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SMART LAM GL13C

DESIGN GUIDE
EDITION 1

2026

SMARTFRAME® BY TILLING

Table of Contents

SmartFrame Product Warranty

Tilling Timber warrants that its SmartFrame Engineered Wood products will be free from manufacturing defects in workmanship and material.

In addition, provided the product is correctly installed and used, Tilling Timber warrants the adequacy of its design for the normal and expected life of the structure.

This warranty is backed by the full resources of Tilling Timber and by underwritten product liability insurance.

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Scope of this publication

This Design Guide and Load Tables assist in the selection of SmartLam GL13C for some of the common structural arrangements met in domestic construction.

Methods of developing lateral restraint and providing adequate support, adequate anchorage against wind uplift, and overall structural stability are outside the scope of this publication.

Information on the above matters can be obtained from AS 1684 Residential timber-framed construction or from a structural engineer experienced in timber construction.

Tilling Timber Pty Ltd have structural engineers within the SmartFrame Design Centre who can be contacted for advice on matters concerning the use of its SmartFrame engineered timber products in timber construction via the technical support Helpline on 1300 668 690 or e-mail at stechsupport@tilling.com

Substitution of other products

All load tables in this document are designed using the characteristic properties of GL13C defined in table 7.1 of AS 1720.1, manufactured to AS/NZS 1328 by quality producers and distributed by Tilling Timber Pty Ltd.

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Certification

As a professional engineer, qualified and experienced in timber engineering, I certify that the use of the SmartLam GL13C members as shown in these tables, and installed in accordance with the provisions of this Design Guide, complies to the Building Code of Australia. These Span Tables have been prepared in accordance with standard engineering principles, the relevant test reports and Australian standards, ie:

- AS 1720.3 Residential timber-framed construction
- AS 1720.1 Timber structures - design methods
- AS 4055 wind loads for houses
- AS/NZS 4063 Characterisation of structural timber
- AS/NZS 1328 Glue laminated structural tmber - performance requirements and minimum production requirements.

Ray Schneider RPEng, RPEQ, RPEV, IEAust
Principal Structural Engineer—SmartFrame

WOOD
NATURALLY BETTER

SmartLam® GL13C

Introduction

SmartLam GL13C beams are manufactured exclusively for Tilling Timber by a Glued Laminated Timber Association of Australia (GLTAA) accredited manufacturer to AS/NZS 1328. SmartLam GL13C GLT beams are engineered timber products with high strength, dimensional stability, great load carrying capacity and superior fire resistance.

All timber used for laminating is carefully selected from production and graded according to specification. After trimming to the desired size, all stock is kiln dried to 12% average moisture content, to ensure efficient bonding in the gluing operations. The laminations are finger jointed by machine, with glue being cured by cold press system and controlled temperature.

Benefits of SmartLam GL13C

Cost Effectiveness - SmartLam GL13C beams high strength to weight ratio allows you to design for maximum loads over large spans with the smallest possible end sections.

Product Quality - All SmartLam GL13C beams are manufactures in accordance with AS/NZS 1328 Glue Laminated Structural Timber and the Glued Laminated Timber Association (GLTAA) Industry standard GLTAA-4-91. .

Fire safety - Extensive fire test data shows that large end section timber performs well in fire situations due to the formation of a protective layer of char which usually occurs at a temperature around 250° C. This charred area inhibits the effects of the fire on the inner portion of the timber component, hence it maintains structural load support for measurable periods of time as the fire progresses.

Conversely, steel loses its strength rapidly as the temperature is raised. At about 550°C, it has lost about 50% of its original bending strength, and by 750°C it has lost 90%. Timber does not loose strength in the same way, with the loss of section size through charring the major reason for any strength reduction.

Fast easy erection - Timber is a user friendly building material, requiring no special tools other than those a normal builder would use, and with SmartLam GL13C beams, installation is fast, easy and efficient.

Environmental responsibility - SmartLam GL13C beams are made from timber from sustainable managed Australian plantation timber.

Low maintenance - In most applications, SmartLam GL13C beams will require little or no maintenance other than that which you would ordinarily carry out to any structural material.

Natural beauty - The natural beauty of timber is desired and highly appropriate in many architectural applications. Appearance Grade B SmartLam GL13C beams allow you to build timber's natural warmth and beauty into your designs.

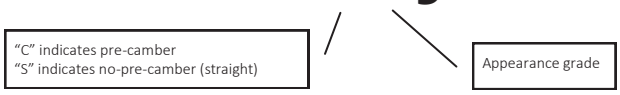
Ordering SmartLam GL13C

Stock SmartLam GL13C GLT has a 600 m radius camber and in Appearance Grade B

AS/NZS 1328.2 defines 3 appearance grades:

- Appearance Grade A - Sanded with any voids filled - intended for applications where appearance is important and clear or painted finishes are used
- Appearance Grade B - intended for applications where appearance is important but where a planed finish is acceptable
- Appearance Grade C - intended for applications where appearance is unimportant

SmartLam GL13C B grade



Protection and handling

Care should be taken during delivery to avoid marking and to avoid damage. Unloading of trucks should be done by hand or with a crane, do not drop or dump members. During unloading with lifting equipment, use fabric or plastic belts or other slings which will not mark the wood. If chains or cables are used, provide protective blocking or padding. Guard against soiling, dirt, footprints, abrasions, or injury to sharp edges or corners.

