166.4 LBS/FT
SEE NOTE 2

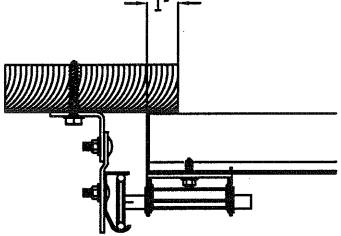
TRACK CONNECTION TO WOOD JAMB OPTIONS

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

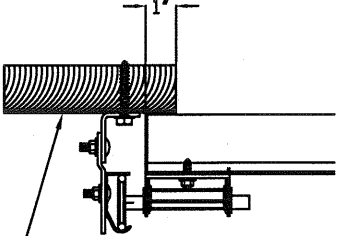


BRACKET MOUNT

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.)

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
20'2" x 24'

DESIGN LOADS
+14.7 PSF
-16.5 PSF

TEST LOADS
+22.1 PSF
-24.8 PSF

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

FL

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

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

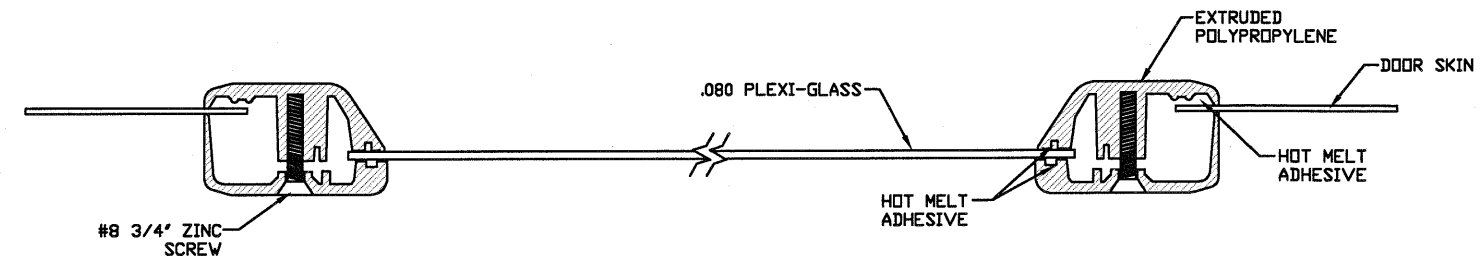
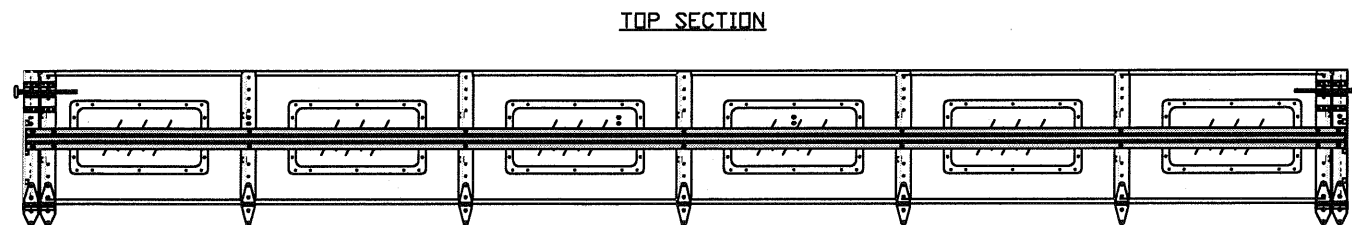
Amarr

MODEL 2400 AMARR 2402, 2412, 2422
MODEL 2000 AMARR 2002, 2012, 2022

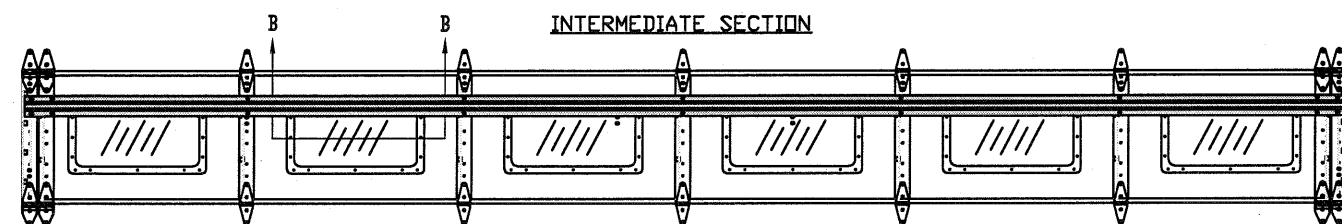
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165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

