Issue V1.2 July 2024

Design guide and span tables for Pölkky Giant treated glulam

Introduction

Impregnated for weather exposed using Celcure© C4 (Brown).

Pölkky Giant treated glulam and re-sawn glulam is in accordance with the European standard EN 14080 and is manufactured according to the standard EN 386.

Pölkky product family, manufactured from solid, densely-grained pine and spruce timbers, contains a wide range of different laminated wood products for the log home industry and construction. Pölkky laminated wood (glulam) has excellent strength values which makes laminated wood a long-lasting solution.

The products comprise two or more pieces glued together either vertically or horizontally in accordance with the customer's demands. The glue used is chosen to suit the customer's end product.

The timber of the North grows slowly under very demanding conditions, which makes it an excellent raw material for building purposes. Pölkky glulam is manufactured using densely-grained, strong pine and spruce timbers. Our products meet the highest standards and customer-specific quality demands.

The high-quality and reliable delivery of the glulam gives the customer a significant advantage. Pölkky laminated wood is the perfect choice for load-bearing structured buildings because of its high-quality and features. With the right treatment, laminated wood can provide low maintenance solutions. Glulam is also very fire resistant and performs well in fire.

The span table guidelines have been developed in accordance with the following standards. EN 1990/AC:2010

EN 1991-1-1

EN 1995-1-1:2004/A2:2014

This guide contains span tables for a number of common uses of Glulam beams, such as floor joists, roof beams, rafters, lintels and posts. The purpose of these tables is to be used as a guideline for builders, architects and engineers to quickly find the right dimension and efficient solutions for structures of Glulam. For each structure, a number of different situations are presented regarding loading, length and centre distances.

Production

Wood species
Nordic Redwood (*Pinus Sylvestris*)
Strength classes GL 8
Adhesives
PUR (polyurethane), light glue for outside use Standard lengths 3.6, 4.2, 4.8, 5.4, 6.0, 6.6, 7.2m
Profile Eased
Reaction to fire D-s2, d0 [EN 13501-1]
Weatherproof class
Beams-Use Class (UC) 3 NWPC: Class AB 20 kg per m3 Posts-Use Class (UC) 4 NWPC: Class A 26 kg per m3
Treated in accordance with EN BS351-1:2007 and EN335
Tolerances +/- 2mm
Moisture 8-15%

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DESIGN INFORMATION

These tables have been prepared in accordance with the relevant Australian standards and are suitable for residential construction in line with AS1684. Installation of members to be in accordance with AS1684, which includes connections, tie downs, bearing and end details.

DESIGN PROPERTIES

DESIGN PROPERTIES FOR POLKKY GLULAM		
Modulus of elasticity	**E**	**8,000 MPa**
Basic working stresses		
Bending	F'b	19.0 MPa
Tension parallel to grain	F't	6.0 MPa
Compression parallel to grain	F'c	14.0 MPa
Shear in beams	F's	3.7 MPa
Compression perpendicular to grain	F'p	N/A MPa
Shear at joint details	F'sj	N/A MPa
Joint strength group		JD5

ROOF MASS

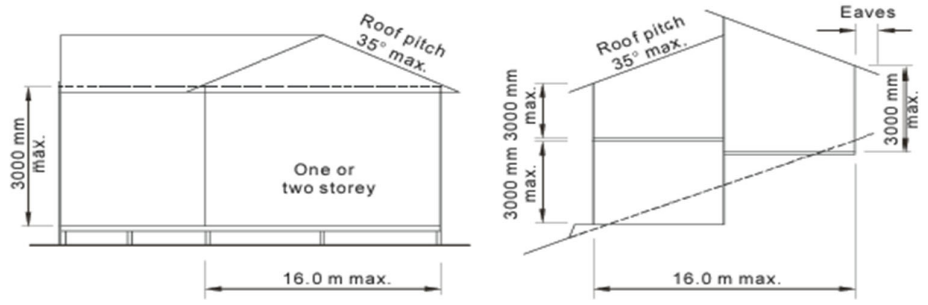
ROOF TYPE	ROOF MASS ALLOWED
Sheet Roof	25 kg/m²
Sheet Roof and Ceiling	40 kg/m²
Tile Roof	75 kg/m²
Tile Roof and Ceiling	90 kg/m²

APPROXIMATE MASS OF ROOF / CEILING MATERIALS				
Material				Mass kg/m²
Roofing	steel sheet 0.5 mm thick and battens			10
	steel sheet 0.75 mm thick and battens			15
	metal tiles and battens			15
	terracotta/concrete tiles and battens			60
Ceiling	t & g boards	pine	12mm	6.5
		hwd	12mm	9.0
		pine	19mm	10.5
	plywood	pine	12mm	7.0
			15mm	9.0
	plasterboard		10mm	7.5
			13mm	13.0
	fibre cement sheet		4.7mm	7.5
			6.3mm	11.0
Insulation	Lightweight plus sarking			1.0

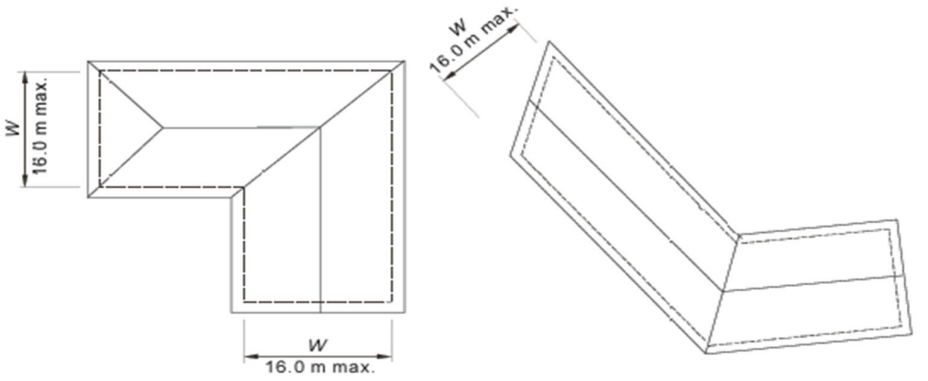
APPLICATION

Geometric Parameters

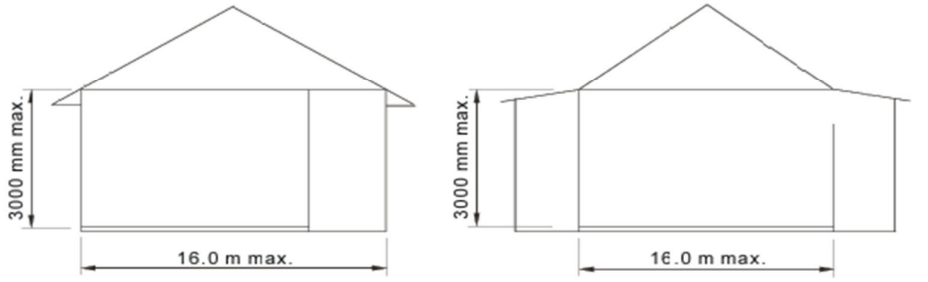
Spacing and Span



(a) Sections

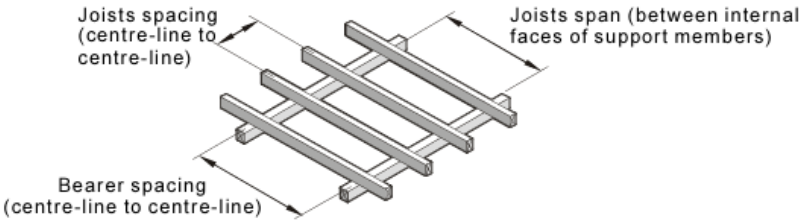


(b) Plan

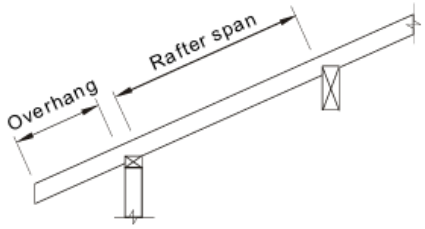


(c) Verandahs

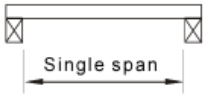
NOTE: Building height limitations apply where wind classification is determined using AS 4055 (see Clause 1.6.2).



