L. Roberto Lomas P.E.

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Product: Double Door with and without sidelites 12'x8' (wood frame)

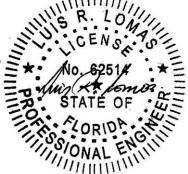
Scope:

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:

۵.	With threads prese		•										
				#10 wood			(NDS 2012	2, TR12)					
		Nominal di	ameter:	: D:	0.190	in			Gap:	g:	0.0000 in		
		Root di	ameter:	Dr:	0.152	in			Moment arm:		0.0000 in		
	Minimum req	uired pene	tration	: p:	1.140	in	S	crew bending	yield strength:	F _{yb} =	80,000 psi		
		Side r	nember:	Douglas Fir	r-Larch (6	; =0.50)			Main member:	Spruce-P	ine-Fir (G=0.4	2)	
	Side r	nember th	ickness:	t _s =	1.000	in		Main mem	ber thickness:	† _m =	1.500 in		
	Side member dowel	bearing st	rength:	F _{es} =	4,650	psi	Main mem	ber dowel bed	aring strength:	F _{em} =	3,350 psi		
	Side member dow	vel bearing	length:	l _s =	1.000	in	Main m	ember dowel l	pearing length:	I _m =	1.140 in		
Mode	e I _m	Mode	I_s		Mode	e II	Mode	III _m	Mode	e III _s		Mode	IV
qm =	636.5 lbs/in	qs =	884	lbs/in	A :	0.0007	A:	0.00096	A:	0.00107		A :	0.0014
P =	725.61 lbs	P =		lbs	B:	1.07	B:	0.57	B:	0.5		B:	0.000
K _D =	2.400	K _D =	2.400)	C:	-427.67	<i>C</i> :	-253.62	<i>C</i> :	-267.7		С:	-93.6
Z _m =	302 lbs	Z _s =	368	lbs	P =	331 lbs	Ms =	46.8 in-lb			in-lbs		
					K _D =	2.400	P =	297 lbs	P =	319	lbs	P =	263 lb
	Min. Design value:	Z=	110) lbs	Z=	138 lbs	K _D =	2.400	K _D =	2.400		K _D =	2.400
	Duration Factor:	C _D =	1.6	•			Z=	124 lbs	Z=	133	lbs	Z=	110 lb
	Allowable De	sign Value	e (ZC _D):	Z'=	175	lbs/anchor							
id men	nbers w/ & w/out ga	ıp:											
۵.	With threads prese		•				() b = = = = = = = =						
				#10 wood			(NDS 2012	2, TRIZ)	_				
		Nominal di	ameter:	: D:	0.190	in			Gap:	g:	0.0000 in		
		Root di	ameter:	: Dr:	0.152	in			Moment arm:		0.0000 in		
	Minimum req				0.152 1.140		S	crew bending	Moment arm: yield strength:	F _{yb} =			
	Minimum req	uired pene	tration:		1.140	in	S	crew bending			80,000 psi		
		uired pene	tration: nember:	: p: : Douglas Fir	1.140	in 5=0.50)	S	5	yield strength:		80,000 psi		
		uired pene Side r nember th	tration: nember: ickness:	: p: : Douglas Fir : t _s =	1.140 r-Larch (6	in 5=0.50) in		Main mem	yield strength: Main member:	Steel str	80,000 psi ap/clip		
	Side r	uired pene Side r nember th bearing st	tration: nember: ickness: rength:	: p: Douglas Fir t _s = F _{es} =	1.140 r-Larch (6 1.000	in G=0.50) in psi	Main mem	Main mem ber dowel bec	yield strength: Main member: ber thickness:	Steel str t _m =	80,000 psi ap/clip 0.048 in		
Mode	Side r Side member dowel Side member dow	uired pene Side r nember th bearing st	tration: nember: ickness: rength: length:	: p: Douglas Fir t _s = F _{es} =	1.140 r-Larch (6 1.000 4,650	in 9=0.50) in psi in	Main mem	Main mem nber dowel bec ember dowel b	yield strength: Main member: Iber thickness: aring strength: Dearing length:	Steel str t _m = F _{em} =	80,000 psi ap/clip 0.048 in 61,850 psi	Mode	· IV