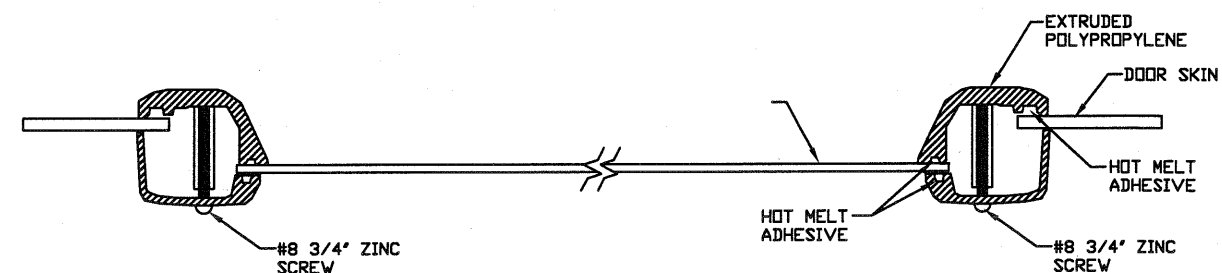
SHEET 2 OF 4



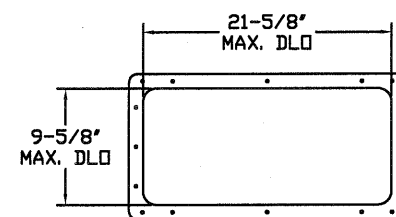
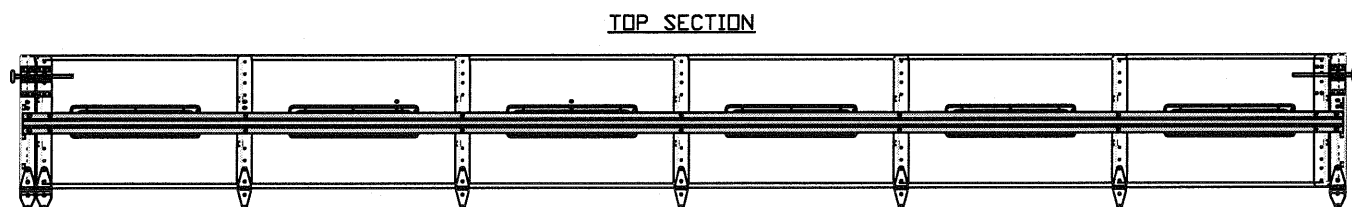
SECTION B-B 24' X 12' WINDOW DETAIL W/ .080 PLEXI-GLASS
N.T.S.



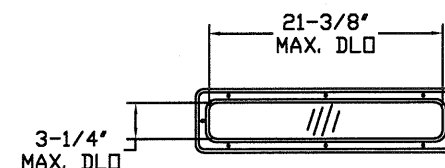
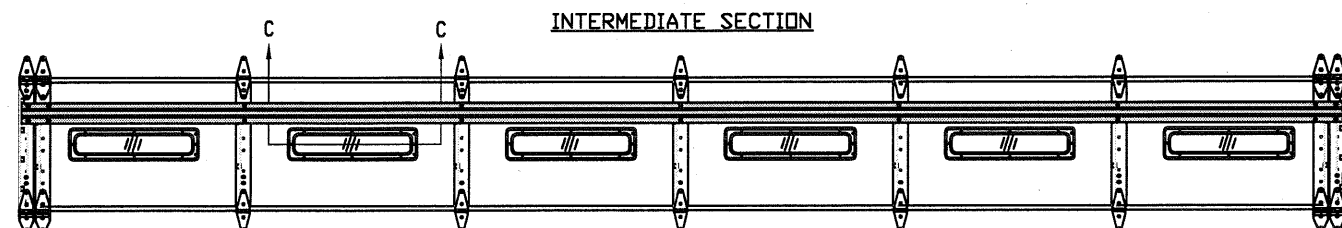
OPTIONAL GLAZED SECTION W/ 24' X 12' WINDOWS AND STRUT LAYOUT
N.T.S.



SECTION C-C 24' X 6' WINDOW DETAIL
N.T.S.