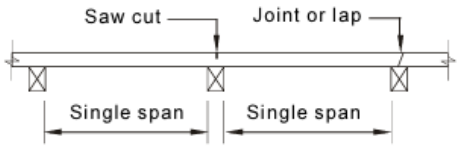
(a) Bearers and joists



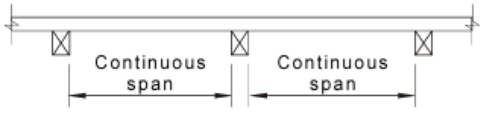
(b) Rafter



(c) Two supports

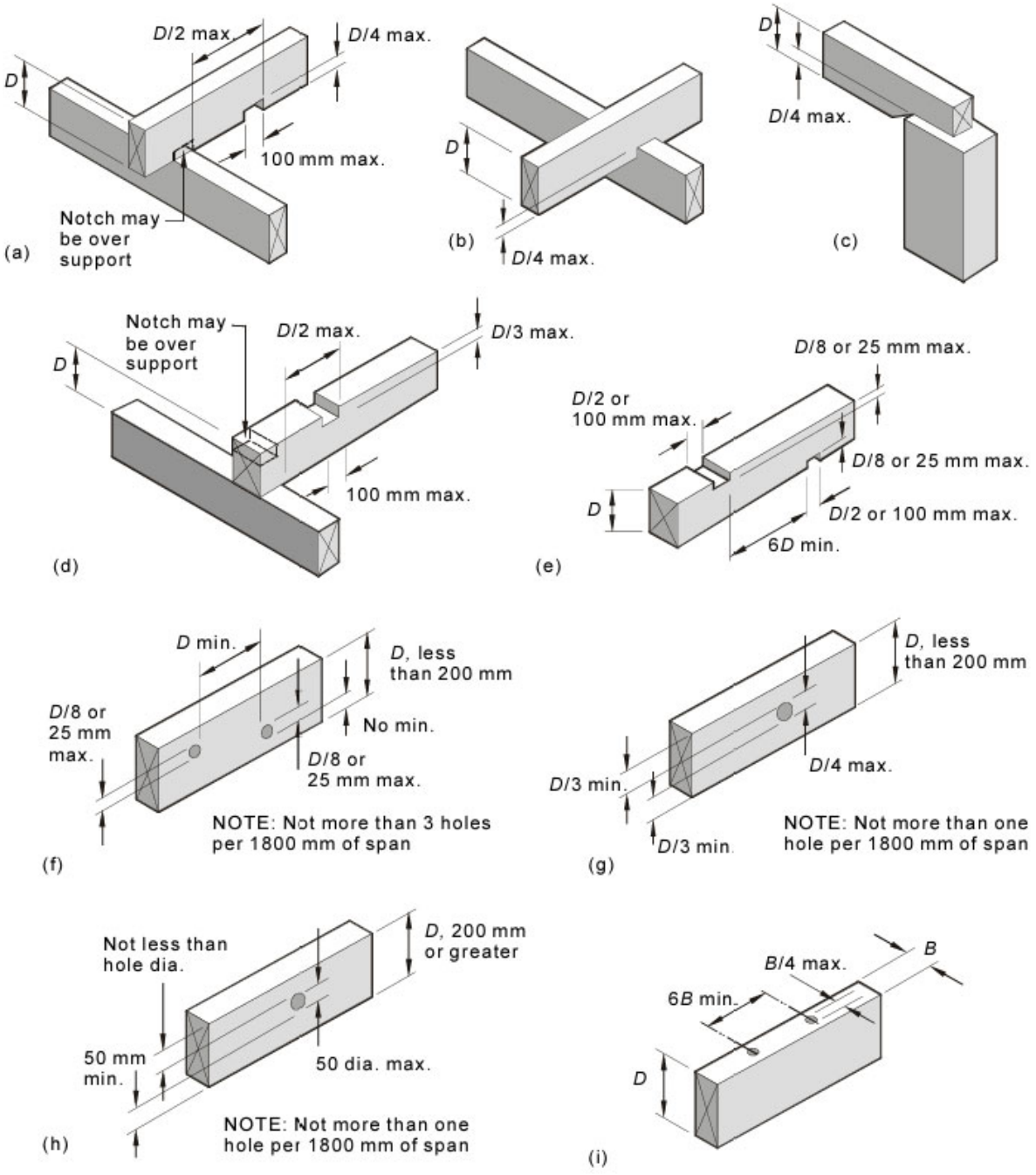


(d) Joint or sawcut over supports



(e) Continuous span

Notches, Cuts and Holes



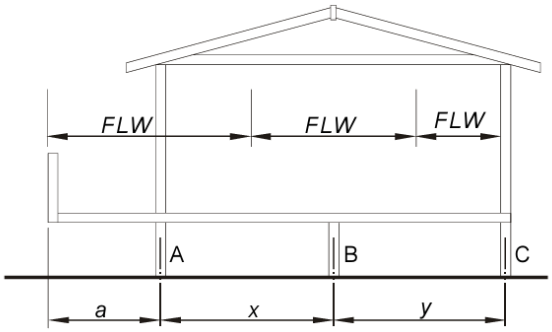
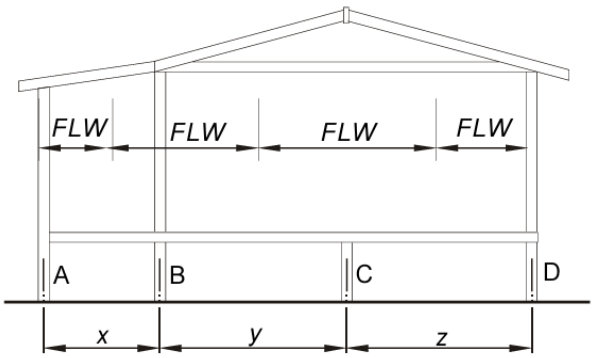
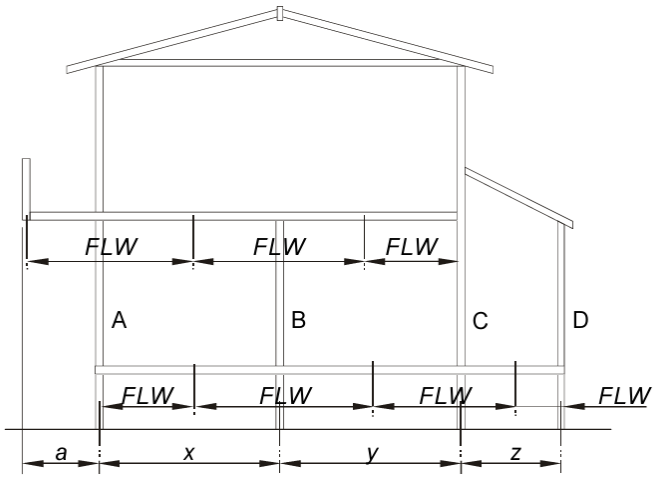
Type of Construction		Floor load width (*FLW*)
(a) Cantilevered balcony		*FLW* (A) = $\frac{x}{2} + a$
		FLW (B) = $\frac{x+y}{2}$
		FLW (C) = $\frac{y}{2}$
(b) Supported balcony		*FLW* (A) = $\frac{x}{2}$
		FLW (B) = $\frac{x+y}{2}$
		FLW (C) = $\frac{y+z}{2}$
		FLW (D) = $\frac{z}{2}$

FIGURE 2. 10 FLOOR LOAD WIDTH (*FLW*) - SINGLE OR UPPER STOREY CONSTRUCTION

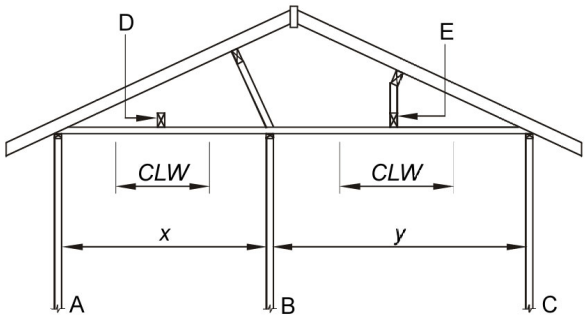
FLOOR LOAD



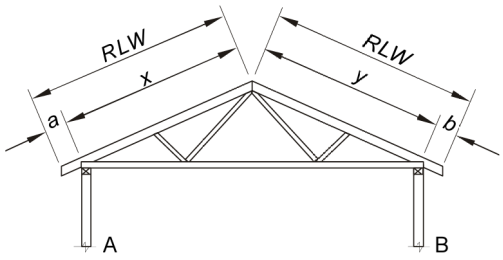
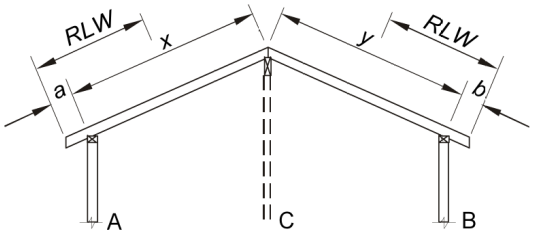
Type of construction	Location	Floor load width (*FLW*)
(a) Lower storey load bearing walls	Wall A	Upper *FLW* = $\frac{x}{2}$ + a
	Wall B	Upper *FLW* = $\frac{x+y}{2}$
	Wall C	Upper *FLW* = $\frac{y}{2}$
	Wall D	N/A*
(b) Bearers supporting lower storey load bearing walls	Bearer A	Upper *FLW* = $\frac{x}{2}$ + a Lower *FLW* = $\frac{x}{2}$
	Bearer B	Upper *FLW* = $\frac{x+y}{2}$ Lower *FLW* = $\frac{x+y}{2}$
	Bearer C	Upper *FLW* = $\frac{y}{2}$ Lower *FLW* = $\frac{y+z}{2}$
	Bearer D	Upper *FLW* = N/A*

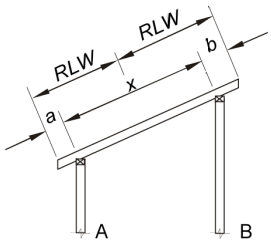
		Lower *FLW* = $\frac{z}{2}$

ROOF LOAD

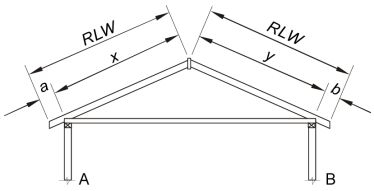
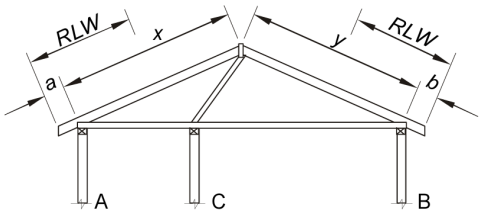


Location	**Ceiling load width (CLW)**
Walls A, B & C	N/A*
Beam D (Hanging beam)	*CLW* = $\frac{x}{2}$
Beam E (Strutting/hanging beam)	*CLW* = $\frac{y}{2}$
• CLW is not required as an input to the Tables for wall framing or bearers supporting load bearing walls.	

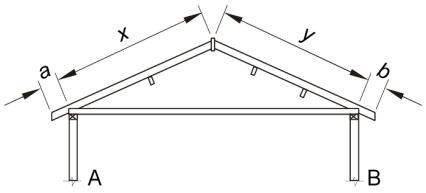
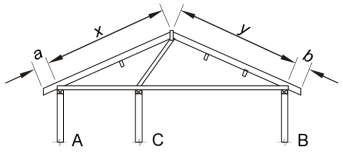
Type of construction		Roof load width (*RLW*) for member sizing
(a) Truss		*RLW* (A) = $\frac{x+y}{2}$ + a
		RLW (B) = $\frac{x+y}{2}$ + b
(b) Cathedral		*RLW* (A) = $\frac{x}{2}$ + a
		RLW (B) = $\frac{y}{2}$ + b
		RLW (C) = $\frac{x+y}{2}$
		RLW (A) = $\frac{x}{2}$ + a

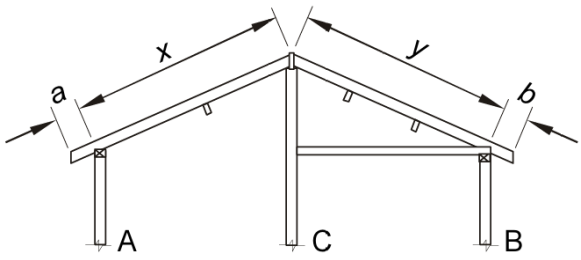
(c) Skillion		*RLW* (B) = $\frac{x}{2}$ + b

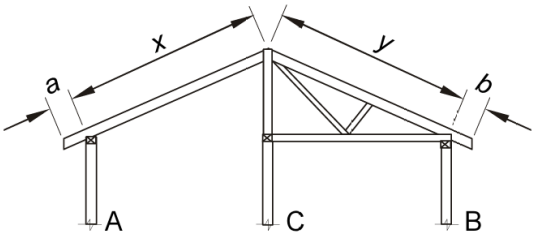
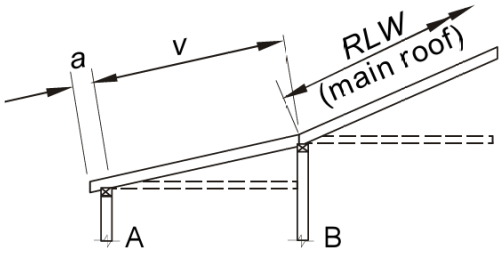
ROOF LOAD

Type of construction	Roof load width (*RLW*) for member sizing
 (a) No ridge struts	*RLW* (A) = x + a
	RLW (B) = y + b
 (b) Ridge struts	*RLW* (A) = $\frac{x}{2}$ + a
	RLW (B) = $\frac{y}{2}$ + b
	(C) N/A*

- *RLW* may not be applicable where strut loads are supported by studs supporting concentrations of load and the remainder of wall C is deemed non-loadbearing. In this case, the roof area supported shall be determined for the studs supporting concentrated loads.

Type of construction	Roof load width (*RLW*) for member sizing
 (a) No ridge struts	*RLW* (A) = $\frac{x}{2}$ + a
	RLW (B) = $\frac{y}{3}$ + b
 (b) Ridge struts	*RLW* (A) = $\frac{x}{4}$ + a
	RLW = $\frac{y}{6}$ + b
	N/A*
• *RLW* may not be applicable where strut loads are supported by studs supporting concentrations of load and the remainder of wall C is deemed non-loadbearing. In this case, the roof area supported shall be determined for the studs supporting concentrated loads.	

Type of construction	Roof load width (*RLW*) for member sizing
 (a) Cathedral — Framed	*RLW* (A) = $\frac{x}{4}$ + a
	RLW (B) = $\frac{y}{6}$ + b
	RLW (C) = $\frac{x}{4}$ + $\frac{y}{6}$
	RLW (A) = $\frac{x}{2}$ + a
	RLW (B) = $\frac{y}{2}$ + b

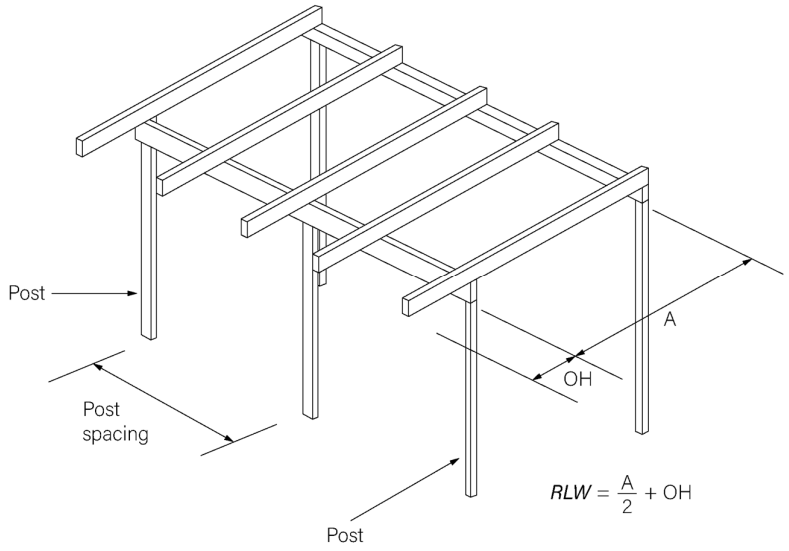
 (b) Cathedral — Truss	RLW (C) = $\frac{x+y}{2}$
 (c) Verandah	RLW (A) = $\frac{v}{2}$ + a
	RLW = RLW for main roof + $\frac{v}{2}$

POSTS

WIND CLASSIFICATION **N3**
SUPPORTING ROOF LOAD ONLY
SHEET ROOF

POST HEIGHT (mm)	POST SPACING	ROOF LOAD ONLY							
		RAFTER RLW (mm)							
		1.5	2.4	3.3	4.2	5.1	6	6.9	7.8
		MAXIMUM VERANDAH BEAM SPAN (m)							
2400	1800	90x90	90x90	90x90	90x90	90x90	90x90	90x90	90x90
	3000	90x90	90x90	90x90	90x90	90x90	115x115	115x115	115x115
	4200	90x90	90x90	90x90	115x115	115x115	115x115	115x115	140x140
	5400	90x90	90x90	115x115	115x115	115x115	140x140	140x140	140x140
	6600	90x90	90x90	115x115	115x115	140x140	140x140	140x140	190x190
3000	1800	90x90	90x90	90x90	90x90	90x90	90x90	90x90	115x115
	3000	90x90	90x90	90x90	115x115	115x115	115x115	115x115	115x115
	4200	90x90	90x90	115x115	115x115	115x115	115x115	140x140	140x140
	5400	90x90	115x115	115x115	115x115	140x140	140x140	140x140	140x140
	6600	90x90	115x115	115x115	140x140	140x140	140x140	140x140	190x190
3600	1800	90x90	90x90	90x90	90x90	115x115	115x115	115x115	115x115
	3000	90x90	90x90	115x115	115x115	115x115	115x115	140x140	140x140
	4200	90x90	115x115	115x115	115x115	140x140	140x140	140x140	140x140
	5400	90x90	115x115	115x115	140x140	140x140	140x140	190x190	190x190
	6600	115x115	115x115	140x140	140x140	140x140	190x190	190x190	190x190
4200	1800	90x90	90x90	90x90	115x115	115x115	115x115	115x115	140x140
	3000	90x90	115x115	115x115	115x115	140x140	140x140	140x140	140x140
	4200	90x90	115x115	115x115	140x140	140x140	140x140	190x190	190x190
	5400	115x115	115x115	140x140	140x140	190x190	190x190	190x190	190x190
	6600	115x115	140x140	140x140	190x190	190x190	190x190	190x190	190x190

