

@ 8 Currawong St Mudjimba





WALL CONSTRUCTION -SEE ACOUSTIC DESIGN REPORT

7.5mm Fibre Cement Sheet with wall lining (James Hardie Hardietex or similar) - minimum density 11kg/m2 123mm Cavity - 90mm timber studs at 450mm Centres with R2.7SHD 90mm Earthwool Insulation + Furring Channel Clips 1 x 10mm Knauf Opal plasterboard (minimum density 8kg/m2) Wall Thickness 140.5mm

J205-05 B

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600 600

9240 9150

3200 3020

13040

12440

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V				19850					k
	3600	V	7337	V		7913			1000
	3600	90 70	7177	90		7733		90	1000
	3600	160	7177	90 33	4515	90	3095	90	1000
	3600	160	6220	990 990	4515	90	2030 90	975 90	1000
		11				<i>A</i> 1		18	



J205-02



Pitched sheet metal roof (minimum 0.42mm) with 60mm Anticon over battens

Ceiling joists or trusses at 900mm centres with A-clips and furring channels at 450mm centres.

Minimum R2.5 Earthwool insulation or R3.0 Polyester Insulation

1 x 10mm Standard plasterboard (minimum 6.5kg/m2)

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J205-04

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J205-05

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SET OUT (SC

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Y2

DX 90

RG	BRACING GROUND FLOOR
	1 : 100

	Mark	Type	Length	Level	Res
	_				1
AC	X20	BW	600	GROUND FLOOR	5.9
AC	X21	BW	600	GROUND FLOOR	5.9
AC	X22	D	3700	GROUND FLOOR	20.72
AC	X23	D	900	GROUND FLOOR	5.04
AC	X24	D	3200	GROUND FLOOR	17.92
AC	X25	D	1200	GROUND FLOOR	6.72
AC	X26	D	600	GROUND FLOOR	1.68
AC	X27	Ν	600	GROUND FLOOR	6.66
AC	X28	D	600	GROUND FLOOR	1.68
AC	X29	D	3800	GROUND FLOOR	21.28
AC	X30	D	2000	GROUND FLOOR	11.2
AC	X31	D	1000	GROUND FLOOR	5.6
AC	X32	D	900	GROUND FLOOR	5.04
Gran	d total: 13		•	•	115.34

GROUND FLOOR BRACING (B-D) Y							
	Mark	Туре	Length	Level	Res		
BD	Y20	BW	1200	GROUND FLOOR	15		
BD	Y21	BW	3000	GROUND FLOOR	46		
BD	Y22	BW	600	GROUND FLOOR	5.9		
BD	Y23	D	900	GROUND FLOOR	5.04		
BD	Y24	D	900	GROUND FLOOR	5.04		
BD	Y25	D	1200	GROUND FLOOR	6.72		
BD	Y26	D	900	GROUND FLOOR	5.04		
BD	Y27	D	900	GROUND FLOOR	5.04		
BD	Y28	D	600	GROUND FLOOR	1.68		
BD	Y29	D	900	GROUND FLOOR	5.04		
BD	Y30	D	800	GROUND FLOOR	4.48		
BD	Y31	D	900	GROUND FLOOR	5.04		
BD	Y32	D	900	GROUND FLOOR	5.04		
BD	Y33	D	900	GROUND FLOOR	5.04		
Grand total: 14 120.1							

ЕX

Y31

DX 900

MGP10

25

0x35

Y20

BWx 1200 BW A212



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SEE J206-12 BLOCK DETAILS

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R M12 BOLT) AT ANGLE OF NO MORE THA	N 30° AND NO MORE THAN 60°.		
LOT 131	Checked by		AM
JRRAWONG ST D 11MBA	Drawn by		SZ:71,6 OZ
	Date	11/05/20	11/05/20