Installation

Preparatory work

Carefully unload and handle the laminated members at job site to prevent surface marking and damage. If laminated timber is to be stored before erection, place it on blocks well off the ground with individual members separated by strips so that air may circulate around all four sides. The top and the sides of storage pile shall be covered with moisture resistant covering. Wrapping shall be left intact, but individual wrappings shall be slit or punctured on the lower side to permit the drainage of water that may have accumulated. Before erection, the assembly should be checked for any damage from water or handling, prescribed camber, and accuracy of anchorage connections.

Laminated beams can be nailed into place in the same way as solid timber beams. Alternatively, a range of plates are available for end fixing. For larger beams, special purpose, engineer designed end fixing should be used.

Deflection

All structural members deflect downwards when dead loads are applied, and therefore it is important to allow for this deflection structurally and/or aesthetically in the selection of the beam sizes. .

Verticality

SmartLam GL13C members must not be installed out of plumb more than height/500.

Holes for services

Horizontal Holes - Like notches, holes in a GLT beam remove wood fibre, reduce the net area of the beam at the hole location, and introduce stress concentrations. For this reason, horizontal holes in GLT beams are limited in size and location to maintain the structural integrity of the beam. The diagram on the next page shows the zones of a uniformly loaded, simply supported beam where field drilling of holes may be considered.

Field drilled horizontal holes should be for access only and should not be used as attachment points for brackets or other load bearing hardware unless specifically designed as such by the Engineer/ Designer.

Regardless of the hole location, the net section of the beam remaining should be checked for flexure and horizontal shear.

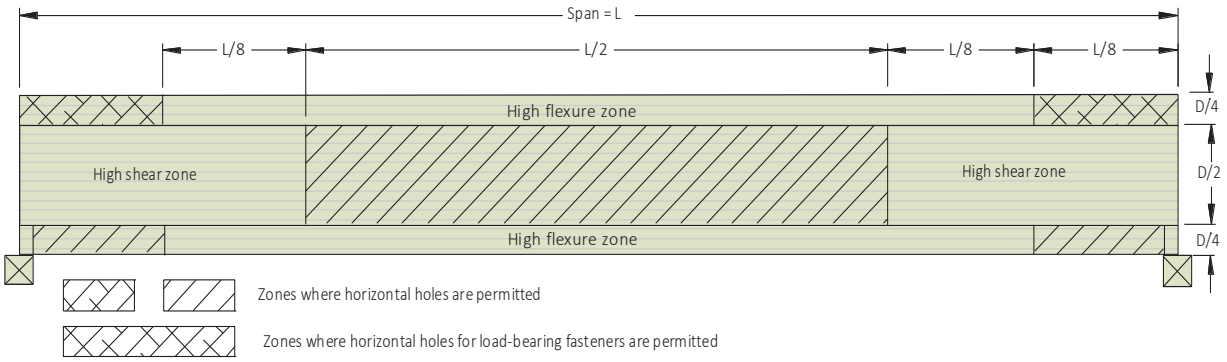
Vertical holes - As a rule of thumb, vertical holes drilled through the depth of a GLT beam cause a reduction in capacity at that location directly proportional to the ratio of 1½ times the diameter of the hole. For example, a 25 mm hole drilled in a 150 mm wide beam would reduce the capacity of the beam at that section by ¼.

Installation (cont'd)

For this reason, where it is necessary to drill vertical holes through a GLT member, the holes should be positioned in areas of the member that are stressed to less than 50% of the design in bending.

Holes for support of heavy equipment - Heavy equipment or piping suspended from GLT should be attached so that the load is applied to the top of the member to avoid tension perpendicular to the grain stresses. Any horizontal holes required for support of significant weight, such as suspended heating and cooling units or main water lines, must be located above the neutral axis of the member and in a zone stressed to less than 50% of the design flexural stresses.

Zones where horizontal holes are permitted in a uniformly loaded simply supported beam



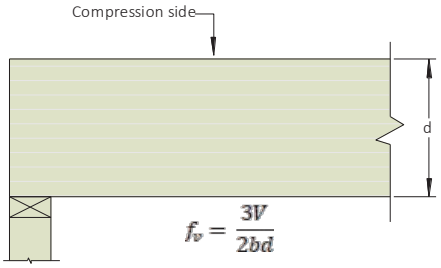
Notches

Notching of bending members should be avoided whenever possible, especially on the tension side of a member.

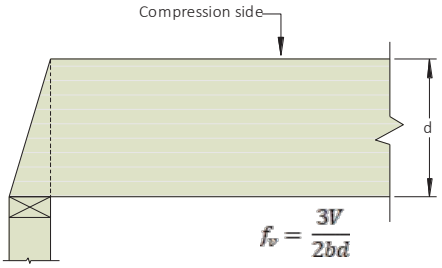
Tension-side notching of GLT beams is not permitted except at end bearings and then only under specific conditions. The notching of a bending member on the tension side results in a decrease in strength caused by stress concentrations which develop around the notch, as well as a reduction of the area resisting the bending and shear forces. Such notches induce perpendicular-to-grain tension stresses which, in conjunction with horizontal shear forces, can cause splitting along the grain, typically starting at the inside corner of the notch.

Where GLT members are notched at the ends for bearing over a support, the notch depth shall not exceed 1/10 of the beam depth. Figure (e) is provided to assist in evaluating the associated reductions to beam strength due to notching on the tension side.