Mode gm =	Side r Side member dowel Side member dow	uired pene Side r nember th bearing st vel bearing	tration: nember: ickness: rength: length: I _s	: p: Douglas Fir t _s = F _{es} =	1.140 m-Larch (6 1.000 4,650 1.000	in 9=0.50) in psi in	Main mem Main m Mode	Main mem nber dowel bec ember dowel b	yield strength: Main member: Iber thickness: aring strength: bearing length: Mode	Steel str t _m = F _{em} = I _m =	80,000 psi ap/clip 0.048 in 61,850 psi	Mode A:	: IV 0.0006
	Side r Side member dowel Side member dow e I _m	uired pene Side r nember th bearing st vel bearing Mode	tration: nember: ickness: rength: length: I _s 884	: p: Douglas Fir : t _s = : F _{es} = ! I _s =	1.140 r-Larch (6 1.000 4,650 1.000 Mode	in G=0.50) in psi in z II	Main mem Main m Mode	Main mem hber dowel bec ember dowel b IIII _m	yield strength: Main member: Iber thickness: aring strength: bearing length: Mode	Steel str t _m = F _{em} = I _m =	80,000 psi ap/clip 0.048 in 61,850 psi		
qm =	Side r Side member dowel Side member dow e I _m 11752 lbs/in	uired pene Side r nember th bearing st vel bearing Mode qs =	tration: nember: ickness: rength: length: I _s 884	$F_{es} = \frac{1}{1}$	1.140 Larch (6 1.000 4,650 1.000 Mode A:	in G=0.50) in psi in 2 II 0.0003	Main mem Main m Mode A: B:	Main mem hber dowel bed ember dowel b IIII _m 0.00059	yield strength: Main member: Iber thickness: aring strength: bearing length: <u>Mode</u> A:	Steel str $t_m =$ $F_{em} =$ $I_m =$ 2 III _s 0.00033	80,000 psi ap/clip 0.048 in 61,850 psi	A :	0.0006
qm = P =	Side r Side member dowel Side member dow e I _m 11752 lbs/in 13397 lbs	uired pene Side r nember th bearing st vel bearing Mode qs = P =	tration: nember: ickness: rength: length: Is 884 884 2.400	$F_{es} = \frac{1}{1}$	1.140 *-Larch (6 1.000 4,650 1.000 Mode A: B:	in 3=0.50) in psi in ≥ II 0.0003 1.07	Main mem Main m Mode A: B:	Main mem aber dowel bec ember dowel b IIII _m 0.00059 0.57	yield strength: Main member: Iber thickness: uring strength: bearing length: <u>Mode</u> A: B: C:	Steel str t _m = F _{em} = I _m = 2 III _s 0.00033 0.5 -267.7	80,000 psi ap/clip 0.048 in 61,850 psi	A: B:	0.0006 0.000
qm = P = K _D =	Side r Side member dowel Side member dow e I _m 11752 lbs/in 13397 lbs 2.400	uired pene Side r nember th bearing st vel bearing Mode qs = P = K _D =	tration: nember: ickness: rength: length: Is 884 884 2.400	$F_{es} = \frac{1}{1}$	1.140 Larch (6 1.000 4,650 1.000 Mode A: B: C:	in 5=0.50) in psi in ≥ II 0.0003 1.07 -4038.9	Main men Main m Mode A: B: C:	Main mem Iber dowel bec ember dowel f III _m 0.00059 0.57 -3864.9	yield strength: Main member: Iber thickness: uring strength: bearing length: <u>Mode</u> A: B: C:	Steel str t _m = F _{em} = I _m = 2 III _s 0.00033 0.5 -267.7	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs	A: B:	0.0006 0.000 -93.6
qm = P = K _D =	Side r Side member dowel Side member dow e I _m 11752 lbs/in 13397 lbs 2.400	uired pene Side r nember th bearing st vel bearing Mode qs = P = K _D =	tration: nember: ickness: rength: length: Is 884 884 2.400 368	$F_{es} = \frac{1}{1}$	1.140 Larch (6 1.000 4,650 1.000 Mode A: B: C: P =	in 5=0.50) in psi in 2 II 0.0003 1.07 -4038.9 2287 lbs	Main mem Main m Mode A: B: C: Ms =	Main mem hber dowel bec ember dowel h III _m 0.00059 0.57 -3864.9 46.8 in-lb	yield strength: Main member: Jober thickness: uring strength: Jobearing length: <u>Mode</u> A: B: C: s Mm =	Steel str $t_m =$ $F_{em} =$ $I_m =$ 2 IIII _s 0.00033 0.5 -267.7 46.8	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs	А: В: <i>С</i> :	0.0006 0.000 -93.6