DETAILS

ALL MEMBERS INLINE -UNO

BEARERS 300x58 LVL15

FLOOR JOIST OVER LIVING ROOM @ 400 CTS

SEE PAGE - JOIST DETAILS

TILLINGS LVL & JOIST MEMBERS

PLUMBING

PIPEWORK LOCATION GUIDE ONLY TO BE CONFIRMED ON SITE

SEE FLOOR JOIST HOLE SIZING SHEETS

SUB FLOOR 1:100





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SUB FLOOR

2 ENGINEER -N3

11/05/20

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17:26

1/05/2020 9:1

Drawn by Checked by

Status

Date

J205-08

Scale 1 : 100



Upper Floor BRACING (A-C) X						
	Mark	Туре	Length	Level	Resistance	
	•					
AC	X1	D	1200	UPPER FLOOR	6.72	
AC	X2	D	900	UPPER FLOOR	5.04	
AC	X3	D	900	UPPER FLOOR	5.04	
AC	X4	D	2500	UPPER FLOOR	14	
AC	X5	D	900	UPPER FLOOR	5.04	
AC	X6	D	1100	UPPER FLOOR	6.16	
Grand t	Grand total: 6 42					

Upper Floor BRACING (B-D) Y							
	Mark	Туре	Length	Level	Resistance		
BD	Y1	D	900	UPPER FLOOR	5.04		
BD	Y2	D	1500	UPPER FLOOR	8.4		
BD	Y3	D	1500	UPPER FLOOR	8.4		
BD	Y4	D	1100	UPPER FLOOR	6.16		
BD	Y5	D	2100	UPPER FLOOR	11.76		
BD	Y6	D	900	UPPER FLOOR	5.04		
Grand	total: 6		44.8				





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116 OR M12 BOLT) AT ANGLE OF NO MORE THAN 30° AND NO MORE THAN 60°.									
#8 LOT 131	Checked by		WA						
CURRAWONG ST	Drawn by		1 <i>1</i> 2:116 02						
	Date	11/05/20	11/05/202						



UPPER FLOOR TIMBER SCHEDULE

EXTERNAL RODS @ 1	200 CTS
EXTERNAL TOP PLATE RIBBON PLATE BOTTOM PLATE STUDS KNOGS	45X90 MGP10 45X90 MGP10 45X90 MGP10 35X90 MGP10@450CTS 35X90 MGP10
INTERNAL LBW TOP PLATE RIBBON PLATE BOTTOM PLATE STUDS KNOGS	45X70 MGP12 45X70 MGP12 45X70 MGP12 35X70 MGP12@450CTS 35X70 MGP10
INTERNAL NLBW TOP PLATE BOTTOM PLATE STUDS KNOGS	35X70 MGP10 35X70 MGP10 35X70 MGP10@450CTS 35X70 MGP10
MAIN FLOOR TIMBER	SCHEDULE
EXTERNAL TOP PLATE RIBBON PLATE BOTTOM PLATE STUDS KNOGS	45X90 MGP10 45X90 MGP10 35X90 MGP10 35X90 MGP10@450CTS 35X90 MGP10
INTERNAL LBW TOP PLATE RIBBON PLATE BOTTOM PLATE STUDS KNOGS	45X70 MGP12 45X70 MGP12 35X70 MGP12 35X70 MGP12@450CTS 35X70 MGP10
INTERNAL NLBW TOP PLATE BOTTOM PLATE STUDS KNOGS	35X70 MGP10 35X70 MGP10 35X70 MGP10@450CTS 35X70 MGP10
Termite Protection Kordon Perimeter and p Provide 2 Notices Min Space 25mm to Pip	enetration e work, 75mm Visual Edge

Studs at Sides	Studs at Sides Of Openings									
Opening Widt	h Jamb Studs each side									
900mm	2									
1200mm	2									
1500mm	2									
1800mm	3									
2100mm	3									
2400mm	3									
2700mm	3									
3000mm	4									
6200mm	4/90x45 MGP10									
Note: Openir	ngs may be 70mm wider									

than the nominal width given above.

Jamb Studs						
Number	Details					
2	1 Full Length + 1 Under Lintel					
3	2 Full Length + 1 Under Lintel					
4	2 Full Length + 2 Under Lintel					
5	3 Full Length + 2 Under Lintel					

Window Sill Trimmers								
Opening Width	Trimmer Size							
Up to 1800mm	90x35 MGP10							
2400mm	2/90x35 MGP10							
Note: Openings may be 70mm wider								
than the nominal width given above.								

