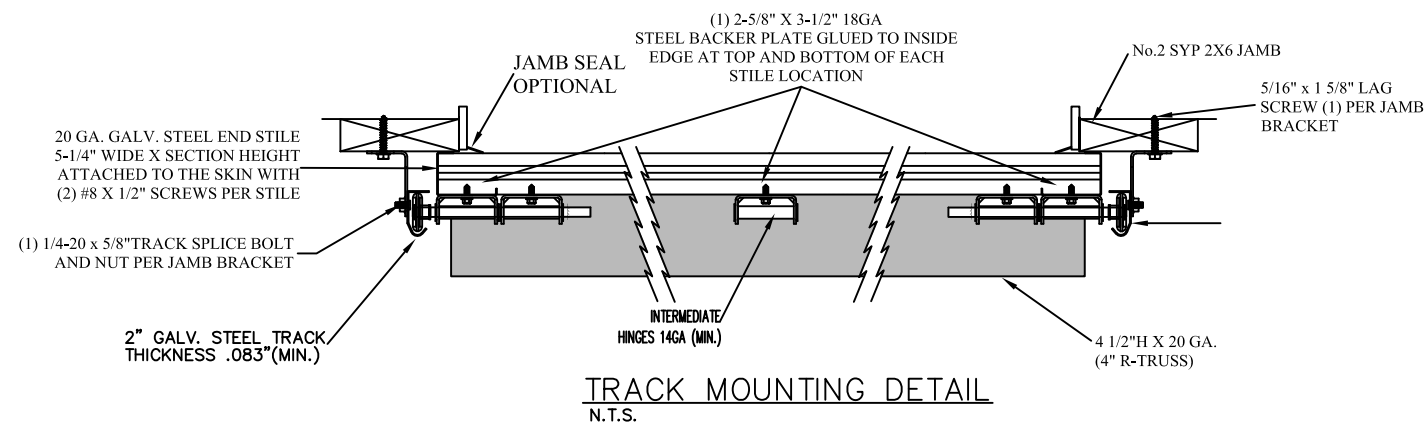
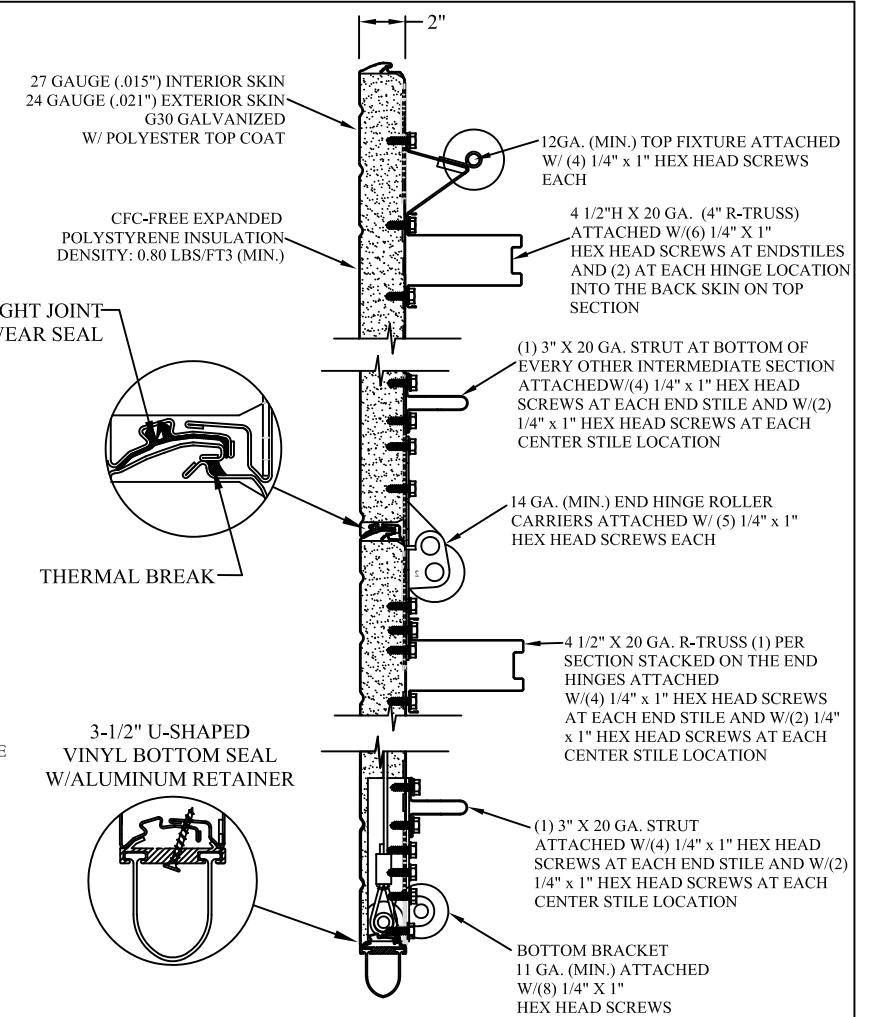