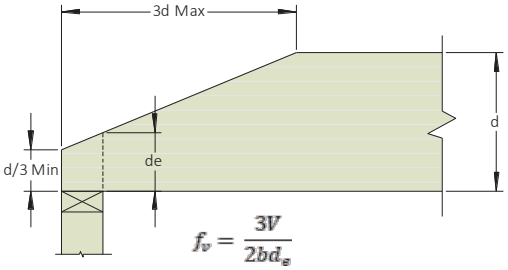
For notches on the compression side, a less severe condition exists and equations for the analysis of the effects of these notches are also given in Figure (a) to (d) The equations given are empirical in nature and were developed for the conditions shown.



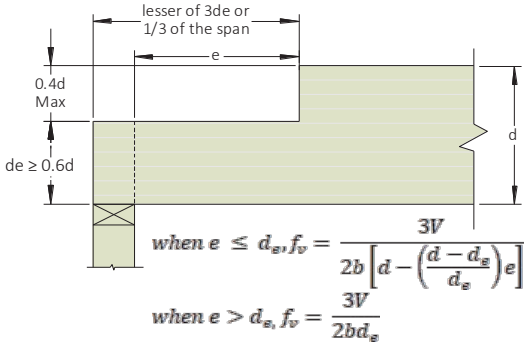
(a) Square end bearing



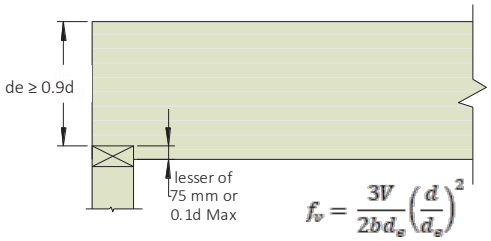
(b) Slope end bearing



(c) Taper cut end bearing



(d) Compression-side notch



(e) Tension-side notch

Where:

f_v = shear stress (MPa)
V = shear force at notch location (kN)
b = width of LVL beam (mm)
d = depth of LVL beam (mm)
d_e = effective depth as shown (mm)
e = length of notch as shown (mm)

As this guideline is limited to single span, simply supported beams, the notches shown in Figure (b) and (c) occur in areas of high shear and effectively zero moment. For this reason, the design equations given are shear equations. In situations where compression side notches extend into areas of significant moment, the bending capacity of the beam should also be checked using the remaining section of the beam and the appropriate allowable

Installation (cont'd)

stresses for those laminations remaining at the notch location.

When it becomes necessary to cut a small notch in the top of a glued laminated timber (in the compression zone) to provide passage for small diameter pipe or conduit, this cut should be made in areas of the beam stressed to less than 50% of the design bending stress. The net section in these areas should be checked for shear and bending stresses to ensure adequate performance.

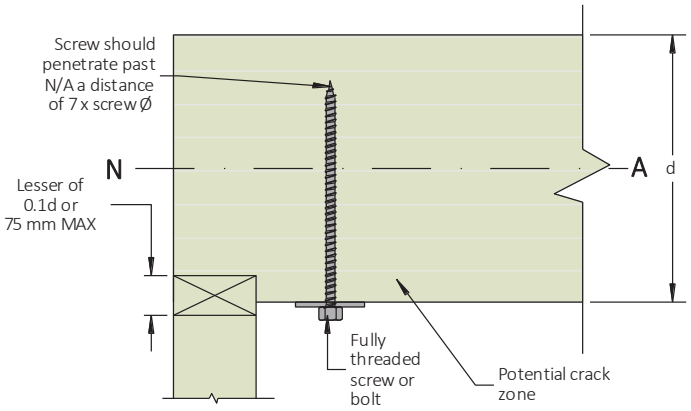
All field notches should be accurately cut. Avoid over-cutting at the root of the notch. Drilling a pilot hole in the member at the interior corner location of a notch as a stop point for the saw blade provides both a rounded corner and minimizes over-cutting at the corner.

Stress concentrations due to notches can be reduced by using a gradually tapered notch configuration in lieu of a square-cornered notch. Rounding the square corner of a notch with a radius of approximately 12 mm is also recommended to reduce stress concentrations in these areas.

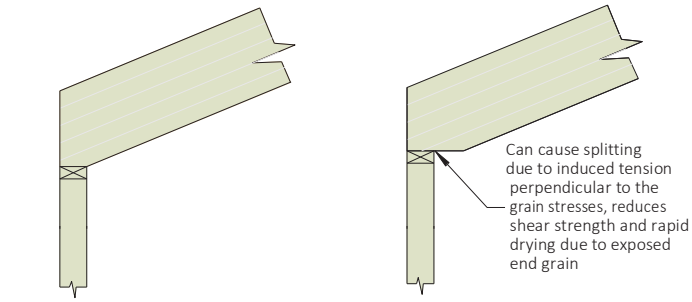
For square-cornered notches occurring at the ends of beams on the tension side, the designer may consider the use of reinforcement, such as full-threaded lag screws, to resist the tendency to split at the notch (See diagram below). A number of design methodologies exist for sizing such screws.

The design methodology selected and subsequent fabrication details are the responsibility of the project designer/engineer .If lag screws are used, lead holes shall be predrilled in accordance with accepted practice. This procedure can also be used as a field remedy to minimize further propagation of an existing crack.

Further information about the use of screw reinforcement can be obtained by contacting the technical support Helpline on 1300 668 690 or e-mail at techsupport@tilling.com.au.