TIE-DOWN SCHEDULE N3

TRUSS TO TOP PLATE 1/30X0.8 GI LOOPED STRAP 4/2.8mm DIA. NAILS EACH END OR TO MANUFACTURER DESIGN SPECIFICATION

TOP PLATE / BOTTOM PLATE 1/M12 ROD @ 1200 CRS MAX, AT CORNERS, EACH SIDE OF OPENINGS AND BRACING PANELS AS REQ.

VERANDAH POSTS TO FOOTING 2/12 BOLTS THROUGH 50x8mm M.S. STIRRUP 150 MIN. INTO FOOTING, S12 ROD OVER STIRUP



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	1/N16		BLOCKWORK LINTEL TYPES				
		75 3ar	CODE	DEPTH	REINFORCEMENT		
			A12	300	1N12 Top and Bottom		
Vertical Steel 1N12 bar to each corner, beside each opening, then in between at max 1200mm centers UNO.	1/N16	26 Bottc	A16	300	1N16 Top and Bottom		
		Tc Tc	A212	300	2N12Top and Bottom		
	4 4		A216	300	2N16Top and Bottom		
			C12	400	1N12 Top and Bottom		
	4		C16	400	1N16 Top and Bottom		
	4 44		C212	400	2N12Top and Bottom		
	Top of wall - 2 Course E	Bond Beams	C216	400	2N16Top and Bottom		

3lock Details

1:10





Figure 1.6 Typical Lintels

Refer to CMAA Data Sheet 3 - Concrete Masonry Lintels for the design and construction details of lintels.

6 /CM02 Single-Leaf Masonry – Design Manual





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8

11/05/20



AS 1684.2-TABLE 8.18-(h)

Minimum plywood thickness (mm)							
ss	Stud spacing (mm)						
	450	600					
	7 6 4 4	9 7 6 4.5					
ene	r spacing	, S (mm)					
an om	d Plate:	50					
ica	Edges	150					
me s	diate	300					
Fixing of Bottom late to floor frame or Slab							
ethod A: M12 rods s shown plus a 13 kN capacity onnection at max. 1200 mm centres							



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Framing Details

2 ENGINEER -N3

11/05/20

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J205-13

Scale 1 : 20

Smart.loists - General notes

6

- Except where otherwise noted, 30 mm minimum bearing is required at joist ends and 42 mm minimum bearing is 1 required at intermediate supports
- Nail joists at each bearing with 2 of 3.15 Φ x 65 nails, using one each side placed 30 mm from the end to avoid splitting. 2 SmartJoist blocking or Rimboard - face nail to bearing plate with 3.15 Φ x 65 nails at 150 mm centres. Nail rim joist to the 3.
- end of the top and bottom flange of each SmartJoist with 1 3.15 Φ x 65 nail, use 1 3.75 Φ x 75 nail top and bottom with joists with 58 or 90 mm wide flanges. 4. SmartRim - toe nail to bearing plate with 3.15 Φ x 65 nails at 150 centres or 4.5 Φ x 75 nails at 300 centres. Nail rim to
- the end of the top and bottom flanges of each SmartJoist with 1 3.15 Φ x 65 nails. 5
 - Sheathing nailing to top flange (Joists must be fully braced before sheathing is nailed) Space 2.8 Φ x 65 and 3.15 Φ x 65 nails no closer than 50 mm per row.
 - Space 3.75 x 75 nails no closer than 75 mm.
 - Maximum nail spacing: 300 mm
 - Backer blocks at hanger details:
 - 40 mm flanges 15 mm ply 44 & 51 mm flange - 19 mm ply
 - 58 mm flange 2 pieces of 12 mm ply
 - 70 mm flange 2 pieces of 15 mm ply
 - 90 mm flange 2 pieces of 19 mm ply
- See double Smart Joist detail F15 for filler blocks. Nail Joists together with two rows of 3.75 Φ x 75 nails on each side of 7. double joist at 300 mm centres (Clinch if possible). A total of 4 nails per 300 mm is required. If nails can be clinched, only 2 nails per 300 mm is required.
- 8. All joists require lateral support at end bearings using blocking or rim material.
- The top flanges must be kept straight within 10 mm of the true alignment.
- 10. See web stiffener detail F13 for web stiffener attachment at supports. Web stiffener requirements for concentrated loads in excess of 4.5 kN, applied at the top flange of the joist, requires additional consideration.
- When required, install web stiffeners to joist (see detail F13) prior to placing joist in the hanger, then nail hanger to joist. 11 12. All roof details are valid to a maximum angle of 35° (as per AS1684 - 1999)
- 13. All nails are steel nails complying with AS 2334 - 1980 Steel nails - Metric series. Nail gun nails of similar length and diameter may be substituted for the above provided that they are manufactured with properties equivalent to the nails in the above code
- 14. Install all hangers to the manufacturers installation in-structions, taking particular attention to the use of the correct nails. Never use clouts or brads
- 15. Prescriptive code requirements for mid span blocking of solid timber joists are not applicable to SmartJoists.