ECCENTRICITY POST/2



POSTS

WIND CLASSIFICATION **N2**

TILED ROOF

SECTION D X B (mm)	POST SPACING	ROOF LOAD ONLY							
		RAFTER RLW (mm)							
		1.5	2.4	3.3	4.2	5.1	6	6.9	7.8
		MAXIMUM VERANDAH BEAM SPAN (m)							
2400	1800	90x90	90x90	115x115	115x115	115x115	115x115	115x115	115x115
	3000	90x90	90x90	115x115	115x115	140x140	140x140	140x140	140x140
	4200	90x90	115x115	115x115	140x140	140x140	140x140	190x190	190x190
	5400	115x115	115x115	140x140	140x140	190x190	190x190	190x190	190x190
	6600	115x115	140x140	140x140	190x190	140x140	190x190	190x190	190x190
3000	1800	90x90	90x90	115x115	115x115	115x115	115x115	140x140	140x140
	3000	90x90	115x115	115x115	140x140	140x140	140x140	140x140	190x190
	4200	115x115	115x115	140x140	140x140	140x140	190x190	190x190	190x190
	5400	115x115	140x140	140x140	190x190	190x190	190x190	190x190	190x190
	6600	115x115	140x140	140x140	190x190	190x190	240x240	240x240	240x240
3600	1800	90x90	115x115	115x115	115x115	140x140	140x140	140x140	140x140
	3000	115x115	115x115	140x140	140x140	140x140	190x190	190x190	190x190
	4200	115x115	140x140	140x140	190x190	190x190	190x190	190x190	190x190
	5400	115x115	140x140	190x190	190x190	190x190	190x190	190x190	240x240
	6600	140x140	190x190	190x190	190x190	190x190	240x240	240x240	240x240
4200	1800	90x90	115x115	115x115	140x140	140x140	140x140	190x190	190x190
	3000	115x115	140x140	140x140	190x190	190x190	190x190	190x190	190x190
	4200	140x140	140x140	190x190	190x190	190x190	190x190	240x240	240x240
	5400	140x140	190x190	190x190	190x190	190x190	240x240	240x240	240x240
	6600	190x190	190x190	190x190	190x190	240x240	240x240	240x240	240x240

LINTELS SUPPORTING ROOF AND FLOOR LOADS

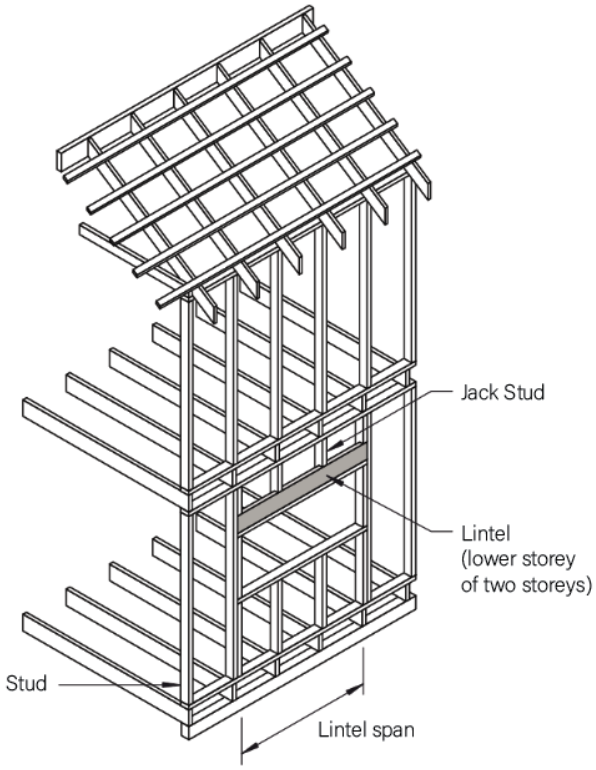
WIND CLASSIFICATION **N3**
SHEET ROOF

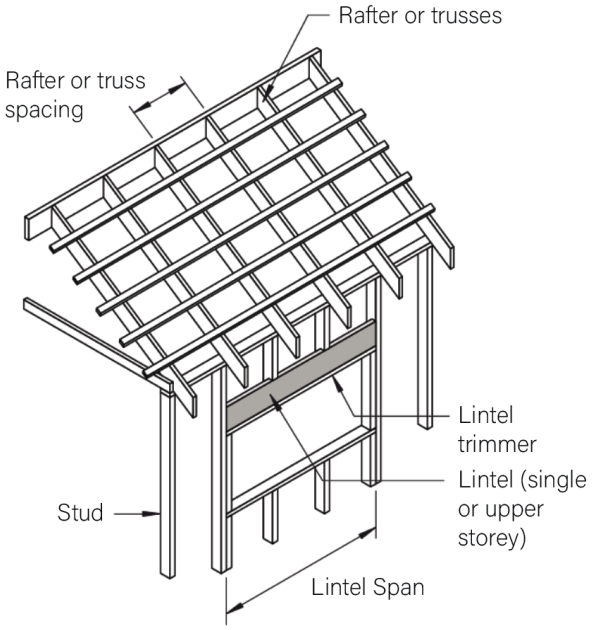
SECTION D X B (mm)	FLW = 1.2					FLW = 2.1					FLW = 3.0				
	RAFTER RLW (mm)														
	1.8	3	4.2	5.4	6.6	1.8	3	4.2	5.4	6.6	1.8	3	4.2	5.4	6.6
	MAXIMUM SINGLE LINTEL SPAN (m)														
140x45	1.7	1.6	1.6	1.4	1.3	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.1
190x45	2.3	2.1	2.0	1.9	1.8	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.4
240x45	2.7	2.6	2.5	2.3	2.1	2.3	2.2	2.1	2.0	2.0	2.0	1.9	1.8	1.8	1.8
290x45	3.2	3.0	2.8	2.5	2.3	2.6	2.5	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.0
190x63	2.7	2.6	2.5	2.3	2.1	2.3	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8
240x63	3.5	3.3	3.1	2.9	2.7	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.3	2.3	2.2
290x63	4.2	4.0	3.8	3.5	3.2	3.4	3.3	3.2	3.1	3.0	3.0	2.9	2.8	2.8	2.7
2/140x45	2.4	2.3	2.2	2.0	1.9	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.6	1.6	1.6
2/190x45	3.2	3.0	2.9	2.7	2.5	2.6	2.5	2.4	2.4	2.3	2.3	2.2	2.1	2.1	2.0
2/240x45	3.8	3.6	3.5	3.2	3.0	3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5	2.5
2/290x45	4.5	4.2	3.9	3.5	3.3	3.7	3.6	3.4	3.3	3.2	3.2	3.1	3.0	3.0	2.9

TILE ROOF

SECTION D X B (mm)	FLW = 1.2					FLW = 2.1					FLW = 3.0				
	RAFTER RLW (mm)														
	1.8	3	4.2	5.4	6.6	1.8	3	4.2	5.4	6.6	1.8	3	4.2	5.4	6.6
	MAXIMUM SINGLE LINTEL SPAN (m)														
140x45	1.6	1.4	1.2	1.1	1.1	1.3	1.2	1.2	1.1	1.0	1.2	1.1	1.0	1.0	1.0
190x45	2.0	1.8	1.7	1.5	1.4	1.7	1.6	1.5	1.4	1.3	1.5	1.4	1.4	1.3	1.3
240x45	2.5	2.2	2.0	1.9	1.7	2.1	2.0	1.8	1.7	1.6	1.9	1.8	1.7	1.6	1.5
290x45	2.9	2.6	2.4	2.2	2.0	2.4	2.3	2.1	2.0	1.9	2.2	2.0	1.9	1.9	1.8
190x63	2.5	2.2	2.0	1.8	1.7	2.1	2.0	1.8	1.7	1.6	1.9	1.8	1.7	1.6	1.5
240x63	3.2	2.8	2.5	2.3	2.2	2.7	2.5	2.3	2.2	2.0	2.3	2.2	2.1	2.0	1.9
290x63	3.8	3.4	3.0	2.8	2.6	3.2	3.0	2.8	2.6	2.5	2.8	2.7	2.6	2.4	2.3
2/140x45	2.2	1.9	1.8	1.6	1.5	1.9	1.7	1.6	1.5	1.4	1.6	1.6	1.5	1.4	1.3
2/190x45	2.9	2.6	2.3	2.2	2.0	2.4	2.3	2.1	2.0	1.9	2.2	2.0	1.9	1.9	1.8
2/240x45	3.5	3.1	2.8	2.6	2.4	3.0	2.8	2.6	2.5	2.3	2.6	2.5	2.4	2.2	2.2
2/290x45	4.0	3.7	3.3	3.1	2.8	3.4	3.2	3.0	2.8	2.7	3.0	2.9	2.7	2.6	2.5

LINTELS


Jack Stud
Lintel
(lower storey
of two storeys)
Stud
Lintel span


Rafter or trusses
Rafter or truss
spacing
Lintel
trimmer
Lintel (single
or upper
storey)
Stud
Lintel Span

LINTELS

WIND CLASSIFICATION **N2**
TRUSSES OR RAFTERS AT 1200 CTS MAX
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.6	2.4	2.0	1.7	1.4	1.2	1.1	1.0	0.9	0.8	0.7
190 x 45	3.3	3.0	2.7	2.5	2.3	2.0	1.8	1.6	1.5	1.3	1.2
240 x 45	4.0	3.6	3.3	2.9	2.6	2.5	2.3	2.1	1.9	1.7	1.6
290 x 45	4.6	4.2	3.6	3.2	2.9	2.7	2.5	2.4	2.2	2.0	1.9
190 x 63	3.6	3.3	3.0	2.8	2.7	2.5	2.3	2.1	1.9	1.7	1.6
240 x 63	4.3	3.9	3.6	3.4	3.2	3.0	2.8	2.7	2.5	2.4	2.3
290 x 63	5.0	4.5	4.2	3.9	3.7	3.6	3.4	3.2	3.0	2.9	2.7
2/140 X 45	3.1	2.8	2.6	2.5	2.3	2.1	1.9	1.7	1.6	1.4	1.3
2/190 x 45	3.9	3.6	3.3	3.1	2.9	2.8	2.7	2.6	2.4	2.3	2.1
2/240 x 45	4.7	4.2	3.9	3.7	3.5	3.4	3.1	2.9	2.8	2.7	2.5
2/290 x 45	5.3	4.9	4.6	4.3	4.1	3.8	3.5	3.2	3.1	2.9	2.8
2/190 x 63	4.2	3.8	3.6	3.4	3.2	3.0	2.9	2.8	2.7	2.6	2.6
2/240 x 63	5.0	4.6	4.3	4.0	3.8	3.7	3.5	3.4	3.3	3.2	3.1
2/.290 x 63	5.7	5.2	4.9	4.7	4.4	4.2	4.1	3.9	3.8	3.7	3.6

WIND CLASSIFICATION **N2**
TRUSSES OR RAFTERS AT 600 CTS MAX
TILED ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.0	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.9
190 x 45	2.7	2.4	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3
240 x 45	3.3	2.9	2.7	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.6
290 x 45	3.8	3.5	3.2	3.0	2.8	2.6	2.4	2.2	2.1	2.0	1.9
190 x 63	3.0	2.6	2.4	2.2	2.1	1.9	1.8	1.8	1.7	1.6	1.6
240 x 63	3.6	3.3	3.0	2.8	2.6	2.5	2.4	2.3	2.2	2.1	2.0
290 x 63	4.2	3.8	3.5	3.3	3.1	3.0	2.8	2.7	2.6	2.5	2.5
2/140 X 45	2.5	2.2	2.0	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.4
2/190 x 45	3.3	2.9	2.7	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.8
2/240 x 45	3.9	3.6	3.3	3.1	2.9	2.8	2.6	2.5	2.5	2.4	2.3
2/290 x 45	4.5	4.1	3.8	3.6	3.5	3.3	3.2	3.0	2.9	2.8	2.7
2/190 x 63	3.6	3.3	3.0	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0
2/240 x 63	4.2	3.9	3.6	3.4	3.2	3.1	2.9	2.8	2.7	2.6	2.6
2/290 x 63	4.9	4.4	4.1	3.9	3.7	3.6	3.5	3.4	3.3	3.2	3.1