Birdsmouthing



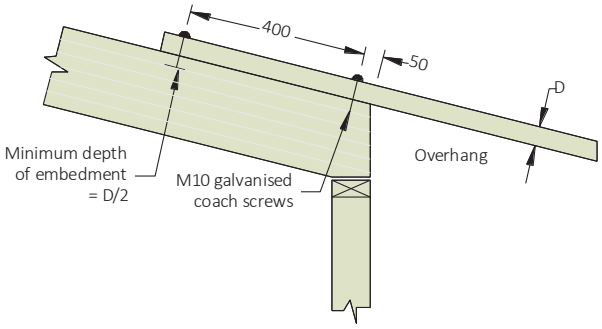
CORRECT INCORRECT

Figure 3 - Birds mouthing details for SmartLam GL13C

Eaves overhang

Figure 4 - Eaves over hang details for SmartLam GL13C

Note: Refer to AS 1684 Residential timber-framed construction code for overhang member size.



Allowable Eaves overhangs

1. Non Cyclonic Areas

Beams for flat or similar roofs - Not Birds mouthed: Eaves overhang shall not exceed 40% of the actual beam span.

Beams with conventional pitched roofs - Birds mouthed to one third their depth:

I. Sheet roof - 20% of actual beam span

II. Tiled roof - 30% of actual beam span

2. Cyclonic Areas

Recommendations as per above, but reduced as follows:

Non Birds mouthed:

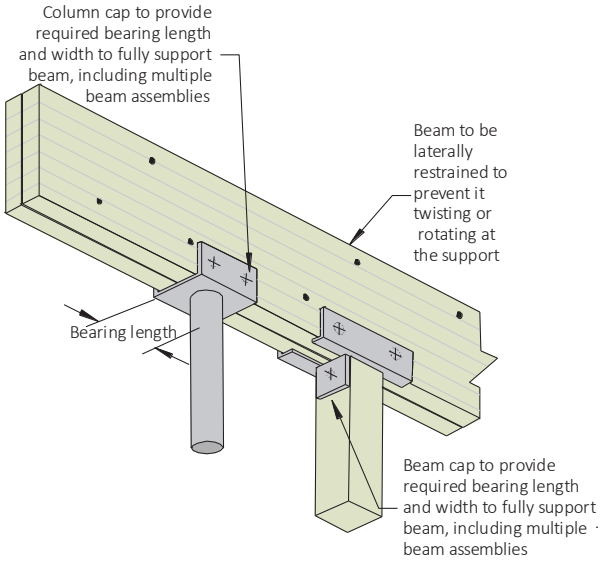
- 25% of actual beam span

Birdsmouthed:

- Sheet roof - 10% of actual beam span

- Tiled roof - 20% of actual beam span

Steel and Timber fixing to SmartLam GL13C



Installation (cont'd)

Multiple SmartLam GL13C section beams

Vertical laminations may be achieved by adopting the principle described in clause 2.3 of AS 1684, however, due to the thickness of SmartLam GL13C, nails are NOT suitable for combining SmartLam GL13C beams.

Experience with GLT beams indicates that multiple member laminations individual components may cup as a result of the ingress of moisture between laminates during construction. The suggested method of vertical lamination shown below provides a greater level of fixity between individual components, and combined with the use of a temporary waterproof membrane and an elastomeric adhesive prevents moisture penetration between the laminates.

Maximum floor load width tables for multiple member laminations of SmartLam GL13C:

1. Type 17 screw lamination
2. Bolt lamination

are shown below.

1. Type 17 screws

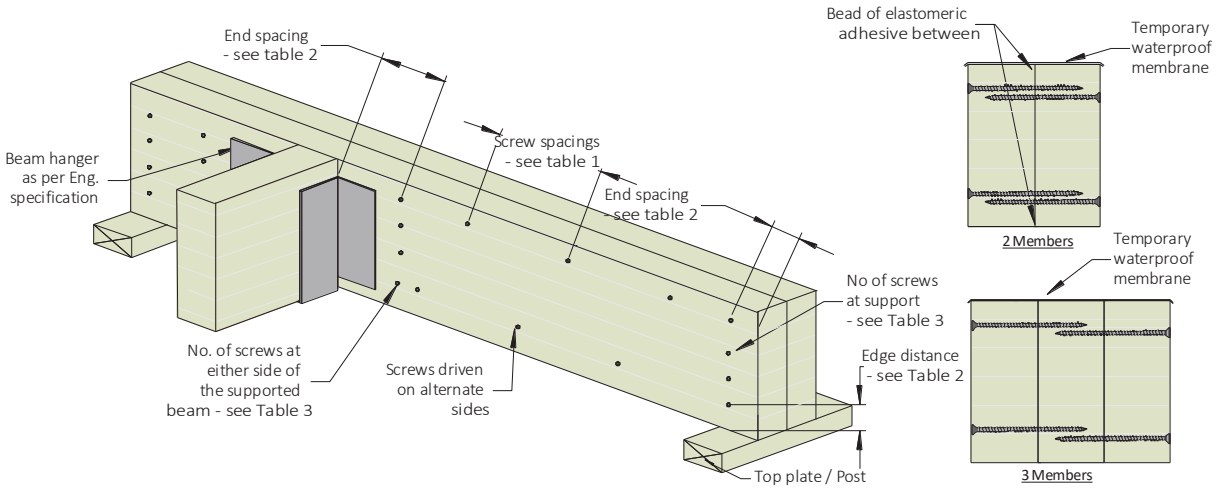


Table 1

Side (non-symmetrically) and top loaded beam				
Section width	**Type 17 screw size**	**No of screw rows (both sides)**	**Screw spacing (mm)**	**Max. floor joist span supported by outer member (mm)****
2/75 & 3/75	14g x 125	2 or 3*	300	7700
2/60 & 3/60	14g x 1oo	2 or 3*	300	6000
* for beam depths ≥ 300 mm, use 3 rows of screws				
** Floor loads G = 1.25 kPa, Q = 2.0 kPa				