qm = P = K _D =	Side r Side member dowel Side member dow e I _m 11752 lbs/in 13397 lbs 2.400 5582 lbs	uired pene Side r nember th bearing st vel bearing Mode qs = P = K _D = K _D = Z _s =	tration: nember: ickness: rength: length: Is 884 884 2.400 368	: p: : Douglas Fin : t _s = : F _{es} = : I _s = : Ibs/in : Ibs : Ibs	1.140 Larch (6 1.000 4,650 1.000 Mode A: B: C: P = K _b =	in ==0.50) in psi in = III 0.0003 1.07 -4038.9 2287 lbs 2.400	Main mem Main m Mode A: B: C: Ms = P =	Main mem hber dowel bec ember dowel b IIIm 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs	yield strength: Main member: Jober thickness: uring strength: Decaring length: <u>Mode</u> A: B: C: s: Mm = P =	Steel str $t_m =$ $F_{em} =$ $l_m =$ 2 III _s 0.00033 0.5 -267.7 46.8 420	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: <i>C</i> : P =	0.0006 0.000 -93.6 392 lb 2.400
qm = P = K _D =	Side r Side member dowel Side member dow e I _m 11752 lbs/in 13397 lbs 2.400 5582 lbs Min. Design value:	uired pene Side r nember th bearing st vel bearing qs = P = K _D = Z _s = Z= C _D =	tration: nember: ickness: rength: length: Is 884 884 2.400 368 163 1.6	$\begin{array}{c} & p: \\ Douglas Fin \\ t_s = \\ F_{es} = \\ I_s = \\ I_s = \\ Ibs/in \\ Ibs \\ Ibb \\ $	1.140 Larch (6 1.000 4,650 1.000 Mode A: B: C: P = K _D = Z=	in ==0.50) in psi in = III 0.0003 1.07 -4038.9 2287 lbs 2.400	Main mem Main m Mode A: B: C: Ms = P = K _b =	Main mem hber dowel bec ember dowel b III _m 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs 2.400	yield strength: Main member: Jober thickness: aring strength: bearing length: A: B: C: S Mm = P = K _D =	Steel str t _m = F _{em} = l _m = 2 IIII _s 0.00033 0.5 -267.7 46.8 420 2.400	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: C: P = K _D =	0.0006 0.000 -93.6 392 lb 2.400
qm = P = K _D =	Side member dowel Side member dowel Side member dow e Im 11752 lbs/in 13397 lbs 2.400 5582 lbs Min. Design value: Duration Factor:	uired pene Side n nember th bearing st vel bearing Mode qs = P = K _b = Z _s = Z= C _b = esign Value	tration: nember: ickness: rrength: length: 1s 884 2.400 368 163 1.6 : (ZC_D):	$\begin{array}{c} & p: \\ Douglas Fin \\ & t_s = \\ & F_{es} = \\ & I_s = \\ \\ Hbs/in \\ Hbs \\ \\ \\ Hbs \\ \\ \\ Hbs \\ \\ \\ \\ Hbs \\ \\ \\ \\ Hbs \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	1.140 Larch (6 1.000 4,650 1.000 Mode A: B: C: P = K _b = Z= 262	in ==0.50) in psi in = II 0.0003 1.07 -4038.9 2287 lbs 2.400 953 lbs	Main mem Main m Mode A: B: C: Ms = P = K _b =	Main mem hber dowel bec ember dowel b 1III_m 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs 2.400 886 lbs	yield strength: Main member: Jober thickness: aring strength: bearing length: A: B: C: S Mm = P = K _D =	Steel str t _m = F _{em} = l _m = 2 IIII _s 0.00033 0.5 -267.7 46.8 420 2.400	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: C: P = K _D =	0.0006 0.000 -93.6 392 lb
