L. Roberto Lomas P.E.

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Product: Single door 3'x6'8" (Composite frame)

Scope:

This analysis provides calculations, quantities, and spacing requirements for installing product to substrate, and it applies only to the product described herein. These calculations comply with requirements of the Florida Building Code. Anchor capacity in shear condition:

Solid members w/ & w/out gap: . With threads pro

a. With threads prese												
	Fastener typ				(NDS 2012	2, NDS 20	15, TR12)					
Nominal diameter: D: 0.190 in							Gap:	g:				
	Root diamete		Dr: 0.152					ment arm:		0.0000 in		
Minimum req	uired penetratio	n:	p: 1.140) in	Screw bending yield strength:				F _{yb} =	80,000 ps	i	
Side member: PVC			Main member:				Spruce-Pin	e-Fir (G=0.42	2)			
Side member thickness: $t_s = 1.000$ in			Main member thickness:				† _m =	1.500 in				
Side member dowel bearing strength: F _{es} = 10,000 psi			Main member dowel bearing strength:				F _{em} =	3,350 ps	i			
Side member dou	vel bearing lengt	h:	l _s = 1.000) in	Main	member de	owel beari	ing length:	I _m =	1.140 in		
Mode I _m	Mode Is		M	ode II	Mode	III _m		Mode	: III _s		Mod	le IV
m = 636.5 lbs/in	qs = 190	0 lbs/in	A	0.0005	A:	0.00066	-	A:	0.00092		A:	0.00105
P = 725.61 lbs		0 lbs	В	1.07	B:	0.57		B:	0.5		B:	0.000
K _D = 2.400	K _D = 2.40	00	С	-681.799	<i>C</i> :	-253.623		С:	-521.824		C:	-93.6
Z _m = 302 lbs	Z _s = 79	2 lbs	P =	510 lbs	Ms =	46.8	in-lbs	Mm =	46.8	in-lbs		
			K _D =	2.400	P =	324	lbs	P =	529	lbs	P =	299
Min. Design value:	Z= 12	5 lbs	Z=	212 lbs	K _D =	2.400		K _D =	2.400		K _D =	2.400
Duration Factor:	C _D = 1	.6			Z=	135	lbs	Z=	221	lbs	Z=	125
Allowable De	sign Value (ZC _c): 2	2'= 199	lbs/anchor								
	Fastener typ	e: 1/4 I	TW Tapcon			Tabulate	d values					
		N.O.A	. 16-1222.06			edge	spaci	ing (in)				
	Substrat	e: Hollov	/ block			distance	2.00	4.00				
Mir	nimum embedmer	t: 1	.25 in			2.00	130	161				
						4.00	163	202				
	ual edge distanc	e: 2	.50 in		L	4.00		LOL				
Act Act	ual C To C spacir	g: 3	.00 in		L	4.00		LOL				
Act Act	5	g: 3	.00 in	i Ibs/anchor (per	interpolation w			LUL				
Act Act	ual C To C spacir	g: 3 2: Z	.00 in	-	-	vhen neede	ed)	um Design M	lanual, sect	tion J.5.5)		
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///IIIIII Luis R. Lomas P.E. FL No.: 62514 10/10/2017

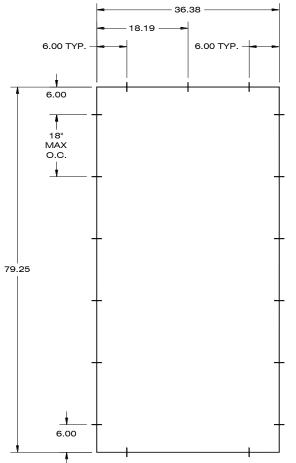
L. Roberto Lomas P.E.

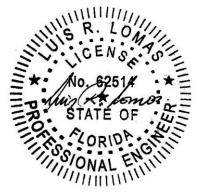
1432 Woodford Rd. Lewisville, NC 27023 434-688-0609 rllomas@Irlomaspe.com Manufacturer: Masonite Report #: 514014A Date: 10/10/2017

Anchor calculations, minimum required anchors

36.38		Design pressure: 85.0 psf								
		Area	Laad	Ind.	Max.	Anchor				
,A1,	Zone	(ft ²)	Load (Ibs)		O.C.	Cap.	Ot <i>i</i>	Load	Result	
79.25		(11)	(IDS)	(in)	(in)	(lbs)	Qty	(lbs)		
A2 A2	A ₁	2.3	195	N/A	N/A	145	2	98	OK	
	A ₂	7.7	656	6.00	18.00	145	5	131	OK	

Anchor Locations:





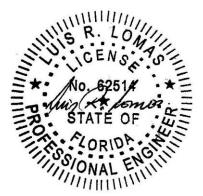
Luis R. Lomas P.E. FL No.: 62514 10/10/2017

L. Roberto Lomas P.E.

1432 Woodford Rd. Lewisville, NC 27023 434-688-0609 rllomas@lrlomaspe.com

Installation instructions:

- 1. FOR ANCHORING THROUGH FRAME INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 1/2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN BELOW.
- FOR ANCHORING THROUGH FRAME INTO MASONRY/CONCRETE USE 1/4" TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 2 1/2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN BELOW.
- 3. FOR ANCHORING THROUGH FRAME INTO METAL STRUCTURE USE #10 SMS OR SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL WITH 1/2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN BELOW.
- 4. ALL FASTENERS TO BE CORROSION RESISTANT.
- 5. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BELOW:
 - A. WOOD: MINIMUM SPECIFIC GRAVITY OF G=0.42
 - B. CONCRETE: MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.
 - C. MASONRY: HOLLOW/FILLED BLOCK PER ASTM C90 WITH Fm=2,000PSI MINIMUM. D. METAL STRUCTURE: STEEL 18GA (.048") FY=33KSI/FU=52KSI OR ALUMINUM 6063-T5 FU=30KSI .052" THICK MINIMUM
- 6. ANCHOR LOCATIONS SHOWN IN THIS DOCUMENT ARE THE MINIMUM REQUIRED FOR THE DESCRIBED PRODUCT EXPOSED AT THE DESIGN PRESSURE INDICATED HEREIN.
- 7. WOOD FRAMING AND MASONRY OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
- 8. 1X BUCK OVER MASONRY/CONCRETE IS OPTIONAL.
- WHERE SHIM OR BUCK THICKNESS IS LESS THAN 1-1/2" UNITS MUST BE ANCHORED THROUGH FRAME IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. ANCHORS SHALL BE SECURELY FASTENED DIRECTLY INTO MASONRY, CONCRETE OR OTHER STRUCTURAL SUBSTRATE MATERIAL.
- 10. WHERE WOOD BUCK THICKNESS IS 1-1/2" OR GREATER, BUCK SHALL BE SECURELY FASTENED TO MASONRY, CONCRETE OR OTHER STRUCTURAL SUBSTRATE. UNITS MAY BE ANCHORED THROUGH FRAME TO SECURED WOOD BUCK IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
- 11. WHERE 1X BUCK IS NOT USED DISSIMILAR MATERIALS MUST BE SEPARATED WITH APPROVED COATING OR MEMBRANE. SELECTION OF COATING OR MEMBRANE IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
- 12. BUCKS SHALL EXTEND BEYOND WINDOW INTERIOR FACE SO THAT FULL FRAME SUPPORT IS PROVIDED.



Luis R. Lomas P.E. FL No.: 62514 10/10/2017