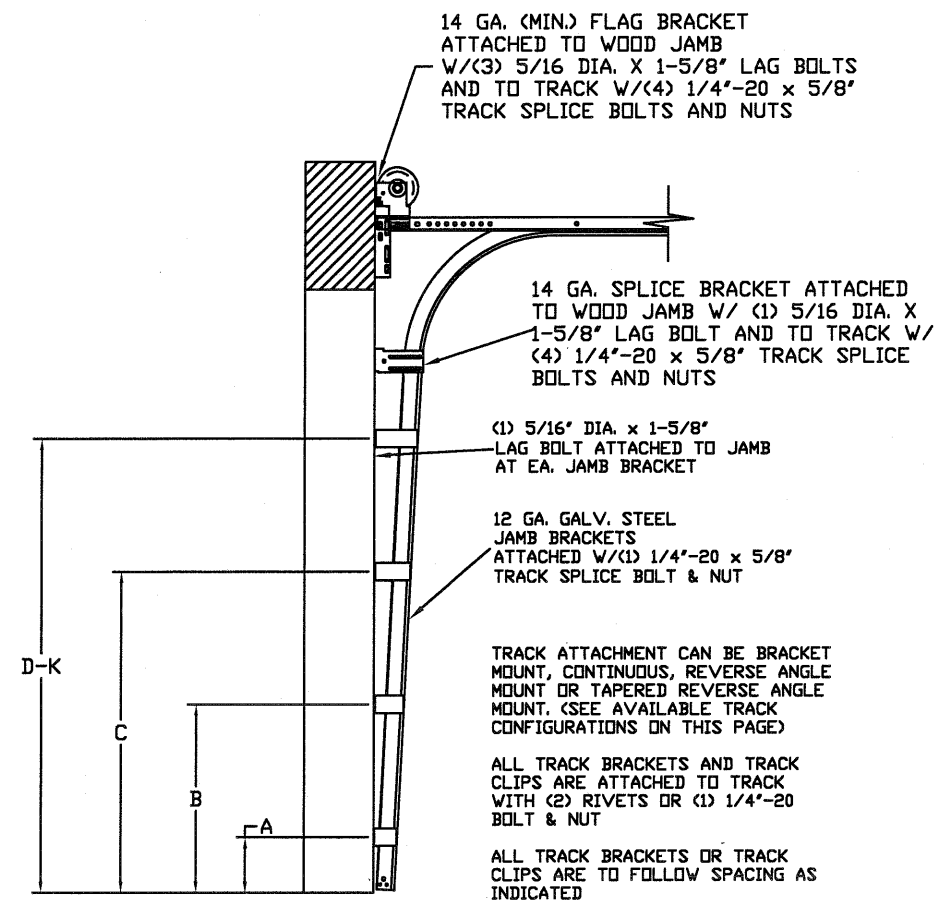
24' X 12' DAY LIGHT OPENING AND FASTENER DETAIL
N.T.S.



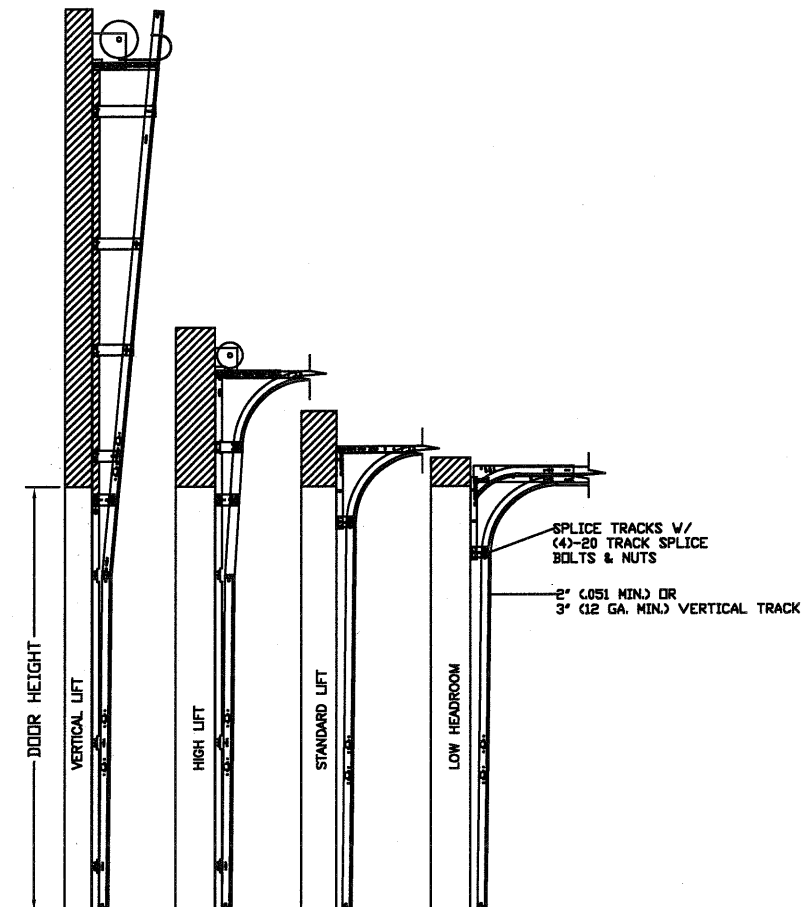
24' X 6' DAY LIGHT OPENING AND FASTENER DETAIL
N.T.S.