LINTELS

WIND CLASSIFICATION **N3**
TRUSSES OR RAFTERS AT 600 CTS MAX
TILED ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.6	2.2	1.7	1.4	1.2	1.0	0.9	0.8	0.7	0.7	0.6
190 x 45	3.3	2.9	2.6	2.3	2.0	1.7	1.5	1.4	1.2	1.1	1.1
240 x 45	4.0	3.5	3.0	2.7	2.5	2.2	2.0	1.8	1.6	1.5	1.4
290 x 45	4.6	3.8	3.3	2.9	2.7	2.5	2.3	2.1	1.9	1.8	1.6
190 x 63	3.6	3.3	3.0	2.7	2.5	2.2	2.0	1.8	1.6	1.5	1.4
240 x 63	4.3	3.9	3.6	3.3	3.0	2.8	2.6	2.5	2.4	2.2	2.0
290 x 63	5.0	4.5	4.2	3.9	3.7	3.4	3.1	2.9	2.8	2.7	2.5
2/140 X 45	3.1	2.8	2.6	2.4	2.1	1.8	1.6	1.5	1.3	1.2	1.1
2/190 x 45	3.9	3.6	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.0	1.9
2/240 x 45	4.7	4.2	3.9	3.7	3.4	3.1	2.9	2.7	2.6	2.5	2.4
2/290 x 45	5.3	4.9	4.6	4.2	3.8	3.4	3.2	3.0	2.8	2.7	2.6
2/190 x 63	4.2	3.8	3.6	3.4	3.2	3.0	2.9	2.7	2.6	2.5	2.4
2/240 x 63	5.0	4.6	4.3	4.0	3.8	3.7	3.5	3.4	3.2	3.1	2.9
2/290 x 63	5.7	5.2	4.9	4.7	4.4	4.2	4.1	3.9	3.8	3.7	3.5

WIND CLASSIFICATION **N3**
TRUSSES OR RAFTERS AT 1200 CTS MAX
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.0	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.9
190 x 45	2.7	2.4	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3
240 x 45	3.3	2.9	2.7	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.6
290 x 45	3.8	3.5	3.2	3.0	2.8	2.6	2.4	2.2	2.1	2.0	1.9
190 x 63	3.0	2.6	2.4	2.2	2.1	1.9	1.8	1.8	1.7	1.6	1.6
240 x 63	3.6	3.3	3.0	2.8	2.6	2.5	2.4	2.3	2.2	2.1	2.0
290 x 63	4.2	3.8	3.5	3.3	3.1	3.0	2.8	2.7	2.6	2.5	2.5
2/140 X 45	2.5	2.2	2.0	1.8	1.7	1.6	1.5	1.5	1.4	1.4	1.4
2/190 x 45	3.3	2.9	2.7	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.8
2/240 x 45	3.9	3.6	3.3	3.1	2.9	2.8	2.6	2.5	2.5	2.4	2.3
2/290 x 45	4.5	4.1	3.8	3.6	3.5	3.3	3.2	3.0	2.9	2.8	2.7
2/190 x 63	3.6	3.3	3.0	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0
2/240 x 63	4.2	3.9	3.6	3.4	3.2	3.1	2.9	2.8	2.7	2.6	2.6
2/290 x 63	4.9	4.4	4.1	3.9	3.7	3.6	3.5	3.4	3.3	3.2	3.1

GARAGE PITCHING BEAMS

GARAGE PITCHING
WIND CLASSIFICATION **N3**
TRUSSES OR RAFTERS AT 1200 CTS MAX
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.7	2.4	2.0	1.8	1.6	1.5	1.4	1.3	1.3	1.2	1.1
190 x 45	3.7	3.2	2.8	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5
240 x 45	4.6	4.0	3.5	3.1	2.8	2.6	2.4	2.3	2.1	2.0	1.9
290 x 45	5.2	4.6	4.0	3.6	3.2	2.9	2.7	2.6	2.4	2.3	2.2
190 x 63	4.0	3.6	3.2	2.9	2.7	2.5	2.3	2.1	2.0	1.9	1.8
240 x 63	4.9	4.4	4.0	3.7	3.4	3.1	2.9	2.7	2.6	2.5	2.3
290 x 63	5.6	5.1	4.8	4.5	4.1	3.8	3.5	3.3	3.1	2.9	2.8
2/140 X 45	3.3	2.9	2.7	2.5	2.3	2.2	2.0	1.8	1.7	1.6	1.6
2/190 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.7	2.6	2.4	2.3	2.2
2/240 x 45	5.3	4.8	4.5	4.2	3.9	3.7	3.4	3.2	3.0	2.9	2.7
2/290 x 45	6.1	5.5	5.2	4.9	4.5	4.2	3.9	3.7	3.4	3.2	3.1
2/190 x 63	4.8	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.8	2.7	2.6
2/240 x 63	5.7	5.2	4.9	4.6	4.3	4.1	3.9	3.7	3.6	3.5	3.3
2/.290 x 63	6.5	5.9	5.6	5.3	5.0	4.8	4.7	4.5	4.3	4.2	4.0

SECTION D X B (mm)	CONTINUOUS SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	3.3	2.7	2.1	1.9	1.7	1.5	1.3	1.2	1.0	0.9	0.8
190 x 45	4.3	3.5	3.0	2.7	2.5	2.1	2.0	1.9	1.7	1.6	1.5
240 x 45	5.3	4.3	3.7	3.2	2.9	2.7	2.5	2.2	2.0	1.9	1.9
290 x 45	6.2	5.0	4.2	3.8	3.4	3.1	2.9	2.7	2.6	2.4	2.1
190 x 63	5.1	4.3	3.8	3.3	2.9	2.8	2.6	2.3	2.1	1.9	1.9
240 x 63	6.0	5.5	4.9	4.2	3.9	3.5	3.2	3.0	2.8	2.7	2.6
290 x 63	7.0	6.3	5.8	5.1	4.6	4.2	4.0	3.7	3.4	3.2	3.0
2/140 X 45	4.4	3.8	3.3	2.9	2.7	2.4	2.1	1.9	1.9	1.7	1.6
2/190 x 45	5.5	5.0	4.3	3.9	3.4	3.2	2.9	2.8	2.6	2.5	2.3
2/240 x 45	6.5	5.9	5.2	4.8	4.2	3.9	3.6	3.3	3.1	2.9	2.8
2/290 x 45	7.5	6.8	6.1	5.4	4.9	4.4	4.1	3.9	3.7	3.4	3.3
2/190 x 63	5.9	5.4	5.1	4.8	4.2	4.0	3.7	3.4	3.2	3.0	2.8
2/240 x 63	7.0	6.4	6.0	5.6	5.4	5.0	4.7	4.3	4.1	3.9	3.7
2/.290 x 63	8.0	7.3	6.9	6.4	6.2	5.9	5.6	5.2	4.9	4.7	4.3

GARAGE PITCHING BEAMS

WIND CLASSIFICATION **N2**
TRUSSES OR RAFTERS AT 1200 CTS MAX
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.7	2.4	2.1	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.3
190 x 45	3.7	3.2	2.9	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.6
240 x 45	4.6	4.0	3.6	3.4	3.1	2.9	2.7	2.5	2.4	2.2	2.1
290 x 45	5.2	4.8	4.4	3.9	3.6	3.3	3.0	2.8	2.7	2.5	2.4
190 x 63	4.0	3.6	3.2	2.9	2.8	2.6	2.5	2.4	2.2	2.1	2.0
240 x 63	4.9	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.8	2.7	2.6
290 x 63	5.6	5.1	4.8	4.5	4.2	4.0	3.8	3.6	3.4	3.2	3.1
2/140 X 45	3.3	2.9	2.7	2.5	2.3	2.2	2.0	1.9	1.9	1.8	1.7
2/190 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.8	2.7	2.6	2.5	2.4
2/240 x 45	5.3	4.8	4.5	4.2	3.9	3.7	3.5	3.4	3.2	3.1	3.0
2/290 x 45	6.1	5.5	5.2	4.9	4.7	4.4	4.2	4.0	3.8	3.6	3.4
2/190 x 63	4.8	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.8	2.7	2.6
2/240 x 63	5.7	5.2	4.9	4.6	4.3	4.1	3.9	3.7	3.6	3.5	3.3
2/.290 x 63	6.5	5.9	5.6	5.3	5.0	4.8	4.7	4.5	4.3	4.2	4.0

SECTION D X B (mm)	CONTINUOUS SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	3.5	2.9	2.5	2.0	1.9	1.7	1.5	1.4	1.3	1.1	1.0
190 x 45	4.7	3.9	3.3	2.9	2.7	2.5	2.1	2.0	1.9	1.8	1.7
240 x 45	5.6	4.8	4.0	3.5	3.2	2.9	2.7	2.5	2.3	2.1	2.0
290 x 45	6.4	5.4	4.7	4.1	3.7	3.4	3.1	2.9	2.8	2.6	2.5
190 x 63	5.1	4.6	4.1	3.6	3.2	2.9	2.8	2.6	2.4	2.1	2.0
240 x 63	6.0	5.5	5.1	4.6	4.1	3.8	3.5	3.2	3.0	2.9	2.8
290 x 63	7.0	6.3	5.8	5.5	5.0	4.5	4.2	4.0	3.7	3.5	3.3
2/140 X 45	4.4	3.8	3.5	3.1	2.8	2.6	2.4	2.1	2.0	1.9	1.8
2/190 x 45	5.5	5.0	4.7	4.1	3.8	3.4	3.2	2.9	2.8	2.7	2.5
2/240 x 45	6.5	5.9	5.5	5.0	4.5	4.1	3.9	3.6	3.3	3.2	3.0
2/290 x 45	7.5	6.8	6.4	5.9	5.2	4.9	4.4	4.1	4.0	3.7	3.5
2/190 x 63	5.9	5.4	5.1	4.8	4.6	4.2	4.0	3.7	3.4	3.2	3.0
2/240 x 63	7.0	6.4	6.0	5.6	5.4	5.2	5.0	4.7	4.3	4.1	3.9
2/.290 x 63	8.0	7.3	6.9	6.4	6.2	5.9	5.7	5.5	5.2	5.0	4.8

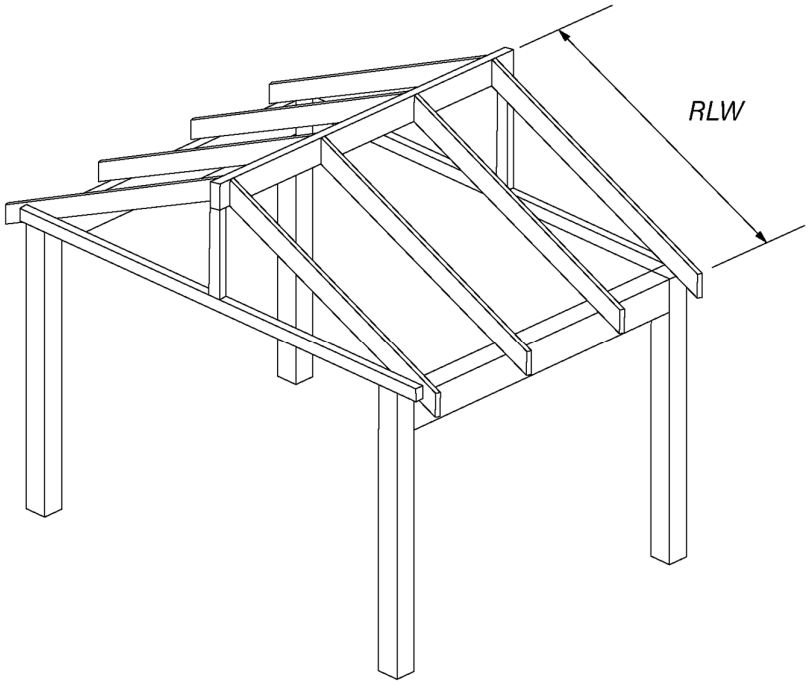
GARAGE PITCHING

WIND CLASSIFICATION **N2**
TRUSSES OR RAFTERS AT 600 CTS MAX
TILE ROOF

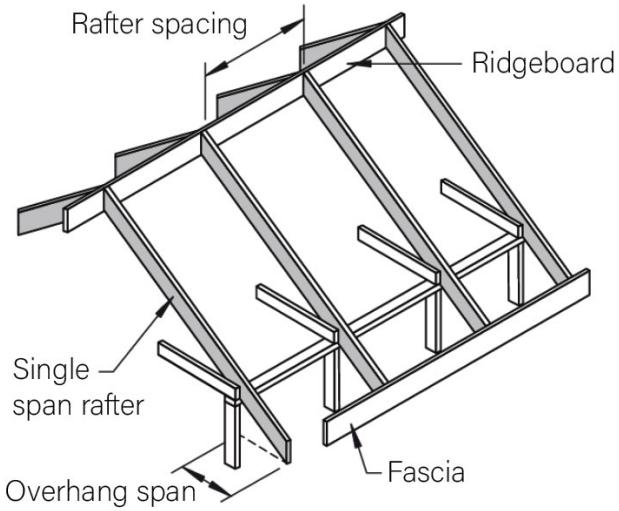
SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.1	1.8	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.9
190 x 45	2.8	2.5	2.3	2.1	1.9	1.8	1.6	1.5	1.5	1.4	1.3
240 x 45	3.6	3.1	2.8	2.6	2.5	2.3	2.1	1.9	1.8	1.7	1.6
290 x 45	4.3	3.8	3.5	3.0	2.8	2.6	2.4	2.2	2.1	2.0	1.9
190 x 63	3.2	2.8	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.6
240 x 63	4.0	3.5	3.2	2.9	2.8	2.6	2.5	2.4	2.2	2.1	2.0
290 x 63	4.7	4.2	3.8	3.6	3.3	3.1	3.0	2.9	2.7	2.6	2.5
2/140 X 45	2.6	2.3	2.1	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.4
2/190 x 45	3.6	3.1	2.8	2.6	2.5	2.4	2.2	2.1	2.0	2.0	1.9
2/240 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.8	2.7	2.6	2.5	2.4
2/290 x 45	5.1	4.7	4.3	4.0	3.8	3.6	3.4	3.2	3.0	2.8	2.7
2/190 x 63	3.9	3.5	3.1	2.9	2.7	2.6	2.5	2.4	2.3	2.2	2.1
2/240 x 63	4.8	4.3	4.0	3.7	3.5	3.3	3.1	3.0	2.9	2.8	2.7
2/.290 x 63	5.5	5.0	4.7	4.4	4.2	3.9	3.8	3.6	3.5	3.4	3.3