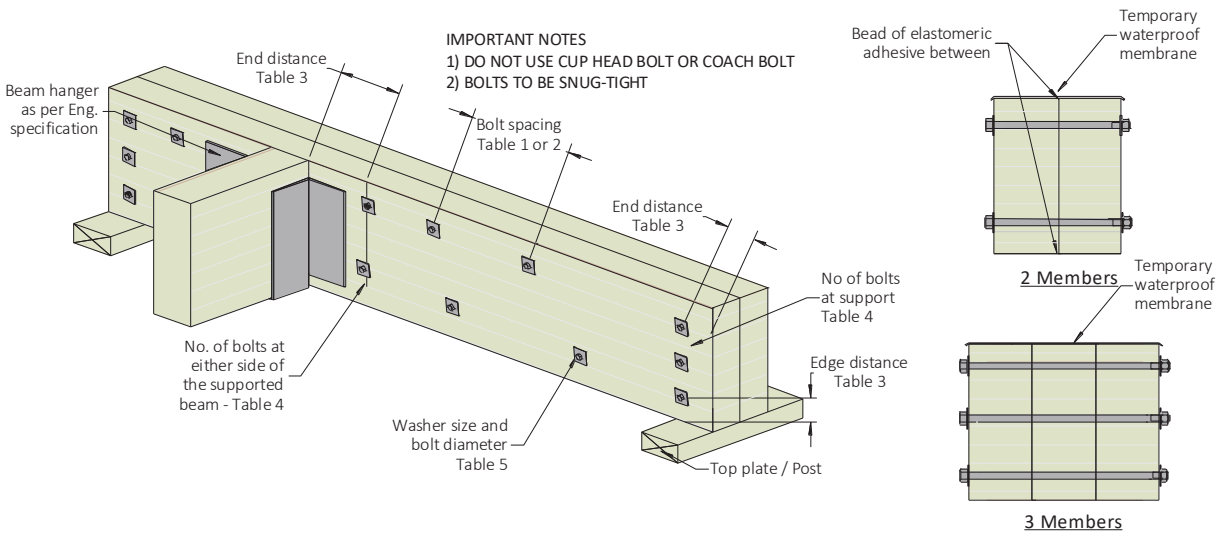
Table 2

Type 17 screw size	Min. edge distance (mm)	Min. end distance (mm)	Min. distance between screws (across the grain) (mm)
14g	40	70	30

Table 3

Beam depth (mm)	Min. number of screws required	
	At support	At either side of supported beam
90 –240	3	3
> 240	4	4

2. Bolts



Installation (cont'd)

2. Bolts (Cont'd)

Table 1

Top (symmetrically) loaded beam - M12 Hex head bolt	
Beam depth ≤ 300 mm	**Beam depth > 300 mm**
2 rows of bolts at 600 mm ctrs	3 rows of bolts at 600 mm ctrs

Table 2

Side (Non symmetrically) loaded beam - M12 Hex head bolt		
Maximum floor joist span supported by the beam mm*		
2 rows at 600 mm ctrs	2 rows at 300 mm ctrs	3 rows at 600 mm ctrs
11,00 mm	>12	>12

* based upon floor loads of G: 1.25 kPa Q: 2.0 kPa

Table 3

Bolt size	Min. edge distance	Min. end distance	Min. distance between bolts (across grain)
M12 Hex head	60 mm	60 mm	60 mm

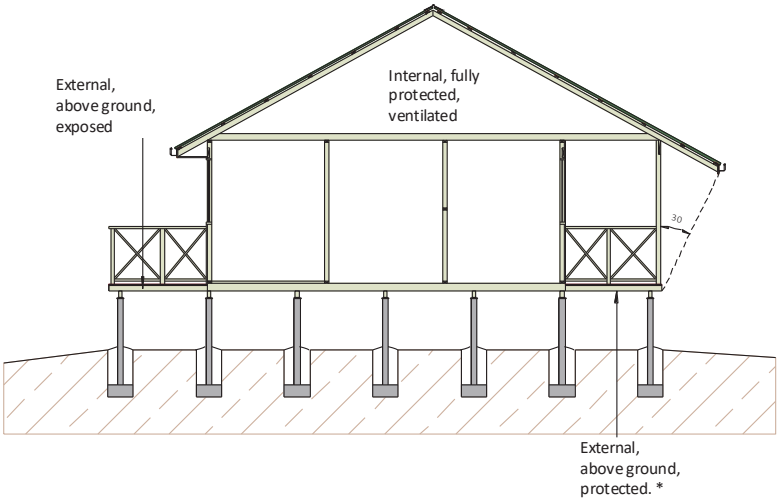
Table 4

Beam depth (mm)	Min. number of bolts required	
	At support	At either side of supported beam
90 –150	1	1
160—240	2	2
> 240	3	3

Table 5

Bolt diameter (mm)	Washer dimensions		
	Thick-ness (mm)	Min. diameter of round washers (mm)	Min. side length of square washers (mm)
M12	3	55	50

SmartLam durability and weather exposure



AS 1684 definitions of exposure zones within a structure

* External timbers are regarded as protected in AS 1684 if they are covered by a roof projection (or similar) at 30° to the vertical and they are well detailed and maintained (painted and kept well ventilated).