Extract SmartJoist Installation Guide

Filler blocks and web stiffeners							
Smart Joist Code	Recommended filler	Web stiffener material					
	block	Stiffener	Nails				
SJ20044	120x35	15x60mm ply	4-3.1x65				
SJ24040	140x35	15x60mm ply	4-3.1x65				
SJ24051	140x45	19x60mm ply	4-3.1x65				
SJ24070	150x58 LVL	2/15x60mm ply	4-3.1x65				
SJ24090	2/140x45	2/19x60mm ply	4-3.1x65				
SJ30040	190x35	15x60mm ply	4-3.1x65				
SJ30051	190x45	19x60mm ply	4-3.1x65				
SJ30070	150x58 LVL	2/15x60mm ply	4-3.1x65				
SJ30090	2/190X45	2/19x60mm ply	5-3.1x65				
SJ36058	250x50	2/12x60mm ply	5-3.1x65				
SJ36090	2/240x45	2/19x60mm ply	5-3.1x65				
SJ40090	2/240x45	2/ ply	5-3.1x65				
Extract SmartJoist Installation Guide Nov 2016							



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Note: The most accurate method to design the allowable web penetration size and distance from support for SmartJoists is to use the Smart-Frame software. The table below will give conservative results in some instances. Also, advice on hole size and location may be obtained by contacting the Tech Support Customer Helpline on 1300 668 690 or at techsupport@tilling.com.au.

Assumed loading (DL = 62 kg/m ² , FLL = 2 kPa, FPL = 1.8 kN)														
					Cir	cular/squ	iare hole	Rectangular holes						
Joist code	Joist span*	Joist		Hol	e diame	ter/squar	e hole w		Depth x	wdth (mm)	1			
	(mm)	(mm)	75	100	125	150	175	200	225	250	125x150	150x300	175x350	200x400
						Minimum	n distanc	e from a	any supp	ort to t	he centre of	the hole (mr	n)	
	600-999		300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	1000-1499		300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
\$120044	1500-1999	300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
5520044	2000-2499	600	300	600	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	2500-2999		300	800	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	3000-3300		300	900	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	600-999		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns
	1000-1499		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns
\$124040	1500-1999	300	300	300	300	Span/2	ns	ns	ns	ns	750	Span/2	ns	ns
5J24040	2000-2499	600	300	300	300	Span/2	ns	ns	ns	ns	1000	Span/2	ns	ns
	2500-2999		300	300	500	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns
	3000-3500		300	300	800	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns
	600-999		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns
	1000-1499		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns
	1500-1999	300	300	300	300	Span/2	ns	ns	ns	ns	750	Span/2	ns	ns
SJ24051	2000-2499	to	300	300	300	Span/2	ns	ns	ns	ns	1000	Span/2	ns	ns
	2500-2999	600	300	300	500	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns
	3000-3499		300	300	800	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns
	3500-3800		300	300	1000	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns
	600-999		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns
	1000-1499		300	300	300	ns	ns	ns	ns	ns	300	ns	ns	ns
	1500-1999		300	300	300	Span/2	ns	ns	ns	ns	600	Span/2	ns	ns
6124070	2000-2499	300	300	300	300	Span/2	ns	ns	ns	ns	900	Span/2	ns	ns
5J24070	2500-2999	600	300	300	500	Span/2	ns	ns	ns	ns	1250	Span/2	ns	ns
	3000-3499		300	300	800	Span/2	ns	ns	ns	ns	1500	Span/2	ns	ns
	3500-3999		300	300	1000	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns
	4000-4100		300	450	1100	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns

SmartJoist hole charts (Cont'd)

				Assumed	load (DI	_ = 62 kg/	m^2 , FLL =	2 kPa, FP	L = 1.8 kN	1)					
					Cir	cular/sq	uare hole	5				Rectangular holes			
Joist code (mm)		Joist spacing		Hole diameter/square hole width (mm)								Depth x w	vidth (mm)	r	
		(mm)	75	100	125	150	175	200	225	250	125x150	150x300	175x350	200x400	
					Mi	nimum di	stance fro	om any su	upport to	the cen	tre of the h	ole (mm)			
	600-999		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns	
100	1000-1499		300	300	300	ns	ns	ns	ns	ns	300	ns	ns	ns	
	1500-1999	200	300	300	300	700	ns	ns	ns	ns	500	750	ns	ns	
SJ24090	2000-2499	to	300	300	300	1000	ns	ns	ns	ns	800	1000	ns	ns	
	2500-2999	600	300	300	400	1150	ns	ns	ns	ns	1100	Span/2	ns	ns	
	3000-3499		300	300	700	1400	ns	ns	ns	ns	1400	Span/2	ns	ns	
	3500-3999		300	300	800	1550	ns	ns	ns	ns	1700	Span/2	ns	ns	
	4000-4100		300	300	900	1600	ns	ns	ns	ns	1800	Span/2	ns	ns	
	600-999		300	300	300	300	ns	ns	ns	ns	300	300	ns	ns	
	1000-1499		300	300	300	300	ns	ns	ns	ns	300	500	ns	ns	
	1500-1999		300	300	300	span/2	ns	ns	ns	ns	400	800	ns	ns	
\$125570	2000-2499	300 to	300	300	600	span/2	ns	ns	ns	ns	700	1000	ns	ns	
5325570	2500-2999	600	300	300	900	span/2	ns	ns	ns	ns	1000	1300	ns	ns	
	3000-3499		300	700	1300	span/2	ns	ns	ns	ns	1300	1600	ns	ns	
	3500-3999		300	1100	1600	span/2	ns	ns	ns	ns	1700	1900	ns	ns	
	4000-4300		300	1400	1800	span/2	ns	ns	ns	ns	1900	span/2	ns	ns	
	600-999		300	300	300	300	300	300	ns	ns	300	300	ns	ns	
	1000-1499		300	300	300	300	300	300	ns	ns	300	500	Span/2	ns	
	1500-1999		300	300	300	300	300	500	ns	ns	300	Span/2	Span/2	Span/2	
\$120040	2000-2499	300 to	300	300	300	300	300	700	ns	ns	500	Span/2	Span/2	Span/2	
3130040	2500-2999	600	300	300	300	300	400	1000	ns	ns	900	Span/2	Span/2	Span/2	
	3000-3499		300	300	300	300	600	1200	ns	ns	1300	Span/2	Span/2	Span/2	
	3500-3999		300	300	300	300	900	1450	ns	ns	1750	Span/2	Span/2	Span/2	