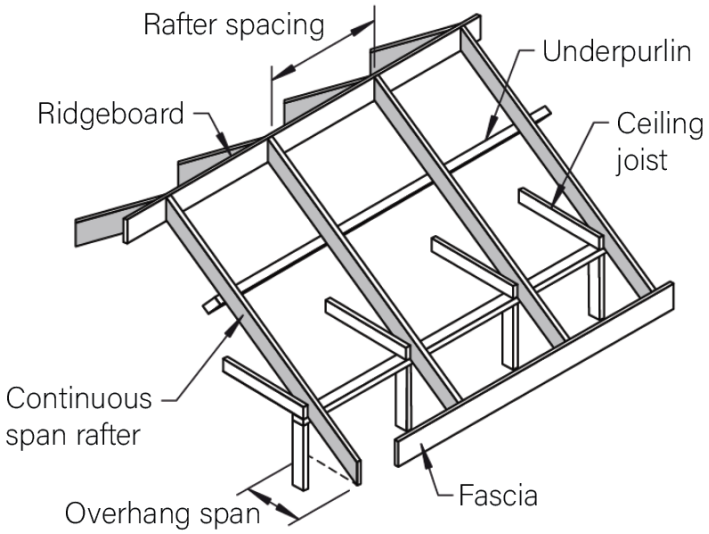
SECTION D X B (mm)	CONTINUOUS SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.7	2.2	1.8	1.6	1.5	1.4	1.3	1.3	1.1	1.0	0.9
190 x 45	3.6	2.9	2.6	2.3	2.0	1.9	1.7	1.6	1.5	1.5	1.2
240 x 45	4.4	3.7	3.2	2.8	2.6	2.4	2.2	2.1	1.9	1.8	1.7
290 x 45	5.0	4.2	3.7	3.4	3.1	2.9	2.7	2.5	2.4	2.3	2.1
190 x 63	4.2	3.5	3.0	2.7	2.5	2.3	2.1	1.9	1.8	1.7	1.6
240 x 63	5.1	4.4	3.8	3.4	3.0	2.8	2.6	2.5	2.4	2.2	2.1
290 x 63	5.8	5.2	4.6	4.1	3.7	3.4	3.2	2.9	2.8	2.7	2.6
2/140 X 45	3.5	3.0	2.6	2.4	2.1	1.9	1.8	1.7	1.6	1.5	1.5
2/190 x 45	4.6	4.1	3.6	3.2	2.9	2.7	2.5	2.4	2.2	2.1	2.0
2/240 x 45	5.5	4.9	4.3	3.9	3.6	3.4	3.1	2.9	2.8	2.6	2.5
2/290 x 45	6.3	5.5	4.9	4.5	4.1	3.9	3.7	3.4	3.3	3.1	3.0
2/190 x 63	5.0	4.5	4.1	3.8	3.4	3.1	2.9	2.7	2.6	2.5	2.4
2/240 x 63	6.0	5.4	5.0	4.7	4.3	4.0	3.7	3.5	3.3	3.1	2.9
2/.290 x 63	6.8	6.2	5.8	5.5	5.2	4.8	4.4	4.2	3.9	3.8	3.6

GARAGE PITCHING



RAFTERS


Rafter spacing
Ridgeboard
Single
span rafter
Overhang span
Fascia


Rafter spacing
Underpurlin
Ridgeboard
Ceiling
joist
Continuous
span rafter
Overhang span
Fascia

RAFTERS

WIND CLASSIFICATION **N2**
RESTRAINT 1200 TOP & SPAN BOTTOM

SECTION D X B (mm)	ROOF MASS kg/m²	SINGLE SPAN				CONTINUOUS SPAN			
		RAFTER SPACING (mm)							
		450	600	900	1200	450	600	900	1200
		MAXIMUM RAFTER SPAN (m)							
90 x 45	10	3.5	3.3	2.4	2.0	4.6	4.0	3.2	2.6
	20	3.0	2.7	2.4	1.9	4.0	3.7	3.2	2.6
	30	2.6	2.4	2.1	1.8	3.5	3.2	2.9	2.6
	40	2.4	2.2	2.0	1.7	3.2	3.0	2.6	2.4
	60	2.1	2.0	1.7	1.6	2.9	2.6	2.3	2.0
	90	1.9	1.7	1.5	1.4	2.5	2.3	2.0	1.8
140 x 45	10	5.2	4.9	4.5	4.1	6.7	6.2	5.0	4.3
	20	4.5	4.1	3.7	3.4	6.0	5.5	4.9	4.3
	30	4.0	3.7	3.3	3.0	5.4	5.0	4.4	4.0
	40	3.7	3.4	3.0	2.8	5.0	4.6	4.0	3.7
	60	3.3	3.0	2.7	2.4	4.4	4.0	3.6	3.3
	90	2.9	2.7	2.3	2.1	3.9	3.6	3.1	2.7
190 x 45	10	6.5	6.3	5.9	5.5	8.2	7.8	6.9	5.9
	20	5.9	5.5	4.9	4.6	7.4	7.0	6.5	5.7
	30	5.3	4.9	4.4	4.1	6.8	6.5	5.9	5.4
	40	4.9	4.6	4.1	3.7	6.5	6.1	5.4	5.0
	60	4.4	4.1	3.6	3.3	5.9	5.4	4.8	4.4
	90	3.9	3.6	3.2	2.9	5.2	4.8	4.2	3.7
240 x 45	10	7.6	7.3	6.9	6.6	9.4	9.1	8.2	7.0
	20	6.9	6.6	6.1	5.7	8.6	8.2	7.6	6.7
	30	6.4	6.1	5.5	5.1	8.0	7.6	7.0	6.3
	40	6.1	5.7	5.1	4.7	7.6	7.2	6.6	6.0
	60	5.5	5.1	4.5	4.1	7.0	6.6	5.8	5.2
	90	4.9	4.5	4.0	3.6	6.4	5.8	5.0	4.4
290 x 45	10	8.5	8.2	7.8	7.5	10.6	10.2	9.3	8.1
	20	7.8	7.5	7.0	6.6	9.7	9.3	8.7	7.6
	30	7.3	7.0	6.4	6.1	9.1	8.7	8.0	7.2
	40	7.0	6.6	6.1	5.6	8.7	8.2	7.5	6.8
	60	6.4	6.1	5.4	5.0	8.0	7.5	6.5	5.9
	90	5.9	5.4	4.8	4.4	7.2	6.5	5.6	5.0
190 x 63	10	6.8	6.6	6.2	5.9	8.5	8.2	7.8	7.1
	20	6.2	5.9	5.4	5.0	7.8	7.4	6.9	6.5
	30	5.8	5.4	4.8	4.5	7.3	6.9	6.4	6.0
	40	5.4	5.0	4.5	4.1	6.9	6.5	6.0	5.5
	60	4.8	4.5	4.0	3.6	6.4	6.0	5.3	4.9
	90	4.3	4.0	3.5	3.2	5.8	5.3	4.7	4.3
240 x 63	10	7.8	7.6	7.2	6.9	9.8	9.5	9.0	8.6
	20	7.2	6.9	6.5	6.2	9.0	8.6	8.1	7.7
	30	6.8	6.5	6.0	5.6	8.5	8.1	7.5	7.1
	40	6.5	6.2	5.6	5.1	8.1	7.7	7.1	6.7
	60	6.0	5.6	5.0	4.6	7.5	7.1	6.5	6.1
	90	5.4	5.0	4.4	4.0	6.9	6.5	5.9	5.4

290 x 63	10	8.8	8.5	8.2	7.8	10.9	10.6	10.2	9.8
	20	8.2	7.8	7.4	7.0	10.2	9.8	9.2	8.7
	30	7.7	7.4	6.9	6.5	9.6	9.2	8.6	8.1
	40	7.4	7.0	6.5	6.1	9.2	8.7	8.1	7.6
	60	6.9	6.5	6.0	5.5	8.6	8.1	7.4	7.0
	90	6.3	6.0	5.3	4.9	7.9	7.4	6.8	6.3

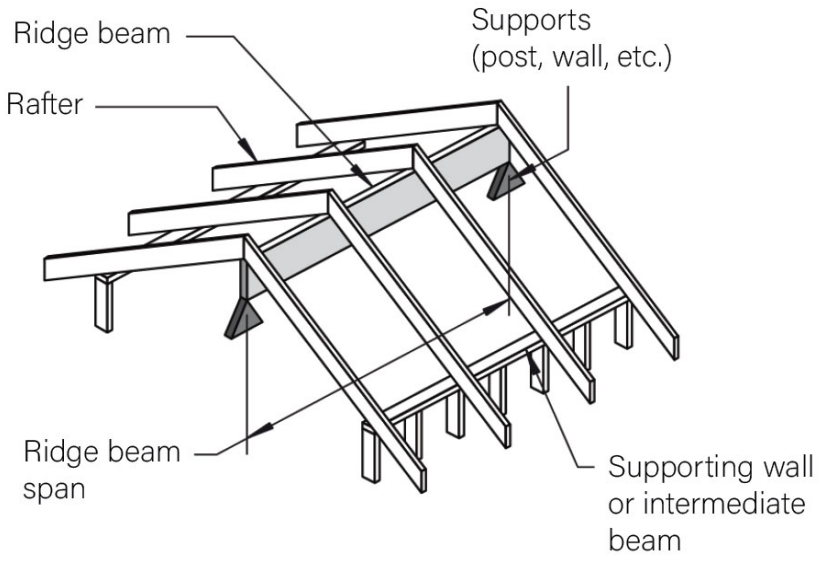
RAFTERS

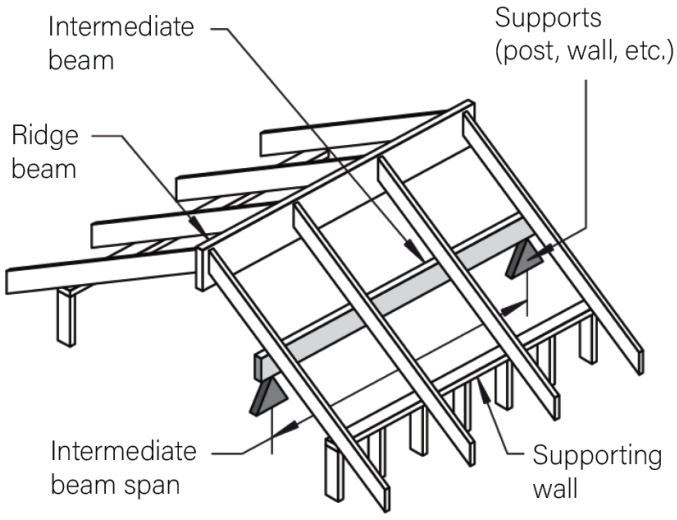
WIND CLASSIFICATION **N3**
RESTRAINT 1200 TOP & SPAN BOTTOM