SmartLam GL13C's are manufactured from kiln dried timber (MC less than 15%), and therefore need to be protected from moisture cycling that can occur from:

- Exposure to direct sun and rain (including during construction)
- Contact or close exposure with moisture laden porous material (e.g. Concrete blocks)
- Exposure to extreme environments such as dry heating systems (e.g. slow combustion wood heaters), air conditioning, large north or west facing windows or moisture laden environments such as pool enclosures.

SmartLam GL13C protection methods

During Construction (pre-water proof roof)

SmartLam GL13C's are supplied WITHOUT any short term construction sealer. However if SmartLam GL13C is expected to be exposed for an extended period or become wet, it is recommended that the beam be sealed with a construction sealer that is compatible with the final paint or varnish finish, or wrapped in plastic to provide protection (plastic must allow for drainage and air circulation to breath).

Examples:

I. If the SmartLam GL13C is installed inside a building without direct exposure to air-conditioning such as in wall cavity, NO protection to the beam is required.

II. If the SmartLam GL13C is installed inside a building with direct exposure to air conditioning or dry heat then a sealer is required.

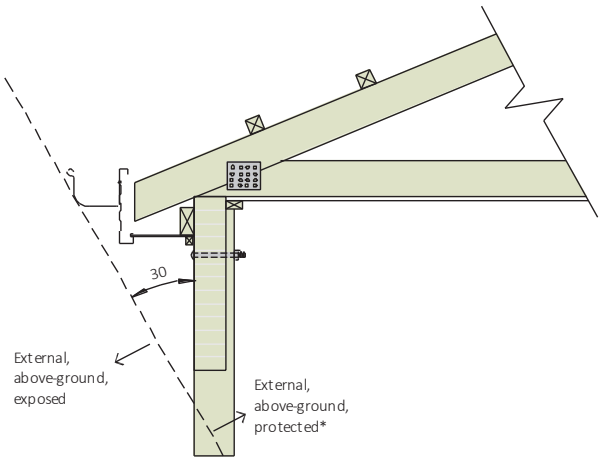
III. If the SmartLam GL13C is under the eaves and protected from direct rain and sun, it is recommended that the construction sealer be lightly sanded and a finish coat of compatible premium quality paint be applied. (In accordance with paint manufacturer's specifications).

IV. It is NOT recommended that ANY SmartLam GL13C be used in external, above ground, exposed applications.

SmartLam durability and weather exposure (Cont'd)

Covered alfresco beams

Alfresco beams constructed to comply with the diagram below are technically classified in AS 1684 as ***External, above-ground, protected.*** (see previous page)



*member must also be well detailed and maintained (painted or stained and kept well ventilated)

SmartLam GL's used in protected exterior applications must be:

I. Correctly detailed by fully enclosing member with a mechanical barrier such a cement sheet if it is likely to get wet or experiences direct sun

II. Mechanical barrier correctly painted with a premium quality protective finish (e.g. light coloured pigmented external paint system) to prevent moisture infiltration.

It is important that an inspection and maintenance programme, based on exposure level and the paint manufacturer's recommendations be prepared.

Painting SmartLam GL13C

General

To provide the longest service life of the SmartLam GL13C, it is recommended the SmartLam GL13C's are painted with an exterior paint with a Light Reflectance Value (LRV) greater than 30%. Heat reduction exterior paints should be used where the desired colour is dark or has a LRV of less than 30%. The heat reflective paints colours should be limited to a Total Solar Reflectance (TSR) value greater than 29%.

Any paint or stain must be recommended by the manufacturer as being suitable for the proposed application and must be applied in a manner in strict compliance to the manufacturer's recommendations.

1. The wood must be dry and clean prior to applying any finish coating. If initial cleaning of the treated wood is needed, it is recommended that the project be cleaned with a deck cleaning product and allow to fully dry

2. At this time, a clear water repellent can be added to the project. If applied, allow 8 weeks prior to the application of a semi-transparent stain or paint

Users must always conduct their own tests on coatings in inconspicuous areas of the project to determine acceptability of colour, adhesion and appearance.

Design & Construction detailing tips

i. The use of building overhangs and other structures which protect the beams from excessive moisture movement and sun exposure.

ii. Shielding of the beam from free moisture or direct sun. The use of metal, fibro or plastic shields on the exposed faces or ends of beams is highly recommended to help maintain the beam in an unstressed dry condition.

iii. All beams should be provided with adequate ventilation so that moisture content within beams will not exceed 15% and moisture gradients across the beam will not occur.