	4000-4100		300	300	300	400	1000	1500	ns	ns	Span/2	Span/2	Span/2	ns	
	600-999		300	300	300	300	300	300	ns	ns	300	300	ns	ns	
	1000-1499	300	300	300	300	300	300	300	ns	ns	300	500	Span/2	ns	
	1500-1999		300	300	300	300	300	500	ns	ns	300	750	Span/2	Span/2	
6120051	2000-2499		300	300	300	300	300	700	ns	ns	400	Span/2	Span/2	Span/2	
5130051	2500-2999	600	300	300	300	300	400	1000	ns	ns	800	Span/2	Span/2	Span/2	
	3000-3499		300	300	300	300	600	1200	ns	ns	1200	Span/2	Span/2	Span/2	
	3500-3999		300	300	300	300	900	1450	ns	ns	1600	Span/2	Span/2	Span/2	
	4000-4300		300	300	300	400	1000	1600	ns	ns	1800	Span/2	Span/2	ns	
	600-999		300	300	300	300	300	300	ns	ns	300	300	ns	ns	
	1000-1499		300	300	300	300	300	300	ns	ns	300	500	Span/2	ns	
	1500-1999		300	300	300	300	300	500	ns	ns	300	750	Span/2	Span/2	
	2000-2499	200	300	300	300	300	300	700	ns	ns	400	1000	Span/2	Span/2	
SJ30070	2500-2999	to	300	300	300	300	400	950	ns	ns	700	1250	Span/2	Span/2	
	3000-3499	600	300	300	300	300	600	1200	ns	ns	1000	Span/2	Span/2	Span/2	
	3500-3999		300	300	300	300	900	1450	ns	ns	1400	Span/2	Span/2	Span/2	
	4000-4499		300	300	300	500	1100	1700	ns	ns	1800	Span/2	Span/2	Span/2	
	4500-4600		300	300	300	700	1200	1800	ns	ns	1900	Span/2	Span/2	Span/2	
	600-999		300	300	300	300	300	300	ns	ns	300	300	ns	ns	
	1000-1499		300	300	300	300	300	300	ns	ns	300	400	Span/2	ns	
	1500-1999		300	300	300	300	300	300	ns	ns	300	750	Span/2	Span/2	
	2000-2400		300	300	300	300	300	600	nc	nc	300	950	Span/2	Span/2	
5130000	2500-2455	300	300	300	300	300	300	800	nc	nc	500	1200	Span/2	Span/2	
3130030	3000-2333	600	300	300	300	300	400	1100	nc	nc	800	1500	Span/2	Span/2	
	2500-3499		300	300	200	200	700	1200	IIS	115	1200	1750	Span/2	Span/2	
	3500-3999		300	300	300	300	700	1600	ns	ns	1200	1/50	Span/2	Span/2	
	4000-4499		300	300	300	300	950	1000	ris	ns	1000	Span/2	Span/2	Span/2	
	4500-4900		300	300	300	500	1100	1800	ns	ns	1800	Span/2	Span/2	Span/2	