qm = P = K _D =	Side member dowel Side member dowel Side member dow e Im 11752 lbs/in 13397 lbs 2.400 5582 lbs Min. Design value: Duration Factor:	uired pene Side r nember th bearing st vel bearing de bearing P = K _D = Z _s = Z= C _D = esign Value Fasten	tration: nember: ickness: rrength: length: Is 884 884 2.400 368 163 1.6 (ZC_D): er type:	: p: : Douglas Fin : t _s = : F _{es} = : l _s = : lbs/in : lbs : bbs : bbs : bbs : bbs : c _s = : c _s =	1,140 Larch (6 1,000 4,650 1,000 Mode A: B: C: P = K _b = Z= 262 Tapcon	in ==0.50) in psi in = II 0.0003 1.07 -4038.9 2287 lbs 2.400 953 lbs	Main mem Main m Mode A: B: C: Ms = P = K _b = Z=	Main mem hber dowel bec ember dowel b 1III_m 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs 2.400 886 lbs	yield strength: Main member: Iber thickness: uring strength: bearing length:	Steel str t _m = F _{em} = l _m = 2 IIII _s 0.00033 0.5 -267.7 46.8 420 2.400	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: C: P = K _D =	0.0006 0.000 -93.6 392 lb 2.400
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qm = P = K _D =	Side r Side member dowel Side member dow e Im 11752 lbs/in 13397 lbs 2.400 5582 lbs Min. Design value: Duration Factor: Allowable De	uired pene Side r nember th bearing st vel bearing Mode qs = P = $K_b =$ $Z_s =$ $Z_s =$ $Z_b =$ $z_b =$ Edge d Edge d Edge d cual edge d	tration: nember: ickness: rength: length: Is 884 2.400 368 163 1.6 2 (ZC _b): er type: pstrate: istance: istance:	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1,140 Larch (6 1,000 4,650 1,000 Mode A: B: C: P = K _b = Z= 262 Tapcon :k n n	in ⇒=0.50) in psi in ≥ II 0.0003 1.07 -4038.9 2287 lbs 2.400 953 lbs lbs/anchor Tabulat Tabulat	Main mem Main m Mode A: B: C: C: C: C: F = F = K _D = Z = Xin ted shear desig ted shear desig Reduction	Main mem her dowel bec ember dowel be ember dowel b 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs 2.400 886 lbs N.O. himum embedn gn value: gn value: n factor:	yield strength: Main member: Jober thickness: uring strength: bearing length: Mode A: B: C: S: Mm = P = K_b = Z = A. 16-1222.06 hent: Z = 202 Z = 161 0.85	Steel str $t_m = F_{em} = I_m = I_m = 0.00033$ 0.00033 0.5 -267.7 46.8 420 2.400 1.75 1.25 Ibs Ibs	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: C: P = K _D = Z =	0.0006 0.000 -93.6 392 lt 2.400 163 lt
qm = P = K _D =	Side r Side member dowel Side member dow e Im 11752 lbs/in 13397 lbs 2.400 5582 lbs Min. Design value: Duration Factor: Allowable De	uired pene Side r nember th bearing st vel bearing de bearing P = K _b = Z _s = Z= C _b = Edge d Edge d Edge d	tration: nember: ickness: rength: length: Is 884 2.400 368 163 1.6 2 (ZC _b): er type: ostrate: istance: istance: 5pacing:	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1,140 Larch (6 1,000 4,650 1,000 Mode A: B: C: P = K _b = Z= 262 Tapcon :k n n n	in ⇒=0.50) in psi in ≥ II 0.0003 1.07 -4038.9 2287 lbs 2.400 953 lbs lbs/anchor Tabulat Tabulat	Main mem Main m Mode A: B: C: C: C: C: F = F = K _D = Z = Z = Min ted shear desig Reduction ted shear desig	Main mem her dowel bec ember dowel f IIIm 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs 2.400 886 lbs N.O. himum embedn gn value: gn value: gn value: gn value: gn value:	yield strength: Main member: Joer thickness: uring strength: bearing length: Mode A: B: C: S: Mm = P = K_b = Z = A. 16-1222.06 tent: Z = 202 Z = 161 0.85 Z = 202	Steel str $t_m = F_{em} = I_m = I_m = 0.00033$ 0.00033 0.5 -267.7 46.8 420 2.400 1.75 Ibs Ibs Ibs	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: C: P = K _D = Z =	0.0006 0.000 -93.6 392 lt 2.400 163 lt