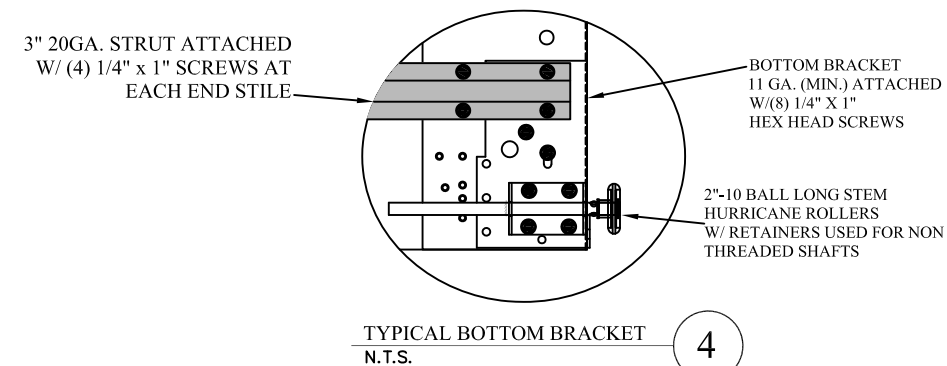
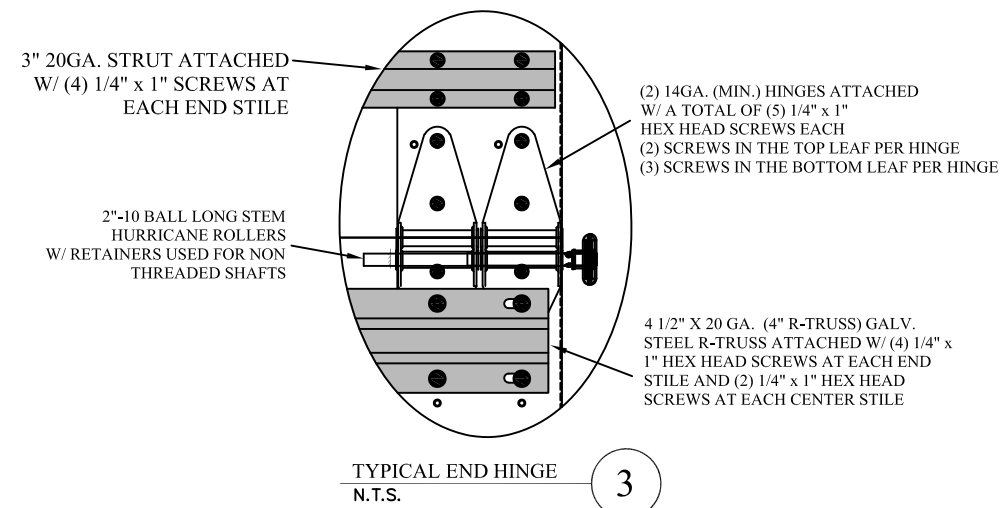
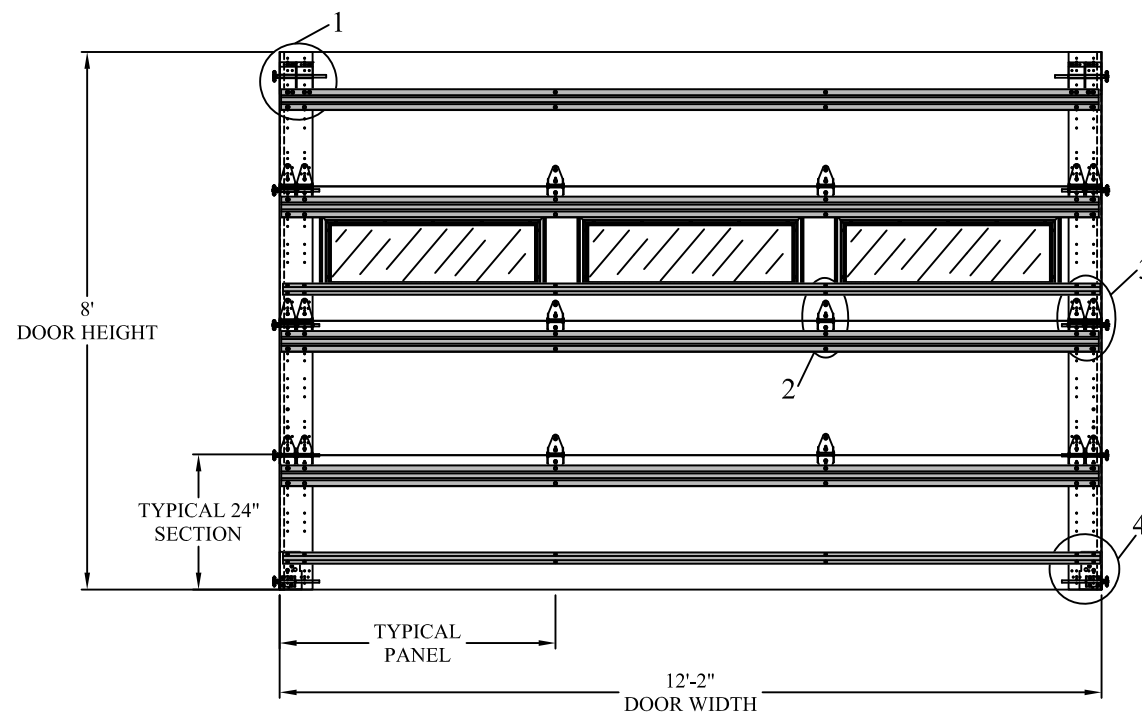