SmartJoist Design Guide 32

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SmartJoist Design Guide 31

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SMARTJOIST HOLES

Scale

Client

Richard & Linda Matthews

#8 LOT MUDJI Status

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Status 2 ENGINEER -N.3	Date 11/05/20	11/05/2020

SmartJoist hole charts (Cont'd)

			I	Assume	d load (DI	L = 62 kg/r	m², FLL =	2 kPa, FP	L = 1.8 k	N)	I			
Joist code	Joist span (mm)	Joist* spacing (mm)			Ci	rcular/squ	uare hole	25			Rectangular holes			
			Hole diameter/square hole width (mm)						Depth x width (mm)					
			75	100	125	150	175	200	225	250	125x150	150x300	175x350	200x400
					Mi	nimum di	stance fr	om any s	upport t	o the cer	tre of the h	ole (mm)		
	600-999	300 to 600	300	300	300	300	300	300	ns	ns	300	300	300	300
SP30095	1000-1499		300	300	300	300	300	300	ns	ns	300	300	400	400
	1500-1999		300	300	300	300	300	400	ns	ns	300	500	700	700
	2000-2499		300	300	300	400	600	700	ns	ns	300	800	900	1000
	2500-2999		300	300	300	700	900	1000	ns	ns	300	1000	1200	span/2
	3000-3499		300	300	400	1000	1200	1300	ns	ns	600	1300	1500	span/2
	3500-3999		300	300	700	1300	1500	1600	ns	ns	1000	1600	1700	span/2
	4000-4499		300	300	1100	1600	1800	1900	ns	ns	1300	1900	2000	span/2
	4500-4999		300	300	1500	2000	2200	2200	ns	ns	1700	2200	2300	span/2
	5000-5499		300	300	1900	2300	2500	span/2	ns	ns	2100	span/2	span/2	span/2
	1000-1499		300	300	300	300	300	300	300	300	300	300	400	ns
	1500-1999		300	300	300	300	300	300	300	400	300	300	700	span/2
	2000-2499		300	300	300	300	300	300	300	700	300	550	900	span/2
\$136058	2500-2999	300 to	300	300	300	300	300	300	400	900	300	850	1200	span/2
	3000-3499	600	300	300	300	300	300	300	650	1200	300	1200	1500	span/2
	3500-3999		300	300	300	300	300	400	900	1400	300	1500	1750	span/2
	4000-4499		300	300	300	300	300	600	1100	1700	300	1800	span/2	span/2
	4500-5000		300	300	300	300	300	800	1400	1900	300	2200	span/2	span/2
	600-999	300 to 600	300	300	300	300	300	300	300	300	300	300	ns	ns
	1000-1499		300	300	300	300	300	300	300	300	300	300	300	ns
	1500-1999		300	300	300	300	300	300	300	300	300	300	450	700
	2000-2499		300	300	300	300	300	300	300	400	300	300	750	1000
SJ36090	2500-2999		300	300	300	300	300	300	300	650	300	450	1000	1250
	3000-3499		300	300	300	300	300	300	300	900	300	800	1300	1500
	3500-3999		300	300	300	300	300	300	500	1150	300	1100	1600	span/2
	4000-4499		300	300	300	300	300	300	750	1400	300	1450	1900	span/2
	4500-4999		300	300	300	300	300	400	1000	1650	300	1800	2200	span/2
	5000-5400		300	300	300	300	300	600	1200	1800	300	2100	2500	span/2
SJ40090	600-999	300 to 600	300	300	300	300	300	300	300	300	300	300	ns	ns
	1000-1499		300	300	300	300	300	300	300	300	300	300	300	ns
	1500-1999		300	300	300	300	300	300	300	300	300	300	300	400
	2000-2499		300	300	300	300	300	300	300	300	300	300	300	600
	2500-2999		300	300	300	300	300	300	300	300	300	300	300	900
	3000-3499		300	300	300	300	300	300	300	300	300	300	600	1200
	3500-3999		300	300	300	300	300	300	300	400	300	300	1000	1500
	4000-4499		300	300	300	300	300	300	300	600	300	300	1300	1800
	4500-4999		300	300	300	300	300	300	300	800	300	500	1700	2100
	5000-5499		300	300	300	300	300	300	400	900	300	1000	2000	2500
	5500-5700		300	300	300	300	300	300	500	1100	300	1200	2200	2750

Notes:

1. The hole chart is generated for single span joists with a maximum floor dead load of 62 kg/m² with no wall or roof loads. It therefore does not apply for joists supporting either parallel or perpendicular load bearing walls. These scenarios can be analysed by using the appropriate model within the SmartFrame software. Help can be obtained for continuous spans by contacting the Tech Support Helpline on 1300 668 690 or at techsupport@tilling.com.au

Hole locations are suitable for joist spacings up to 600 mm centres. Holes may be permitted closer to supports for some member when spacings of 450 or 2. 300 mm are used

The clear distance between holes must equal or exceed twice the diameter of the largest hole, or twice the longest side of a rectangular hole and no more 3. than 3 holes in excess of 75 mm are allowed in any span

4. Do not cut or damage flanges under any circumstances

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5. Except as noted in 1 and 2 above, a 40 mm hole at a minimum of 450 mm centres is allowed to be drilled anywhere in the web EXCEPT in cantilevered spans 6. If possible, holes in web should be positioned mid height, minimum edge clearance from any flange is 6 mm A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around ther

SmartJoist Design Guide 33

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Tie down and bracing wall support details (cont'd)

The tie-down and bracing of any structure is or critical importance to its robustness. While some general guidance on this topic is given in AS 1684 sections 8 and 9 including some specific examples, very little information is provided to designers where the bracing or tie down forces act within a floor diaphragm, or how to transfer the design loads specified in table 8.18 to supporting members.