SECTION D X B (mm)	ROOF MASS kg/m²	SINGLE SPAN				CONTINUOUS SPAN			
		RAFTER SPACING (mm)							
		450	600	900	1200	450	600	900	1200
		MAXIMUM RAFTER SPAN (m)							
90 x 45	10	3.4	3.1	2.4	2.0	3.6	3.1	2.5	2.2
	20	3.0	2.7	2.4	1.9	3.7	3.2	2.6	2.2
	30	2.6	2.4	2.1	1.8	3.5	3.1	2.6	2.2
	40	2.4	2.2	2.0	1.7	3.2	3.0	2.5	2.1
	60	2.1	2.0	1.7	1.6	2.9	2.6	2.3	2.0
	90	1.9	1.7	1.5	1.4	2.5	2.3	2.0	1.8
140 x 45	10	5.2	4.8	3.9	3.4	5.6	4.8	3.9	3.4
	20	4.5	4.1	3.7	3.4	5.8	5.0	4.1	3.5
	30	4.0	3.7	3.3	3.0	5.4	4.8	4.0	3.5
	40	3.7	3.4	3.0	2.8	5.0	4.6	3.8	3.3
	60	3.3	3.0	2.7	2.4	4.4	4.0	3.5	3.1
	90	2.9	2.7	2.3	2.1	3.9	3.6	3.1	2.7
190 x 45	10	6.5	6.3	5.4	4.6	7.7	6.6	5.4	4.6
	20	5.9	5.5	4.9	4.6	7.4	6.8	5.5	4.8
	30	5.3	4.9	4.4	4.1	6.8	6.5	5.4	4.7
	40	4.9	4.6	4.1	3.7	6.5	6.1	5.1	4.5
	60	4.4	4.1	3.6	3.3	5.9	5.4	4.8	4.1
	90	3.9	3.6	3.2	2.9	5.2	4.8	4.2	3.7
240 x 45	10	7.6	7.3	6.3	5.5	9.1	7.8	6.3	5.5
	20	6.9	6.6	6.1	5.6	8.6	7.9	6.6	5.6
	30	6.4	6.1	5.5	5.1	8.0	7.6	6.3	5.5
	40	6.1	5.7	5.1	4.7	7.6	7.2	6.0	5.2
	60	5.5	5.1	4.5	4.1	7.0	6.6	5.6	4.9
	90	4.9	4.5	4.0	3.6	6.4	5.8	5.0	4.4
290 x 45	10	8.5	8.2	7.0	6.0	10.5	9.0	7.3	6.3
	20	7.8	7.5	7.0	6.2	9.7	9.0	7.5	6.5
	30	7.3	7.0	6.4	6.0	9.1	8.6	7.1	6.2
	40	7.0	6.6	6.1	5.6	8.7	8.2	6.9	6.0
	60	6.4	6.1	5.4	5.0	8.0	7.5	6.4	5.6
	90	5.9	5.4	4.8	4.4	7.2	6.5	5.6	5.0
190 x 63	10	6.8	6.6	6.2	5.5	8.5	7.9	6.4	5.5
	20	6.2	5.9	5.4	5.0	7.8	7.4	6.6	5.7
	30	5.8	5.4	4.8	4.5	7.3	6.9	6.3	5.5
	40	5.4	5.0	4.5	4.1	6.9	6.5	6.0	5.3
	60	4.8	4.5	4.0	3.6	6.4	6.0	5.3	4.9
	90	4.3	4.0	3.5	3.2	5.8	5.3	4.7	4.3
240 x 63	10	7.8	7.6	7.2	6.9	9.8	9.5	8.1	7.0
	20	7.2	6.9	6.5	6.2	9.0	8.6	8.1	7.2
	30	6.8	6.5	6.0	5.6	8.5	8.1	7.5	6.9
	40	6.5	6.2	5.6	5.1	8.1	7.7	7.1	6.6
	60	6.0	5.6	5.0	4.6	7.5	7.1	6.5	6.1
	90	5.4	5.0	4.4	4.0	6.9	6.5	5.9	5.4

290 x 63	10	8.8	8.5	8.2	7.8	10.9	10.6	9.8	8.5
	20	8.2	7.8	7.4	7.0	10.2	9.8	9.2	8.7
	30	7.7	7.4	6.9	6.5	9.6	9.2	8.6	8.1
	40	7.4	7.0	6.5	6.1	9.2	8.7	8.1	7.6
	60	6.9	6.5	6.0	5.5	8.6	8.1	7.4	7.0
	90	6.3	6.0	5.3	4.9	7.9	7.4	6.8	6.3

ROOF BEAMS


Ridge beam
Rafter
Supports
(post, wall, etc.)
Ridge beam
span
Supporting wall
or intermediate
beam


Intermediate
beam
Ridge
beam
Supports
(post, wall, etc.)
Intermediate
beam span
Supporting
wall

ROOF BEAMS

WIND CLASSIFICATION **N2**
RESTRAINT 1200 TOP & SPAN BOTTOM
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.7	2.4	2.1	2.0	1.8	1.7	1.6	1.6	1.5	1.4	1.4
2/140 x 45	3.3	2.9	2.7	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.8
190 x 45	3.7	3.2	2.9	2.7	2.5	2.3	2.2	2.1	2.0	2.0	1.9
2/190 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.8	2.7	2.6	2.5	2.4
240 x 45	4.6	4.0	3.6	3.4	3.1	3.0	2.8	2.7	2.6	2.4	2.3
2/240 x 45	5.6	4.9	4.5	4.2	3.9	3.7	3.5	3.4	3.2	3.1	3.0
290 x 45	5.5	4.8	4.4	4.0	3.7	3.4	3.2	3.0	2.8	2.7	2.5
2/290 x 45	6.5	5.9	5.4	5.0	4.7	4.4	4.2	4.0	3.9	3.7	3.6
190 x 63	4.0	3.5	3.2	3.0	2.8	2.6	2.5	2.4	2.3	2.2	2.1
2/190 x 63	4.9	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.8	2.7	2.6
240 x 63	5.1	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.9	2.8	2.7
2/240 x 63	6.1	5.4	5.0	4.6	4.3	4.1	3.9	3.7	3.6	3.5	3.3
290 x 63	6.0	5.3	4.9	4.5	4.2	4.0	3.8	3.6	3.5	3.3	3.2
2/290 x 63	6.9	6.4	6.0	5.5	5.2	4.9	4.7	4.5	4.3	4.2	4.0

SECTION D X B (mm)	CONTINUOUS SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	3.6	3.0	2.6	2.3	2.1	2.0	1.8	1.7	1.6	1.5	1.4
2/140 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.7	2.6	2.4	2.3	2.2
190 x 45	4.9	4.1	3.6	3.2	2.9	2.6	2.5	2.3	2.2	2.1	1.9
2/190 x 45	6.0	5.3	4.8	4.4	4.2	3.9	3.7	3.5	3.3	3.1	2.9
240 x 45	5.9	4.8	4.2	3.7	3.4	3.1	2.9	2.7	2.6	2.4	2.3
2/240 x 45	7.1	6.5	6.0	5.6	5.1	4.7	4.4	4.1	3.9	3.7	3.5
290 x 45	6.6	5.5	4.8	4.2	3.9	3.6	3.3	3.1	2.9	2.8	2.6
2/290 x 45	8.1	7.4	6.8	6.3	5.8	5.3	5.0	4.7	4.4	4.2	4.0
190 x 63	5.4	4.7	4.2	3.7	3.4	3.1	2.9	2.7	2.6	2.4	2.3
2/190 x 63	6.4	5.8	5.3	4.9	4.6	4.4	4.2	4.0	3.8	3.6	3.4
240 x 63	6.6	6.0	5.3	4.7	4.3	3.9	3.7	3.4	3.2	3.1	2.9
2/240 x 63	7.6	7.0	6.5	6.1	5.8	5.5	5.2	5.0	4.8	4.6	4.3
290 x 63	7.5	6.8	6.3	5.7	5.2	4.8	4.4	4.2	3.9	3.7	3.5
2/290 x 63	8.6	7.9	7.4	7.0	6.7	6.5	6.2	6.0	5.8	5.5	5.2

ROOF BEAMS

WIND CLASSIFICATION **N2**
RESTRAINT 1200 TOP & SPAN BOTTOM
TILE ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.1	1.8	1.7	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.0
2/140 x 45	2.6	2.3	2.1	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4
190 x 45	2.9	2.5	2.3	2.1	2.0	1.9	1.7	1.6	1.5	1.5	1.4
2/190 x 45	3.6	3.1	2.8	2.6	2.5	2.3	2.2	2.1	2.1	2.0	1.9
240 x 45	3.6	3.1	2.9	2.6	2.5	2.3	2.1	2.0	1.9	1.8	1.7
2/240 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.8	2.7	2.6	2.5	2.4
290 x 45	4.3	3.8	3.4	3.2	2.9	2.6	2.5	2.3	2.2	2.1	2.0
2/290 x 45	5.4	4.7	4.3	4.0	3.7	3.5	3.4	3.2	3.1	3.0	2.9
190 x 63	3.2	2.8	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.7
2/190 x 63	3.9	3.5	3.2	2.9	2.7	2.6	2.5	2.4	2.3	2.2	2.1
240 x 63	4.0	3.5	3.2	2.9	2.8	2.6	2.5	2.4	2.3	2.2	2.1
2/240 x 63	4.9	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.9	2.8	2.7
290 x 63	4.8	4.2	3.8	3.6	3.3	3.2	3.0	2.9	2.8	2.7	2.5
2/290 x 63	5.9	5.2	4.8	4.4	4.2	4.0	3.8	3.6	3.5	3.4	3.3

SECTION D X B (mm)	CONTINUOUS SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.7	2.2	1.9	1.7	1.5	1.4	1.3	1.2	1.2	1.1	1.0
2/140 x 45	3.5	3.1	2.8	2.5	2.3	2.1	2.0	1.8	1.7	1.6	1.6
190 x 45	3.6	3.0	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4
2/190 x 45	4.8	4.2	3.8	3.4	3.1	2.9	2.7	2.5	2.3	2.2	2.1
240 x 45	4.4	3.7	3.2	2.9	2.6	2.4	2.2	2.1	2.0	1.9	1.8
2/240 x 45	6.0	5.2	4.6	4.1	3.8	3.6	3.3	3.1	3.0	2.8	2.7
290 x 45	5.0	4.2	3.7	3.4	3.1	2.9	2.7	2.5	2.4	2.3	2.1
2/290 x 45	6.8	5.8	5.2	4.7	4.4	4.1	3.8	3.6	3.5	3.3	3.2
190 x 63	4.2	3.5	3.0	2.7	2.4	2.2	2.1	2.0	1.8	1.7	1.7
2/190 x 63	5.3	4.6	4.2	3.9	3.6	3.4	3.1	2.9	2.8	2.6	2.5
240 x 63	5.3	4.4	3.8	3.4	3.1	2.8	2.6	2.5	2.3	2.2	2.1
2/240 x 63	6.5	5.8	5.3	4.9	4.6	4.2	3.9	3.7	3.5	3.3	3.2
290 x 63	6.3	5.3	4.6	4.1	3.7	3.4	3.2	3.0	2.8	2.7	2.5
2/290 x 63	7.4	6.7	6.3	5.9	5.5	5.1	4.7	4.5	4.2	4.0	3.8

ROOF BEAMS

WIND CLASSIFICATION **N3**
RESTRAINT 1200 TOP & SPAN BOTTOM
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.7	2.4	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3
2/140 x 45	3.3	2.9	2.7	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.8
190 x 45	3.7	3.2	2.9	2.7	2.5	2.3	2.2	2.0	1.9	1.8	1.7
2/190 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.8	2.7	2.6	2.5	2.4
240 x 45	4.6	4.0	3.6	3.3	3.0	2.7	2.6	2.4	2.3	2.2	2.1
2/240 x 45	5.6	4.9	4.5	4.2	3.9	3.7	3.5	3.4	3.2	3.1	3.0
290 x 45	5.5	4.7	4.0	3.6	3.3	3.0	2.8	2.6	2.5	2.4	2.3
2/290 x 45	6.5	5.9	5.4	5.0	4.7	4.4	4.2	4.0	3.8	3.6	3.4
190 x 63	4.0	3.5	3.2	3.0	2.8	2.6	2.5	2.4	2.3	2.2	2.1
2/190 x 63	4.9	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.8	2.7	2.6
240 x 63	5.1	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.9	2.7	2.6
2/240 x 63	6.1	5.4	5.0	4.6	4.3	4.1	3.9	3.7	3.6	3.5	3.3
290 x 63	6.0	5.3	4.9	4.5	4.2	4.0	3.8	3.6	3.5	3.3	3.1
2/290 x 63	6.9	6.4	6.0	5.5	5.2	4.9	4.7	4.5	4.3	4.2	4.0

SECTION D X B (mm)	CONTINUOUS SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	3.3	2.7	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3	1.3
2/140 x 45	4.5	3.9	3.5	3.1	2.8	2.6	2.4	2.3	2.1	2.0	1.9
190 x 45	4.4	3.6	3.1	2.8	2.5	2.3	2.2	2.0	1.9	1.8	1.7
2/190 x 45	6.0	5.3	4.7	4.2	3.8	3.5	3.3	3.1	2.9	2.8	2.6
240 x 45	5.2	4.2	3.7	3.3	3.0	2.7	2.6	2.4	2.3	2.2	2.1
2/240 x 45	7.1	6.3	5.5	4.9	4.5	4.1	3.8	3.6	3.4	3.2	3.1
290 x 45	5.9	4.8	4.2	3.7	3.4	3.1	2.9	2.7	2.6	2.5	2.3
2/290 x 45	8.1	7.2	6.3	5.6	5.1	4.7	4.4	4.1	3.9	3.7	3.5
190 x 63	5.2	4.3	3.7	3.3	3.0	2.8	2.6	2.4	2.3	2.2	2.1
2/190 x 63	6.4	5.8	5.3	4.9	4.5	4.1	3.9	3.6	3.4	3.3	3.1
240 x 63	6.5	5.4	4.6	4.1	3.8	3.5	3.2	3.0	2.9	2.7	2.6
2/240 x 63	7.6	7.0	6.5	6.1	5.6	5.2	4.9	4.6	4.3	4.1	3.9
290 x 63	7.5	6.5	5.6	5.0	4.5	4.2	3.9	3.7	3.5	3.3	3.1
2/290 x 63	8.6	7.9	7.4	7.0	6.7	6.3	5.9	5.5	5.2	5.0	4.7