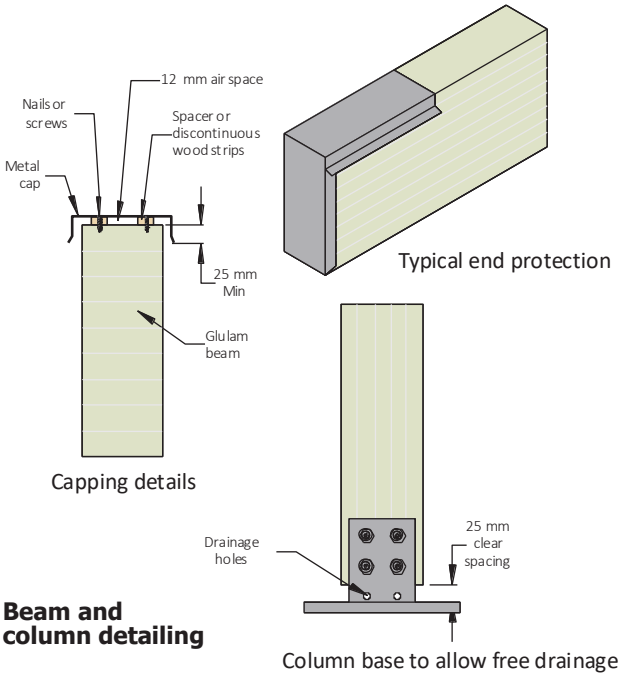
iv. The use of arrised or round edges on beams to reduce the likelihood of coating failures on sharp edges.

v. The use of drip edges or other devices which provide a path for free moisture flow away from the timber beam. Refer to detail below opposite.

vi. Joint detailing should, wherever possible, comply with the following:

- Keep horizontal contact areas to a minimum, In favour of self draining vertical surfaces.
- Ventilate joint surfaces by using spacers, wherever possible.
- Always use compatible fasteners which have adequate corrosion protection and do not cause splitting during installation e.g. Hot dipped galvanic coatings or stainless steel.
- Ensure any moisture entering a joint is not trapped but can adequately drain away from the joint.

vii. Allow for thermal expansion/contraction in the joint design.



Beam and column detailing

Designing with SmartLam GL13C

The design information contained within this Design Guide is for the properties of SmartLam GL 17 only. Other manufacturers' LVL may have different properties and therefore cannot be designed using this information.

1. Product Specification

Lamella:	Thickness:	30-45 mm
	Species:	Slash pine (Pinus elliottii) Radiata pine (Pinus Radiata)
	Strength Group	SD4
	Joints:	Finger joint
Dimensional tolerances:	Length:	± 10 mm
	Depth:	≤ 100 mm ± 1 mm ≥ 100 ≤ 302 mm ± 3 mm ≥ 301 ≤ 600 mm ± 4 mm ≥ 601 ± 6 mm
	Thickness:	- 0, +4 mm at 12% moisture content
Adhesive:	Complies with AS/NZS 4364:2010	
Treatment: options:	Untreated, H2, and H3 treatment to AS 1604.5	

2. Limit State Design Characteristic Properties

Timber Strength Properties:(1)		
Bending	f'_b	33 MPa
Tension Parallel to grain	f'_t	16 MPa
Tension Perpendicular to grain	f'_{tp}	0.5 MPa
Compression Parallel to grain	f'_c	26 MPa
Compression Perpendicular to grain - Edge	f'_p	8.6 MPa
Shear	f'_s	4.2 MPa
Average Elastic Modulus	E	13,300 MPa
Average Modulus of Rigidity	G	900 MPa
Average Density		550 kg/m^3
Moisture Content		12-15%

(1) Dry conditions

3. Strength reduction factor

The strength reduction factor for calculating the design capacities of structural members shall be taken from the table below, referenced from AS 1720.1 –2010

Application of SmartLam GL13 as a structural member		
Category 1	**Category 2**	**Category 3**
Structural members for houses for which failure would be unlikely to affect an area greater than 25 m^2; OR secondary members in structures other than houses	Primary structural members in structures other than houses; OR elements in houses for which failure would be likely to affect an area* greater than 25 m^2	Primary structural members in structures intended to fulfil essential services or post disaster function
Strength reduction factor Ø *		
0.95	0.85	0.75

* AS 1720.1:2010 Table 2.1

4. Duration of load

The duration of load factor k_1 for strength is defined within clause

Duration	**Service class / exposure classification**		
	1, 2	**3**	**Severe/ Adverse**
Short term <= 1 Day	1.0	1.0	1.0
Long term > 12 months	1.5	2.0	3.0*

Notes:

1. * Any beams to be used in service class 3 are outside the scope of these span tables, therefore specialist design advice should be sought from an engineer.
2. In general, the size of this beam can conservatively be obtained by the following method:
   - i. Obtain the beam size for service class 1 & 2
   - ii. Obtain the EI_{xx} from the "Section Properties" table for this beam
   - iii. Obtain from the "Section Properties" table a beam size with an EI_{xx} => 2/1.5 x EI_{xx} of the original beam
   - iv. Follow the recommendations of the GLTAA Technical Data Sheet No 2: "Glulam in weather exposed applications"
3. Service Classes 1,2 & 3 are defined in AS 1328

5. Partial seasoning factor

SmartLam GL 17 is a seasoned timber product, generally k_4 equals 1. Where the glulam is subjected to conditions in which the average moisture content for a 12 month period is expected to exceed 15%, the characteristic capacity shall be decreased. The value of k_4 shall be the greater of:

a. $k_4 = 1 - 0.3\frac{EMC-15}{10}$;

b. $k_4 = 0.7$

Where EMC is the highest value of the annual moisture content (percent) that the timber will attain in service.