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

REV	DESCRIPTION OF REVISIONS	DATE	BY
MAX SIZE 20'2" x 24' DESIGN LOADS +14.7 PSF -16.5 PSF TEST LOADS +22.1 PSF -24.8 PSF Thomas L. Shelmerdine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412) Thomas L. Shelmerdine, Inc. dba Structural Solutions of North Carolina, Inc. 5921-G W. Friendly Ave., Greensboro, NC 27410			
MODEL 2400 AMARR 2402, 2412, 2422 MODEL 2000 AMARR 2002, 2012, 2022			
SIZE	DRAWN BY RS	DATE 10/06/14	DRAWING NUMBER
B	CHECKED BY RLR	DATE 10/06/14	IBC-2420-104-24
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, NC. 27105			SHEET 3 OF 4



TRACK CONFIGURATION FOR UP TO 24' TALL DOORS
SEE TABLE 2



AVAILABLE TRACK CONFIGURATIONS
N.T.S.

TABLE 1

Section Width		Center Stile Locations (Measured from Left Edge)					Max Design Loads Allowed	
(ft)	(in)	1st (in)	2nd (in)	3rd (in)	4th (in)	5th (in)	Positive (PSF)	Negative (PSF)
19'	4	36	76	116	156	196	14.8	16.7
19'	6	37	77	117	157	197	14.8	16.7
19'	8	38	78	118	158	198	14.8	16.7
19'	10	39	79	119	159	199	14.8	16.7
20'	0	40.0	80	120	160	200	14.8	16.6
20'	2	41.0	81	121	161	201	14.7	16.5

TABLE 2

DOOR HEIGHT	TRACK ATTACHMENT											TYPICAL SPLICE
	A	B	C	D	E	F	G	H	I	J	K	
7' 0"	10.0"	34"	58"									76"
7' 6"	10.0"	34"	58"									82"
8' 0"	10.0"	34"	58"									88"
8' 6"	10.0"	34"	58"	82"								94"
9' 0"	10.0"	34"	58"	82"								100"
9' 6"	10.0"	34"	58"	82"								106"
10' 0"	10.0"	34"	58"	82"								112"
11' 0"	10.0"	34"	58"	82"	106"							124"
12' 0"	10.0"	34"	58"	82"	106"							136"
13' 0"	10.0"	34"	58"	82"	106"	130"						148"
14' 0"	10.0"	34"	58"	82"	106"	130"						160"
15' 0"	10.0"	34"	58"	82"	106"	130"	154"					172"
16' 0"	10.0"	34"	58"	82"	106"	130"	154"					184"
17' 0"	10.0"	34"	58"	82"	106"	130"	154"	178"				196"
18' 0"	10.0"	34"	58"	82"	106"	130"	154"	178"				208"
19' 0"	10.0"	34"	58"	82"	106"	130"	154"	178"	202"			220"
20' 0"	10.0"	34"	58"	82"	106"	130"	154"	178"	202"			232"
21' 0"	10.0"	34"	58"	82"	106"	130"	154"	178"	202"	226"		244"
22' 0"	10.0"	34"	58"	82"	106"	130"	154"	178"	202"	226"		256"
23' 0"	10.0"	34"	58"	82"	106"	130"	154"	178"	202"	226"	250"	268"
24' 0"	10.0"	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
20'2" x 24'

DESIGN LOADS
+14.7 PSF
-16.5 PSF

TEST LOADS
+22.1 PSF
-24.8 PSF

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ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			SHEET 4 OF 4