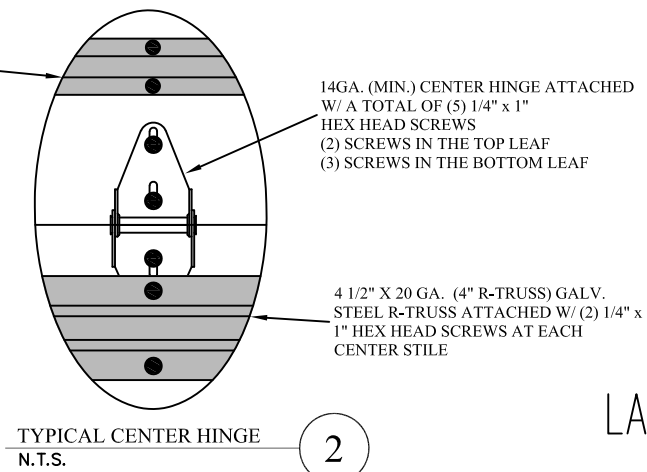
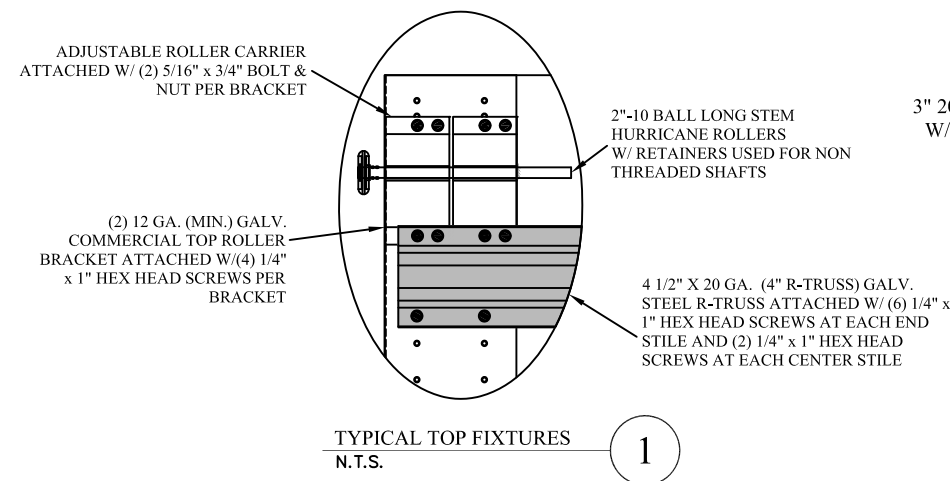




THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURE DESCRIBED IN ASTM E330, E1886, E1996 & F588, DASMA 108 & 115. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-22 WITH THE FOLLOWING PARAMETERS(5 FEET OF DOOR WIDTH IN THE END ZONE, ROOF AT LESS THAN OR EQUAL TO 10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

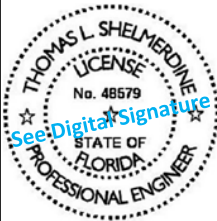
REV	DESCRIPTION OF REVISIONS	DATE	BY

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



See Digital Signature

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Thomas L Shelmerdine

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DN: c=US, o=North Carolina,
dnQualifier=A01410D000001856487A7B1
00125CE2, cn=Thomas L Shelmerdine
Date: 2023.09.28 07:21:50 -04'00'

Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)
d921-Structural Solutions of North Carolina, Inc.
5921-G W. Friendly Ave., Greensboro, NC 27410

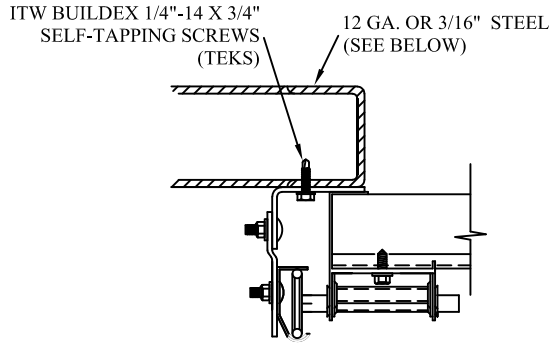
FL

*A*marr

AMARR 2432

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

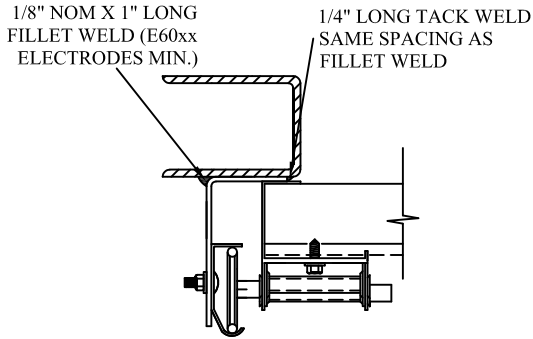
TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



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

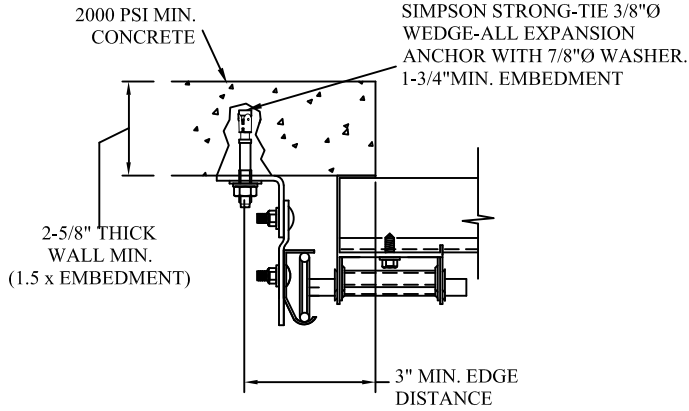
12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6" FROM ENDS
AND 8" O.C.
REFER TO NOTES: 1, 2 AND 5