qm = P = K _D =	Side r Side member dowel Side member dow e Im 11752 lbs/in 13397 lbs 2.400 5582 lbs Min. Design value: Duration Factor: Allowable De	uired pene Side r nember th bearing st vel bearing P = K _b = Z _s = Z= C _b = Esign Value Fasten Sut Edge d Edge d	tration: nember: ickness: rength: length: Is 884 2.400 368 163 1.63 2.400 368 163 1.63 2.400 368 163 1.63 1.63 1.63 1.63 1.63 1.63 1.63	$\begin{array}{c} & p: \\ Douglas Fin \\ f_s = \\ F_{es} = \\ I_s = \\ I_s = \\ Ibs/in \\ Ibs \\ $	1,140 Larch (6 1,000 4,650 1,000 Mode A: B: C: P = K _b = Z= Z62 Tapcon k n n n n	in ⇒=0.50) in psi in ≥ II 0.0003 1.07 -4038.9 2287 lbs 2.400 953 lbs lbs/anchor Tabulat Tabulat	Main mem Main m Mode A: B: C: Ms = P = K _b = Z = Z= Min ted shear desig Reduction ted shear desig ted shear desig	Main mem her dowel bec ember dowel be 1111 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs 2.400 886 lbs N.O. himum embedn gn value: gn value: gn value: gn value: gn value: gn value: gn value: gn value: gn value:	yield strength: Main member: Jober thickness: uring strength: Dearing length: Mode A: B: C: S: Mm = P = K_b = Z = A. 16-1222.06 hent: Z = 202 Z = 161 0.85 Z = 202 Z = 164	Steel str $t_m = F_{em} = I_m = I_m = 0.00033$ 0.00033 0.5 -267.7 46.8 420 2.400 1.75 Ibs Ibs Ibs	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: C: P = K _D = Z =	0.0006 0.000 -93.6 392 lt 2.400 163 lt
qm = P = K _D =	Side r Side member dowel Side member dow e Im 11752 lbs/in 13397 lbs 2.400 5582 lbs Min. Design value: Duration Factor: Allowable De	uired pene Side r nember th bearing st vel bearing Mode qs = P = $K_{\rm D} =$ $Z_{\rm s} =$ $Z_{\rm $	tration: nember: ickness: rength: length: Is 884 2.400 368 163 1.6 2 (ZC ₀): er type: ostrate: istance: istance: istance: 5pacing: 5pacing:	$\begin{array}{c} & p: \\ Douglas Fin \\ t_s = \\ F_{es} = \\ l_s = \\ l_s = \\ lbs/in \\ lbs \\ lbs \\ lbs \\ lbs \\ lbs \\ z' = \\ 1/4" ITW \\ Hollow bloc \\ 4.00 i \\ 2.00 i \\ 2.50 i \\ 4.00 i \\ 2.50 i \\ 3.00 i \\ 3.00 i \end{array}$	1,140 Larch (6 1,000 4,650 1,000 Mode A: B: C: P = K _b = Z= 262 Tapcon ck n n n n	in ⇒=0.50) in psi in ≥ II 0.0003 1.07 -4038.9 2287 lbs 2.400 953 lbs lbs/anchor Tabulat Tabulat	Main mem Main m Mode A: B: C: C: C: C: F = F = K _D = Z = Z = Min ted shear desig Reduction ted shear desig	Main mem her dowel bec ember dowel be 1111 0.00059 0.57 -3864.9 46.8 in-lb 2126 lbs 2.400 886 lbs N.O. himum embedn gn value: gn value: gn value: gn value: gn value: gn value: gn value: gn value: gn value:	yield strength: Main member: Joer thickness: uring strength: bearing length: Mode A: B: C: S: Mm = P = K_b = Z = A. 16-1222.06 tent: Z = 202 Z = 161 0.85 Z = 202	Steel str $t_m = F_{em} = I_m = I_m = 0.00033$ 0.00033 0.5 -267.7 46.8 420 2.400 1.75 Ibs Ibs Ibs	80,000 psi ap/clip 0.048 in 61,850 psi 1.140 in in-lbs lbs	A: B: C: P = K _D = Z =	0.0006 0.000 -93.6 392 lb 2.400