ROOF BEAMS

WIND CLASSIFICATION **N3**
RESTRAINT 1200 TOP & SPAN BOTTOM
TILED ROOF

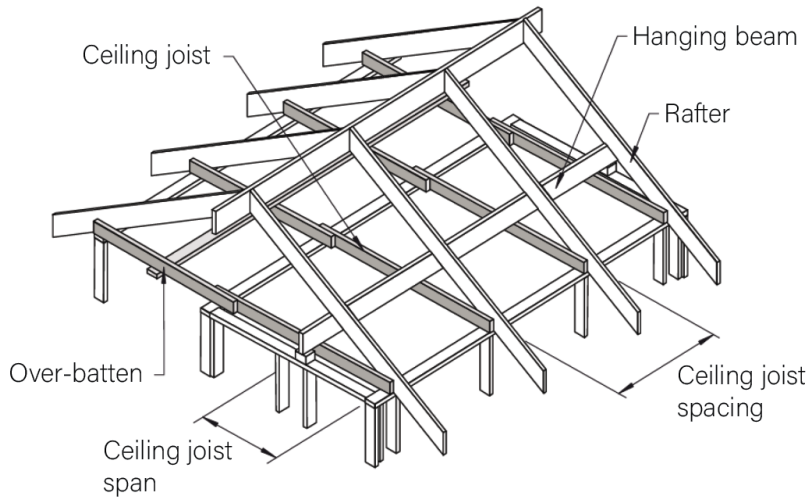
SECTION D X B (mm)	SINGLE SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.1	1.8	1.7	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.0
2/140 x 45	2.6	2.3	2.1	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.4
190 x 45	2.9	2.5	2.3	2.1	2.0	1.9	1.7	1.6	1.5	1.5	1.4
2/190 x 45	3.6	3.1	2.8	2.6	2.5	2.3	2.2	2.1	2.1	2.0	1.9
240 x 45	3.6	3.1	2.9	2.6	2.5	2.3	2.1	2.0	1.9	1.8	1.7
2/240 x 45	4.5	3.9	3.6	3.3	3.1	2.9	2.8	2.7	2.6	2.5	2.4
290 x 45	4.3	3.8	3.4	3.1	2.8	2.6	2.4	2.3	2.1	2.0	1.9
2/290 x 45	5.4	4.7	4.3	4.0	3.7	3.5	3.4	3.2	3.1	3.0	2.9
190 x 63	3.2	2.8	2.5	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.7
2/190 x 63	3.9	3.5	3.2	2.9	2.7	2.6	2.5	2.4	2.3	2.2	2.1
240 x 63	4.0	3.5	3.2	2.9	2.8	2.6	2.5	2.4	2.3	2.2	2.1
2/240 x 63	4.9	4.4	4.0	3.7	3.5	3.3	3.1	3.0	2.9	2.8	2.7
290 x 63	4.8	4.2	3.8	3.6	3.3	3.2	3.0	2.9	2.8	2.7	2.5
2/290 x 63	5.9	5.2	4.8	4.4	4.2	4.0	3.8	3.6	3.5	3.4	3.3

SECTION D X B (mm)	CONTINUOUS SPAN										
	ROOF LOAD WIDTH 'RLW' (mm)										
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	MAXIMUM SPAN (m)										
140 X 45	2.7	2.2	1.9	1.7	1.5	1.4	1.3	1.2	1.2	1.1	1.0
2/140 x 45	3.5	3.1	2.8	2.5	2.3	2.1	2.0	1.8	1.7	1.6	1.6
190 x 45	3.6	3.0	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4
2/190 x 45	4.8	4.2	3.8	3.4	3.1	2.9	2.7	2.5	2.3	2.2	2.1
240 x 45	4.4	3.6	3.1	2.8	2.5	2.3	2.2	2.0	1.9	1.8	1.8
2/240 x 45	6.0	5.2	4.6	4.1	3.8	3.5	3.3	3.1	2.9	2.8	2.6
290 x 45	5.0	4.1	3.6	3.2	2.9	2.7	2.5	2.3	2.2	2.1	2.0
2/290 x 45	6.8	5.8	5.2	4.7	4.3	4.0	3.7	3.5	3.3	3.2	3.0
190 x 63	4.2	3.5	3.0	2.7	2.4	2.2	2.1	2.0	1.8	1.7	1.7
2/190 x 63	5.3	4.6	4.2	3.9	3.6	3.4	3.1	2.9	2.8	2.6	2.5
240 x 63	5.3	4.4	3.8	3.4	3.1	2.8	2.6	2.5	2.3	2.2	2.1
2/240 x 63	6.5	5.8	5.3	4.9	4.6	4.2	3.9	3.7	3.5	3.3	3.2
290 x 63	6.3	5.3	4.6	4.1	3.7	3.4	3.2	3.0	2.8	2.7	2.5
2/290 x 63	7.4	6.7	6.3	5.9	5.5	5.1	4.7	4.5	4.2	4.0	3.8

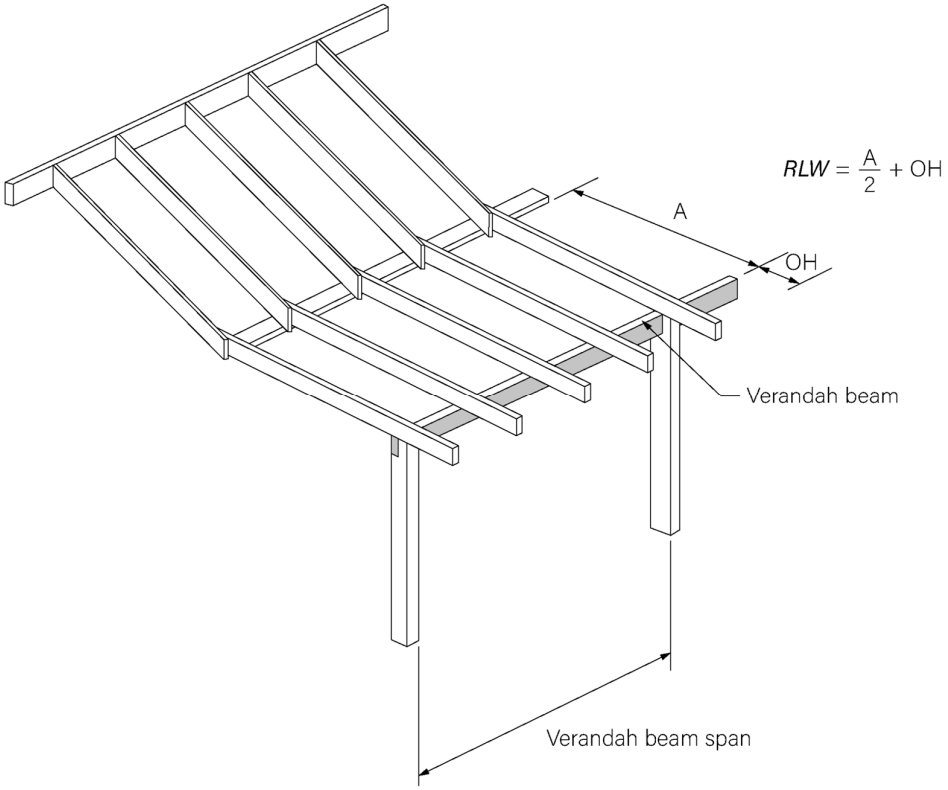
CEILING JOISTS

CEILING LINING TO UNDERSIDE

SECTION D X B (mm)	SINGLE SPAN				CONTINUOUS SPAN			
	CEILING JOIST SPACING (mm)							
	450	600	900	1200	450	600	900	1200
	MAXIMUM CEILING JOIST SPAN (m)							
90 x 45	1.7	1.7	1.7	1.6	2.0	2.0	2.0	2.0
140 X 45	3.0	3.0	2.9	2.9	3.5	3.5	3.4	3.4
190 x 45	3.8	3.8	3.7	3.7	4.3	4.3	4.2	4.1
240 x 45	4.3	4.2	4.1	4.1	4.8	4.7	4.7	4.6
290 x 45	4.6	4.6	4.5	4.4	5.2	5.2	5.1	5.0
190 x 63	5.9	5.9	5.7	5.6	4.3	4.3	4.2	4.1
240 x 63	6.7	6.6	6.5	6.3	7.6	7.5	7.4	7.2
290 x 63	7.2	7.1	7.0	6.8	8.2	8.1	8.0	7.8



VERANDAH BEAMS



VERANDAH BEAMS

WIND CLASSIFICATION **N2**
RESTRAINT 1200 TOP & SPAN BOTTOM

SECTION D X B (mm)	ROOF MASS kg/m²	SINGLE SPAN				CONTINUOUS SPAN			
		RAFTER RLW (mm)							
		1.2	1.8	2.4	3.0	1.2	1.8	2.4	3.0
		MAXIMUM VERANDAH BEAM SPAN (m)							
140 x 45	10	3.5	3.1	2.7	2.5	3.8	3.5	3.3	3.0
	20	3.0	2.7	2.5	2.1	3.8	3.4	3.0	2.7
	40	2.6	2.3	1.9	1.7	3.2	2.9	2.5	2.0
	90	1.9	1.6	1.3	1.1	2.6	2.0	1.8	1.5
190 x 45	10	4.5	4.1	3.6	3.2	4.6	4.2	4.0	3.8
	20	4.0	3.5	3.1	2.9	4.6	4.2	4.0	3.5
	40	3.3	2.9	2.7	2.5	4.3	3.8	3.3	2.9
	90	2.7	2.4	2.1	1.8	3.4	2.8	2.5	2.1
240 x 45	10	5.3	4.9	4.5	3.8	6.0	5.6	4.6	4.4
	20	4.8	4.3	3.9	3.4	5.8	5.3	4.6	4.2
	40	4.1	3.6	3.3	2.9	5.1	4.6	4.0	3.5
	90	3.2	2.9	2.5	2.2	4.2	3.4	2.9	2.6
290 x 45	10	6.0	5.5	5.0	4.3	6.7	6.2	5.9	5.6
	20	5.4	4.9	4.4	3.8	6.7	6.0	5.6	5.0
	40	4.8	4.3	3.6	3.2	5.8	5.3	4.7	4.1
	90	3.9	3.2	2.8	2.5	4.9	4.0	3.4	3.0
190 x 63	10	4.9	4.4	4.0	3.7	5.6	4.5	4.2	4.0
	20	4.3	3.8	3.4	3.2	5.3	4.5	4.2	4.0
	40	3.6	3.2	2.9	2.7	4.7	4.1	3.8	3.5
	90	2.9	2.6	2.4	2.2	3.8	3.2	3.0	2.7
240 x 63	10	5.6	5.2	4.8	4.5	6.4	5.9	5.6	4.8
	20	5.1	4.6	4.3	4.0	6.2	5.6	5.3	4.8
	40	4.5	4.0	3.6	3.3	5.5	5.0	4.7	4.3
	90	3.6	3.1	2.9	2.7	4.6	4.1	3.7	3.3
290 x 63	10	6.4	5.9	5.5	5.2	7.9	6.6	6.3	6.0
	20	5.8	5.3	4.9	4.7	7.2	6.5	6.0	5.7
	40	5.1	4.7	4.3	4.0	6.3	5.6	5.3	5.0
	90	4.3	3.8	3.4	3.2	5.3	4.8	4.5	4.0

TABLES ARE THE MINIMUM OF 600 OR 1200 CTS

VERANDAH BEAM

WIND CLASSIFICATION **N3**
RESTRAINT 1200 TOP & SPAN BOTTOM

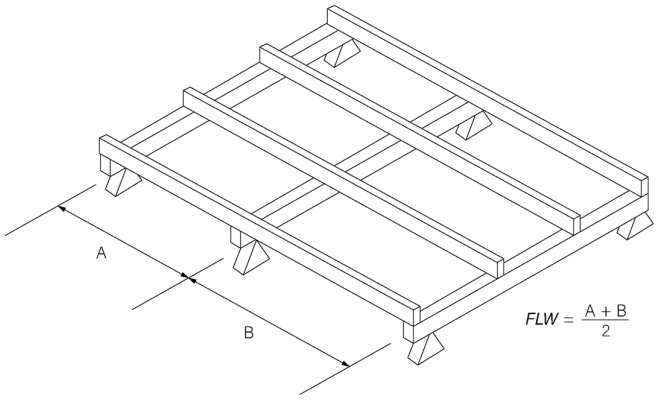
SECTION D X B (mm)	ROOF MASS kg/m²	SINGLE SPAN				CONTINUOUS SPAN			
		RAFTER RLW (mm)							
		1.2	1.8	2.4	3.0	1.2	1.8	2.4	3.0
		MAXIMUM VERANDAH BEAM SPAN (m)							
140 x 45	10	3.1	2.7	2.4	2.0	3.8	3.5	2.9	2.7
	20	3.0	2.6	2.1	1.7	3.8	3.2	2.7	2.3
	40	2.6	2.2	1.7	1.4	3.2	2.7	2.1	1.9
	90	1.9	1.5	1.2	1.0	2.6	1.9	1.6	1.4
190 x 45	10	4.1	3.6	3.1	2.8	4.6	4.2	4.0	3.4
	20	4.0	3.4	2.9	2.6	4.6	4.1	3.6	3.1
	40	3.3	2.9	2.6	2.3	4.3	3.5	3.0	2.7
	90	2.7	2.4	1.9	1.6	3.3	2.8	2.4	2.0
240 x 45	10	5.1	4.4	3.7	3.3	6.0	5.6	4.6	4.2
	20	4.8	4.0	3.4	3.0	5.8	5.1	4.3	3.9
	40	4.1	3.5	3.0	2.7	5.1	4.3	3.7	3.2
	90	3.2	2.7	2.4	2.1	4.1	3.3	2.8	2.5
290 x 45	10	6.0	4.9	4.2	3.6	6.7	6.2	5.7	5.0
	20	5.4	4.5	3.8	3.3	6.7	5.9	5.0	4.4
	40	4.8	3.8	3.3	2.9	5.8	5.0	4.2	3.8
	90	3.7	3.0	2.6	2.4	4.8	3.9	3.3	2.9
190 x 63	10	4.6	4.0	3.6	3.3	5.6	4.5	4.2	4.0
	20	4.3	3.8	3.4	3.0	5.3	4.5	4.2	4.0
	40	3.6	3.2	2.9	2.7	4.7	4.1	3.8	3.3
	90	2.9	2.6	2.4	2.1	3.8	3.2	2.9	2.6
240 x 63	10	5.6	5.1	4.7	4.3	6.4	5.9	5.6	4.8
	20	5.1	4.6	4.3	3.9	6.2	5.6	5.3	4.8
	40	4.5	4.0	3.6	3.3	5.5	5.0	4.7	4.2
	90	3.6	3.1	2.9	2.7	4.6	4.1	3.7	3.2
290 x 63	10	6.4	5.9	5.5	5.1	7.9	6.6	6.3	6.0
	20	5.8	5.3	4.9	4.7	7.2	6.5	6.0	5.7
	40	5.1	4.7	4.3	4.0	6.3	5.6	5.3	5.0
	90	4.3	3.8	3.4	3.2	5.3	4.8	4.4	4.0