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



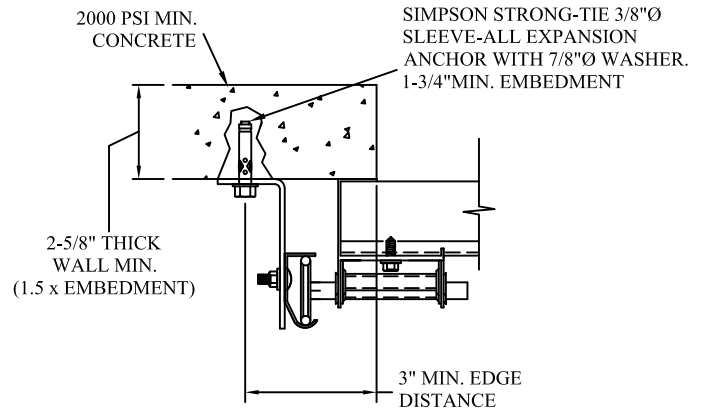
REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED
ANGLE MOUNT AVAILABLE

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)

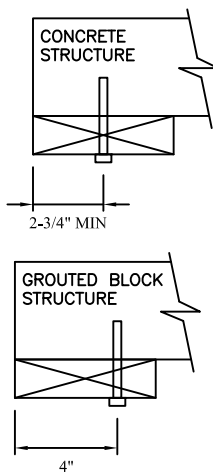
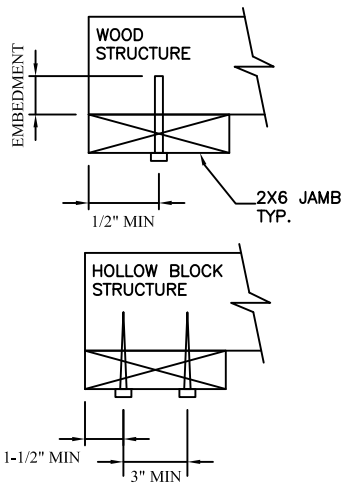
2 X 6 VERTICAL JAMB ATTACHMENT TO GROUTED C-90 BLOCK (MULTI SLEEVE ANCHOR 3/8" X 6 3/4" STARTING 6" FROM ENDS

HILTI SLEEVE ANCHOR 3/8" X 2-3/4"
THEN 14" O.C. (1 1/4" EMBEDMENT)

THEN 14 O.C. (1 1/4" EMBEDMENT)
(OR USE FASTENERS FOR HOLLOW C-80 BLOCK)

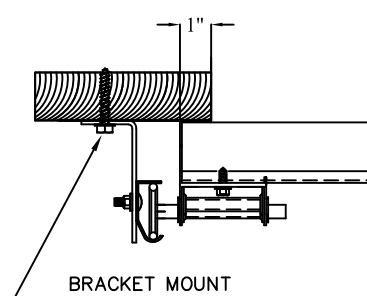
*LAGS AND BOLTS CAN BE COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE

*LAGS AND BOLTS CAN BE COUNTERSUNK
*PREPARATION OF WOOD JAMBS BY OTHERS

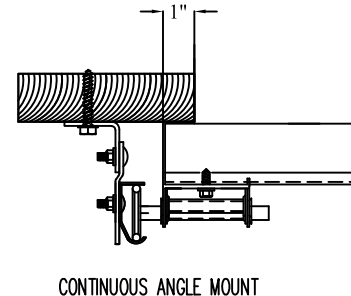


TRACK CONNECTION TO WOOD JAMB OPTIONS

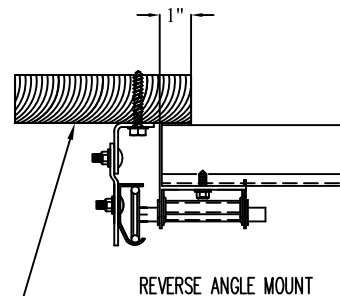
FOR LAG SCREWS & BRACKET SPACING SEE PAGE 4 FOR TRACK CONFIGURATION DETAIL



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



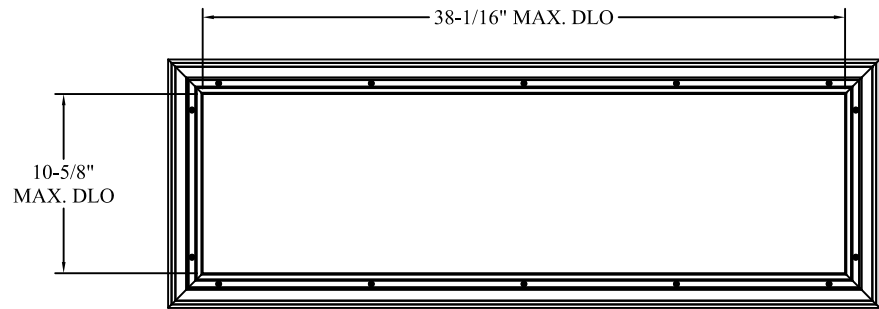
CONTINUOUS ANGLE MOUNT



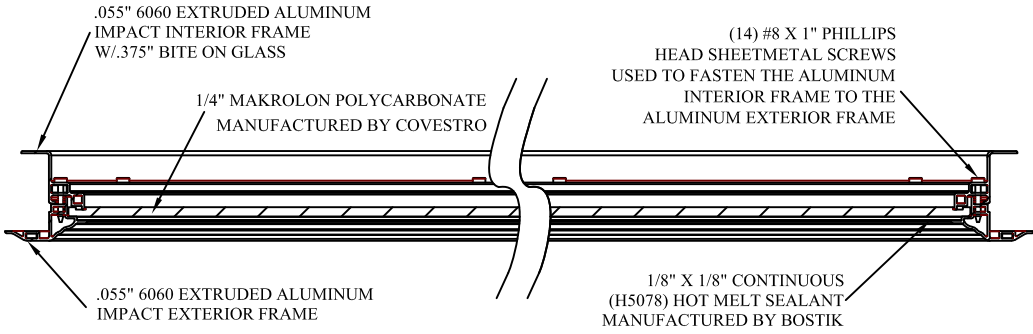
2x6 WOOD JAMB SYP OR SPF
(NO.2) OR BETTER (TYP.)

- 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. 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.

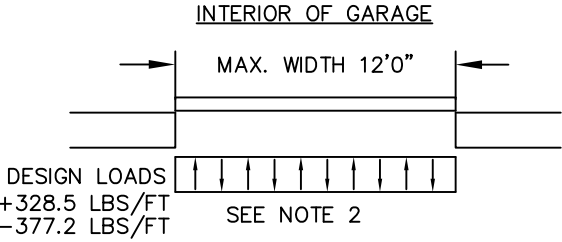
REV	DESCRIPTION OF REVISIONS	DATE	BY
MAX SIZE 12'2" x 24' DESIGN LOADS +54.0 PSF -62.0 PSF TEST LOADS +81.0 PSF -93.0 PSF LARGE MISSILE IMPACT RESISTANCE		This document has been digitally signed & sealed by Thomas L. Shelmerdine, PE on the date shown. Printed copies of this document are not considered signed & sealed, and the signature must be verified on any electronic copies. FL  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	
			
AMARR 2432			
SIZE	DRAWN BY	RLR	DATE 03/23/17
B	CHECKED BY	RLR	DATE 03/23/17
AMARR COMPANY 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			DRAWING NUMBER IBC-1012-195-24-I SHEET 2 OF 4



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

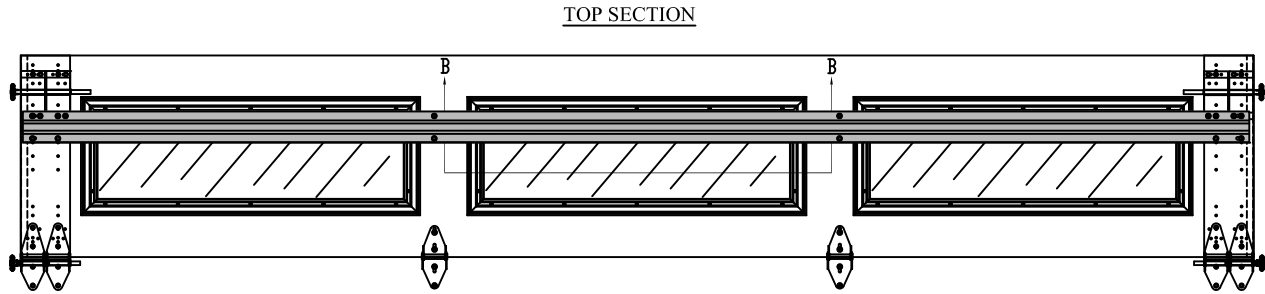


SECTION B-B IMPACT WINDOW DETAIL
N.T.S.