Bracing walls between parallel joists



Downward force capacities							
Timber bridging size (DxB mm)	No of nails through SmartJoist web to bridging	Characteristic capacity (kN) 1.2G + W _{dn}					
90x42/58 SmartLVL 15	2	4.0					
130x42/58 SmartLVL 15	3	4.9					
170x42/58 SmartLVL 15	4	5.8					

Bracing walls vertically above parallel joists

Do not drill through either flange of SmartJoists unless they are fully supported on wall plate or similar

Client

Scale

SMARTJOIST HOLES

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Job Add *8 LO Richard & Linda Matthews MUD

SmartJoist Design Gui

Status

Below are some examples that may be helpful to designers utilising SmartJoist floor joists but these examples must in no way be a substitute for expert engineering advice from an experienced structural engineer.

Any member, especially tall slender sections typical of floor joists experience significant reduction in strength at the location of a vertical hole. Typically a vertical hole is deemed to have an effect of 1.5 times the diameter of the hole.

Timber bridging size (DxB mm)	Hanger code	No of hanger nails into joist	No of hanger nails into bridging	Characteristic uplift and downward capacity (kN)
90x58 SmartLVL 15	FB5890	8	4	9.6
130X58 SmartLVL 15	FB58120	12	6	13.6
170X58 SmartLVL15	FB58170	20	10	20.0

Do not drill through single members unless the whole member is re-analysed with a reduced cross section at the hole location

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Installation Guide

Windows: Install in accordance AS/NZS4200.2 Pliable building

If windows are already installed, flash in accordance with window

Weather Exposure: Wall wrap is a secondary sarking material

and is not designed to withstand prolonged direct exposure

be installed without delay. Product exposed to harsh weather

for damage prior to installation of the exterior cladding and

damaged product should be repaired or replaced to comply

conditions for more than 6 weeks for walls should be inspected

to the elements - accordingly, the exterior cladding should

membranes and underlays Part 2: Installation or window

manufacturers recommended guidance.

with the product warranty.

manufacturers recommended instructions.

Visit bradfordinsulation.com.au for the latest version of this installation guide Revision Level A

WALL WRAP INSTALLATION GUIDANCE

CLASS 1 RESIDENTIAL TIMBER AND METAL FRAMES



WALL WRAP INSTALLATION GUIDANCE

Wall wrap should be installed in accordance with AS/NZS 4200.2:2017 Pliable Building Membranes and Underlays - Installation. Recommended instructions for a compliant installation:

- The printed, non-reflective or antiglare surface of this product must
- be installed facing outward.
- The product should be applied to a stud and rolled around the wall frame horizontally.
- When wrapping around corners, 150mm should extend around that
- corner When applying a new roll horizontally it should overlap the previous
- roll by 150mm.
- **Timber frame**: Affix using galvanised staples/metal fixings every 150mm, where possible all overlaps and end joints should line up with a wall stud.
- Metal Frame: Affix using adhesive if cladding is directly fixed to the stud work, or; mechanical fixings with a broad headed washer at 300mm centres for cavity walls.
- When applying the top layer of wrap, it should overlap the bottom layer of wrap by 150mm.
- To create an air or vapour barrier, all overlaps should be sealed and
- taped. All damaged, punctured or torn material should be repaired or replaced to maintain the original properties of the product.
- When this product is being used as an air barrier, to achieve air
- tightness, it is recommended that the building have mechanical ventilation
- For additional installation guidance, refer to AS/NZS 4200.2:2017.

CSR Bradford Locked Bag 1345 North Ryde BC NSW 1670 bradfordinsulation.com.au

For further technical advice call 1300 850 305 or visit bradfordinsulation.com.au

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WRAP INSTALL GUIDE