INTERNAL BEARERS ONLY

BEARERS
FLOOR MASS
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN							
	FLOOR LOAD WIDTH (m)							
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4
	MAXIMUM BEARER SPAN (m)							
2/90 x 45	1.7	1.5	1.3	1.2	1.1	1.0	1.0	0.9
2/140 x 45	2.6	2.3	2.1	1.9	1.7	1.6	1.5	1.4
2/190 x 45	3.5	3.1	2.8	2.6	2.3	2.2	2.0	1.9
2/240 x 45	4.2	3.8	3.5	3.2	2.9	2.7	2.5	2.4
2/290 x 45	4.8	4.4	4.1	3.9	3.6	3.3	3.1	2.9
190 x 63	2.8	2.4	2.0	1.8	1.7	1.5	1.4	1.3
240 x 63	3.9	3.5	3.0	2.7	2.5	2.3	2.1	2.0
290 x 63	4.5	4.0	3.7	3.3	3.0	2.8	2.6	2.4
2/190 x 63	3.8	3.4	3.1	2.9	2.7	2.5	2.4	2.2
2/240 x 63	4.5	4.1	3.9	3.6	3.4	3.2	3.0	2.8
2/290 x 63	5.2	4.7	4.4	4.2	4.0	3.8	3.6	3.4

SECTION D X B (mm)	CONTINUOUS SPAN							
	FLOOR LOAD WIDTH (m)							
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4
	MAXIMUM BEARER SPAN (m)							
2/90 x 45	1.9	1.6	1.4	1.2	1.1	1.0	1.0	0.9
2/140 x 45	3.0	2.4	2.1	1.9	1.7	1.6	1.5	1.4
2/190 x 45	4.0	3.3	2.9	2.6	2.3	2.2	2.0	1.9
2/240 x 45	4.8	4.0	3.6	3.2	2.9	2.7	2.5	2.4
2/290 x 45	5.4	4.6	4.1	3.7	3.4	3.2	3.0	2.9
190 x 63	3.4	2.8	2.4	2.1	2.0	1.8	1.7	1.6
240 x 63	4.3	3.5	3.0	2.7	2.5	2.3	2.1	2.0
290 x 63	5.1	4.2	3.7	3.3	3.0	2.8	2.6	2.4
2/190 x 63	4.5	3.9	3.4	3.0	2.8	2.5	2.4	2.2
2/240 x 63	5.3	4.8	4.3	3.8	3.5	3.2	3.0	2.8
2/290 x 63	6.1	5.5	5.1	4.6	4.2	3.9	3.6	3.4


A
B
FLW = A + B / 2

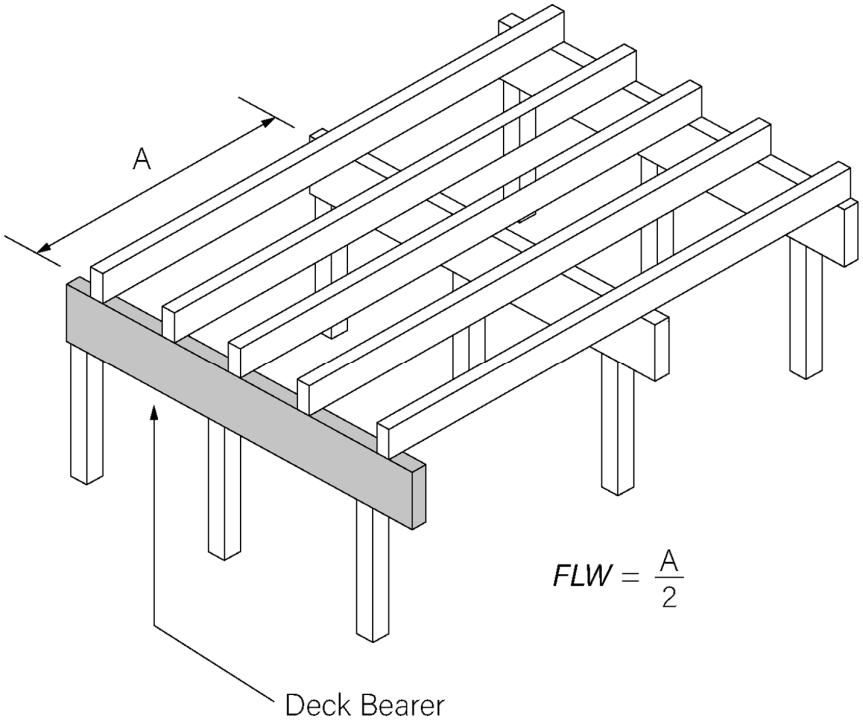
DECK BEARERS ONLY

40 KG FLOOR MASS
2 KPA LIVE LOAD
EXTERNAL DECKS

SECTION D X B (mm)	SINGLE SPAN							
	FLOOR LOAD WIDTH (m)							
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4
	MAXIMUM BEARER SPAN (m)							
2/90 x 45	1.6	1.4	1.2	1.1	1.0	0.9	0.8	0.8
2/140 x 45	2.4	2.1	1.9	1.7	1.5	1.4	1.3	1.2
2/190 x 45	3.3	2.9	2.6	2.3	2.1	1.9	1.8	1.7
2/240 x 45	3.9	3.6	3.2	2.9	2.6	2.4	2.3	2.1
2/290 x 45	4.5	4.1	3.8	3.5	3.2	2.9	2.7	2.6
190 x 63	2.6	2.1	1.8	1.6	1.5	1.4	1.3	1.2
240 x 63	3.6	3.1	2.7	2.4	2.2	2.0	1.9	1.8
290 x 63	4.1	3.7	3.3	2.9	2.7	2.4	2.3	2.2
2/190 x 63	3.6	3.2	2.9	2.7	2.5	2.3	2.1	2.0
2/240 x 63	4.3	3.9	3.6	3.4	3.1	2.9	2.7	2.5
2/290 x 63	4.9	4.5	4.1	3.9	3.7	3.5	3.2	3.0

SECTION D X B (mm)	CONTINUOUS SPAN							
	FLOOR LOAD WIDTH (m)							
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4
	MAXIMUM BEARER SPAN (m)							
2/90 x 45	1.7	1.4	1.2	1.1	1.0	0.9	0.8	0.8
2/140 x 45	2.7	2.2	1.9	1.7	1.5	1.4	1.3	1.2
2/190 x 45	3.6	2.9	2.6	2.3	2.1	1.9	1.8	1.7
2/240 x 45	4.3	3.7	3.2	2.9	2.6	2.4	2.3	2.1
2/290 x 45	4.9	4.2	3.7	3.4	3.1	2.9	2.7	2.6
190 x 63	3.0	2.5	2.1	1.9	1.7	1.6	1.5	1.4
240 x 63	3.8	3.1	2.7	2.4	2.2	2.0	1.9	1.8
290 x 63	4.6	3.8	3.3	2.9	2.7	2.4	2.3	2.2
2/190 x 63	4.1	3.5	3.0	2.7	2.5	2.3	2.1	2.0
2/240 x 63	4.9	4.4	3.8	3.4	3.1	2.9	2.7	2.5
2/290 x 63	5.7	5.1	4.6	4.1	3.7	3.5	3.2	3.0

DECK BEARERS

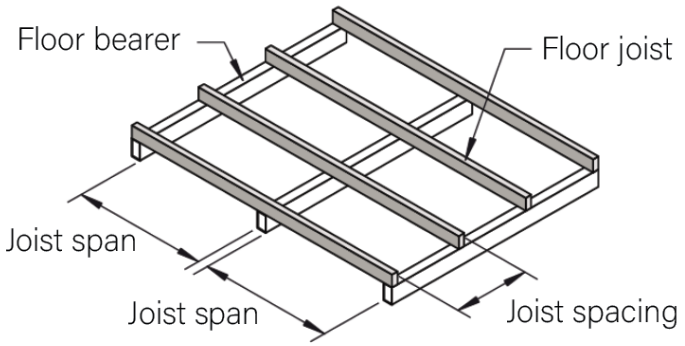


INTERNAL 40KG FLOOR JOISTS ONLY

FLOOR JOIST
FLOOR MASS **1.5 KPA**
SHEET ROOF

SECTION D X B (mm)	SINGLE SPAN				
	FLOOR LOAD WIDTH (m)				
	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)				
90 x 45	1.7	1.5	1.5	1.5	1.4
140 x 45	3.3	2.5	2.4	2.5	2.3
190 x 45	4.2	3.6	3.4	3.5	3.2
240 x 45	4.9	4.6	4.4	4.5	4.2
290 x 45	5.6	5.3	5.2	5.1	4.9
190 x 63	4.5	4.1	3.8	4.0	3.6
240 x 63	5.3	5.0	4.9	4.8	4.6
290 x 63	6.0	5.7	5.6	5.5	5.2

SECTION D X B (mm)	CONTINUOUS SPAN				
	FLOOR LOAD WIDTH (m)				
	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)				
90 x 45	2.0	1.7	1.6	1.6	1.4
140 x 45	3.8	3.0	2.8	3.0	2.7
190 x 45	4.9	4.5	4.1	4.3	3.8
240 x 45	5.8	5.4	5.2	5.2	4.9
290 x 45	6.7	6.2	6.0	5.9	5.6
190 x 63	5.3	4.9	4.7	4.7	4.3
240 x 63	6.3	5.9	5.7	5.6	5.3
290 x 63	7.3	6.8	6.6	6.5	6.1



INTERNAL 100KG FLOOR JOISTS ONLY

100 KG FLOOR MASS **1.5 KPA**

SECTION D X B (mm)	SINGLE SPAN				
	FLOOR LOAD WIDTH (m)				
	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)				
90 x 45	1.7	1.5	1.4	1.4	1.2
140 x 45	2.8	2.5	2.4	2.4	2.2
190 x 45	3.7	3.5	3.3	3.3	3.0
240 x 45	4.4	4.1	4.0	4.0	3.8
290 x 45	5.1	4.8	4.6	4.6	4.3
190 x 63	4.0	3.8	3.7	3.6	3.4
240 x 63	4.8	4.5	4.4	4.3	4.1
290 x 63	5.4	5.1	5.0	4.9	4.7

SECTION D X B (mm)	CONTINUOUS SPAN				
	FLOOR LOAD WIDTH (m)				
	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)				
90 x 45	1.7	1.5	1.4	1.4	1.2
140 x 45	3.7	3.0	2.8	3.0	2.7
190 x 45	4.7	4.3	4.1	4.1	3.6
240 x 45	5.5	5.2	5.0	4.9	4.6
290 x 45	6.3	5.9	5.8	5.7	5.4
190 x 63	5.0	4.7	4.6	4.5	4.3
240 x 63	5.9	5.6	5.4	5.3	5.1
290 x 63	6.8	6.4	6.2	6.1	5.8

DECK FLOOR JOISTS ONLY

DECK JOISTS
FLOOR MASS **2 KPA**

SECTION D X B (mm)	SINGLE SPAN				
	FLOOR LOAD WIDTH (m)				
	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)				
90 x 45	1.7	1.5	1.5	1.5	1.4
140 x 45	3.1	2.5	2.4	2.5	2.3
190 x 45	3.9	3.6	3.4	3.5	3.2
240 x 45	4.7	4.4	4.2	4.2	3.9
290 x 45	5.4	5.0	4.9	4.8	4.5
190 x 63	4.3	4.0	3.8	3.8	3.6
240 x 63	5.1	4.7	4.6	4.5	4.3
290 x 63	5.9	5.5	5.3	5.2	4.9

SECTION D X B (mm)	CONTINUOUS SPAN				
	FLOOR LOAD WIDTH (m)				
	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)				
90 x 45	2.2	1.8	1.6	1.7	1.5
140 x 45	3.6	3.0	2.8	3.0	2.7
190 x 45	4.5	4.2	4.1	4.0	3.7
240 x 45	5.4	5.0	4.9	4.8	4.5
290 x 45	6.2	5.8	5.6	5.5	5.2
190 x 63	4.9	4.6	4.5	4.4	4.1
240 x 63	5.9	5.5	5.3	5.2	4.9
290 x 63	6.8	6.3	6.1	6.0	5.7