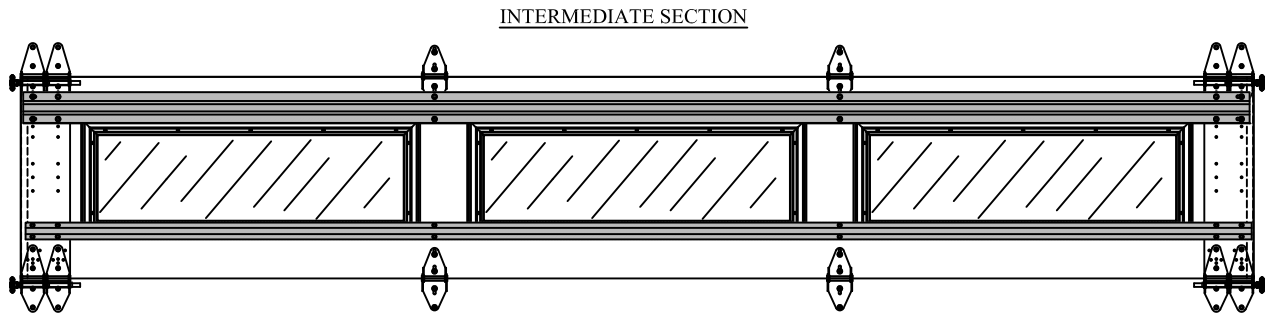


SPECIFICATIONS AND NOTES

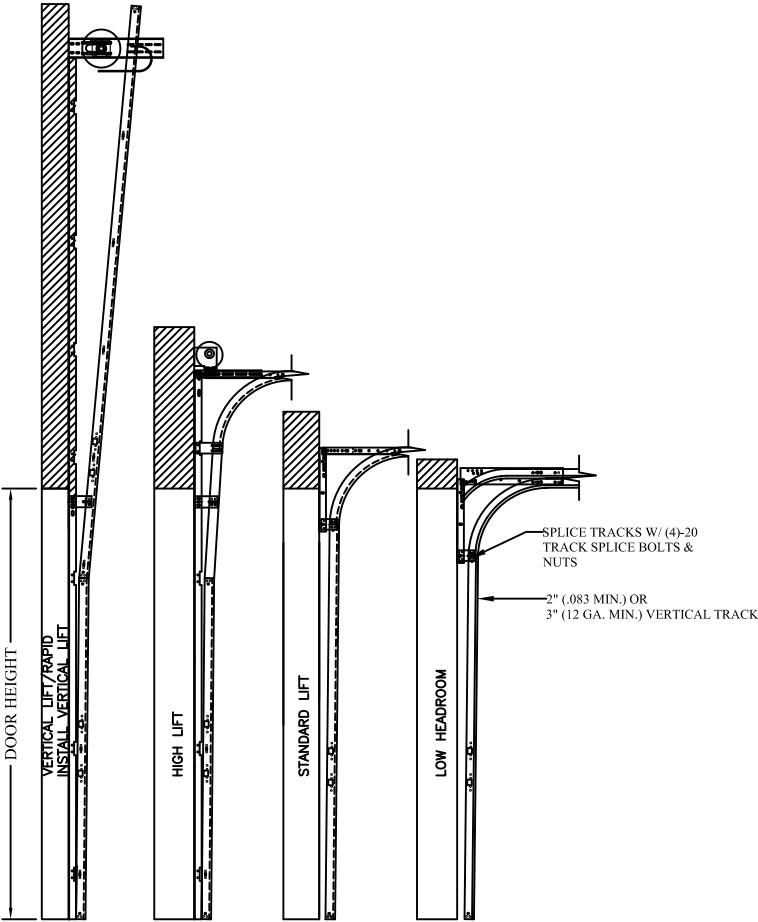
1. ALL THE LOAD FROM THE DOOR IS TRANSFERRED TO THE VERTICAL TRACK, FROM THE TRACK THE LOAD IS TRANSFERRED TO THE VERTICAL JAMBS. THE HORIZONTAL JAMB OR HEADER RECEIVES NO PORTION OF THE LOAD TRANSFERRED FROM THE DOOR.
2. EACH VERTICAL JAMBS RECEIVES MAXIMUM DESIGN LOADS OF: +328.5 LBS/FT & -377.2 LBS/FT
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.