Note: Anchors with the least capacity is used for calculations to qualify anchors with higher capacity.



Luis R. Lomas P.E. FL No.: 62514 5/2/2017

L. Roberto Lomas P.E.

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Load

(lbs)

126

107

134

Result

OK

OK

OK

55.0 psf

Cap.

(lbs)

155

155

155

Anchor

Qty

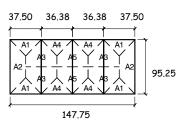
1

5

4

Anchor calculations, minimum required anchors

36.38	36.38	
	A1 A1 A1 A2 A1 A2 A1	95.25
72	.75	



	Design pressure: 55.0 psf								
	Zone	Area (ft²)	Load (lbs)	Ind. (in)	Max. O.C.	Anchor			
						Cap.		Load	Result
					(in)	(lbs)	Qty	(lbs)	
5	A ₁	2.4	134	N/A	N/A	155	1	134	OK
	A ₂	10.0	548	6.00	21.00	155	5	110	OK
	A ₃	9.8	542	N/A	N/A	155	4	135	OK
	A 4	2.3	126	N/A	N/A	155	1	126	OK
	A ₅	9.7	535	N/A	N/A	155	4	134	OK

Design pressure: Max.

O.C.

(in)

N/A

21.00

N/A

Ind.

(in)

N/A

6.00

N/A

Area

(ft²)

2.3

9.7

9.7

Zone

A₁

A₂

A3

Load

(lbs)

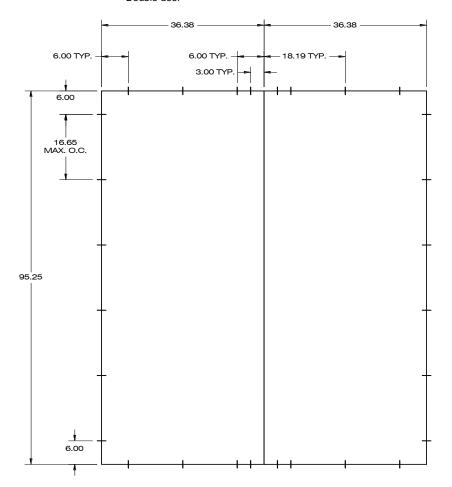
126

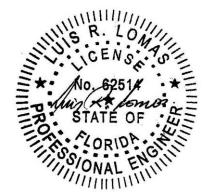
535

535

Anchor Locations:

Double door

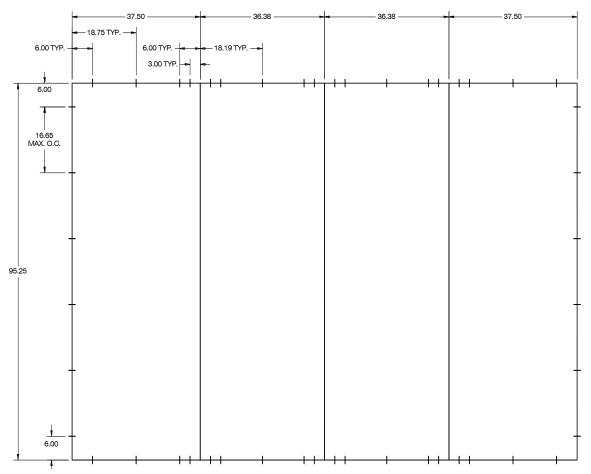




Luis R. Lomas P.E. FL No.: 62514 5/2/2017 L. Roberto Lomas P.E.

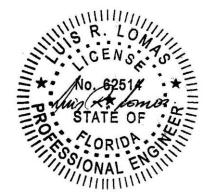
1432 Woodford Rd. Lewisville, NC 27023 434-688-0609 rllomas@Irlomaspe.com

Double door with sidelites



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.
- 2. FOR ANCHORING THROUGH FRAME INTO MASONRY/CONCRETE USE 3/16" 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.



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