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



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



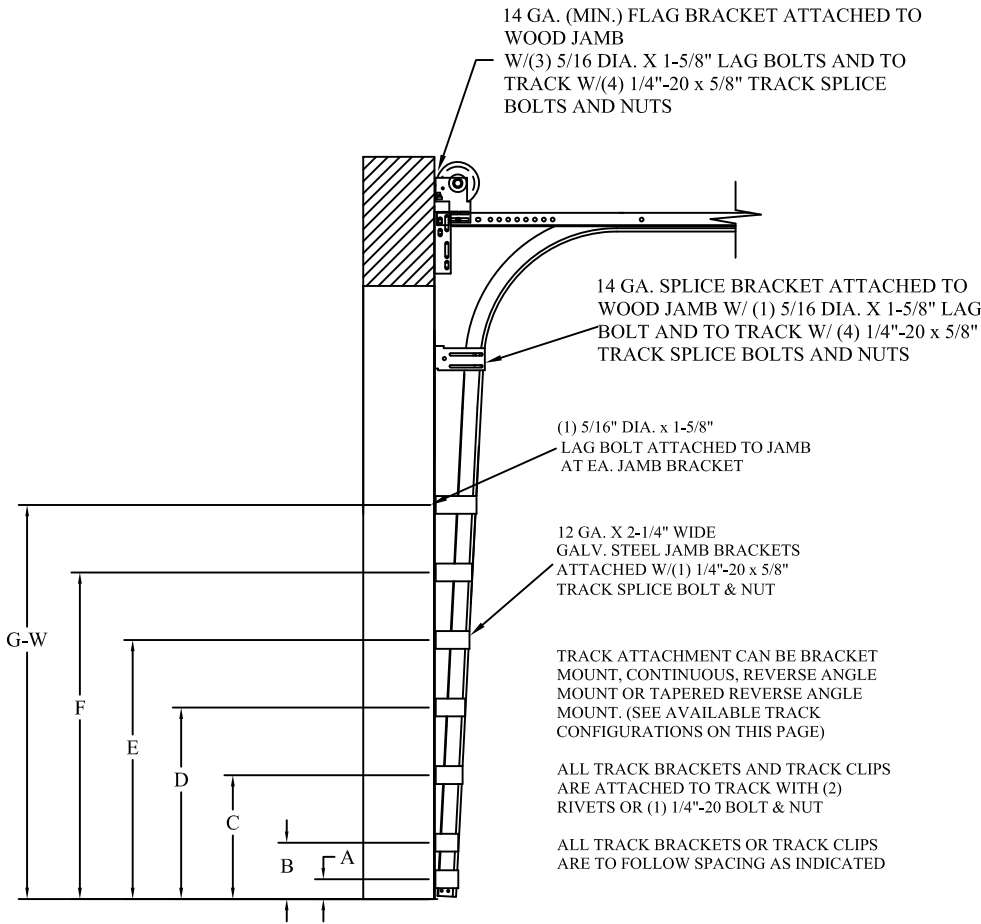
AVAILABLE TRACK CONFIGURATIONS
N.T.S.

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 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 2432			
SIZE	DRAWN BY	RLR	DATE 03/23/17
B	CHECKED BY	RLR	DATE 03/23/17
AMARR COMPANY 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			
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	U	V		W
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"															112"
11'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"														124"
12'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"													136"
13'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"												148"
14'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"											160"
15'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"										172"
16'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"									184"
17'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"								196"
18'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"							208"
19'	0"	3.5"	10.0"	22.0"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"						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"					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"	238"			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"	238"	250"		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"	238"	250"	262"	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"

TABLE 3

SECTION	
12TH	4.5"
11TH	4.5"
	3"
10TH	4.5"
9TH	4.5"
	3"
8TH	4.5"
7TH	4.5"
	3"
6TH	4.5"
5TH	4.5"
	3"
4TH	4.5"
3RD	4.5"
	3"
2ND	4.5"
BOTTOM	4.5"
	3"

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		 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 2432					
SIZE B	DRAWN BY RLR	DATE 03/23/17	DRAWING NUMBER IBC-1012-195-24-I		
CHECKED BY RLR			DATE 03/23/17		
AMARR COMPANY 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			SHEET 4 OF 4		