6. Length and position of bearing

The k_7 bearing factor is defined is clause 2.4.4 of AS 1720.1

7. Load sharing

Because of the reduced variability of strength values of glulam compared to solid timber , the load sharing factor k_9 = 1.0 as defined in clause 7.4.3 of AS 1720.1

8. Stability

The stability factor k_{12} is defined within section 7 of AS 1720.1 beams. The methods for calculating k_{12} for solid wood in section 3 of AS 1720.1 shall generally apply except that the material constant (ρ_b or ρ_c) for beams and column shall be as given in Tables 7.2(A) and 7.2(B)

9. Temperature

For covered timber structures under ambient conditions, no modification for strength need be made for the effect of temperature (i.e., k_6 equals 1.0) except that where seasoned timber is used in structures erected in coastal regions of Queensland north of latitude 25°S, and all other regions of Australia north of latitude 16°S, the strength shall be modified by a factor k_6 of 0.9.

SmartLam GL13C section properties

Nominal size DxB mm	Beam mass kg/m	Nominal section area 10^3 mm^2	Major axis			Minor axis	
			Z_{xx} 10^3 mm^3	I_{xx} 10^6 mm^4	EI_{xx} 10^9 Nmm^2	Z_{yy} 10^3 mm^2	I_{yy} 10^6 mm^4
126 x 55	3.8	6.9	146	9	122	63.5	1.7
168 x 55	5.1	9.2	259	22	289	84.7	2.3
210 x 55	6.4	11.6	404	42	565	105.9	2.9
252 x 55	7.6	13.9	582	73	976	127.1	3.5
294 x 55	8.9	16.2	792	116	1549	148.2	4.1
336 x 55	10.2	18.5	1035	174	2312	169.4	4.7
378 x 55	11.4	20.8	1310	248	3292	190.6	5.2
420 x 55	12.7	23.1	1617	340	4516	211.8	5.8
462 x 55	14.0	25.4	1957	452	6011	232.9	6.4
504 x 55	15.2	27.7	2328	587	7804	254.1	7.0
546 x 55	16.5	30.0	2733	746	9922	275.3	7.6
588 x 55	17.8	32.3	3169	932	12393	296.5	8.2
630 x 55	19.1	34.7	3638	1146	15242	317.6	8.7
126 x 65	4.5	8.2	172	11	144	88.7	2.9
168 x 65	6.0	10.9	306	26	342	118.3	3.8
210 x 65	7.5	13.7	478	50	667	147.9	4.8
252 x 65	9.0	16.4	688	87	1153	177.5	5.8
294 x 65	10.5	19.1	936	138	1831	207.0	6.7
336 x 65	12.0	21.8	1223	205	2733	236.6	7.7
378 x 65	13.5	24.6	1548	293	3891	266.2	8.7
420 x 65	15.0	27.3	1911	401	5337	295.8	9.6
462 x 65	16.5	30.0	2312	534	7104	325.3	10.6
504 x 65	18.0	32.8	2752	693	9223	354.9	11.5
546 x 65	19.5	35.5	3230	882	11726	384.5	12.5
588 x 65	21.0	38.2	3746	1101	14646	414.1	13.5
630 x 65	22.5	41.0	4300	1354	18014	443.6	14.4
126 x 85	5.9	10.7	225	14	188	151.7	6.4
168 x 85	7.9	14.3	400	34	447	202.3	8.6
210 x 85	9.8	17.9	625	66	872	252.9	10.7
252 x 85	11.8	21.4	900	113	1508	303.5	12.9
294 x 85	13.7	25.0	1225	180	2394	354.0	15.0
336 x 85	15.7	28.6	1599	269	3574	404.6	17.2
378 x 85	17.7	32.1	2024	383	5088	455.2	19.3
420 x 85	19.6	35.7	2499	525	6980	505.8	21.5
462 x 85	21.6	39.3	3024	698	9290	556.3	23.6
504 x 85	23.6	42.8	3599	907	12061	606.9	25.8
546 x 85	25.5	46.4	4223	1153	15334	657.5	27.9
588 x 85	27.5	50.0	4898	1440	19152	708.1	30.1
630 x 85	29.5	53.6	5623	1771	23557	758.6	32.2

SmartLam GL13C section properties

Nominal Size DxB mm	Beam mass kg/m	Nominal section area 10^3 mm^2	Major axis			Minor Axis	
			Zxx 10^3 mm^2	Ixx 10^6 mm^4	EIxx 10^9 Nmm^2	Zyy 10^3 mm^2	Iyy 10^6 mm^4
126 x 115	8.0	14.5	304	19	255	277.7	16.0
168 x 115	10.6	19.3	541	45	604	370.3	21.3
210 x 115	13.3	24.2	845	89	1180	462.9	26.6
252 x 115	15.9	29.0	1217	153	2040	555.5	31.9
294 x 115	18.6	33.8	1657	244	3239	648.0	37.3
336 x 115	21.3	38.6	2164	364	4835	740.6	42.6
378 x 115	23.9	43.5	2739	518	6884	833.2	47.9
420 x 115	26.6	48.3	3381	710	9443	925.8	53.2
462 x 115	29.2	53.1	4091	945	12569	1018.3	58.6
504 x 115	31.9	58.0	4869	1227	16318	1110.9	63.9
546 x 115	34.5	62.8	5714	1560	20747	1203.5	69.2
588 x 115	37.2	67.6	6627	1948	25912	1296.1	74.5
630 x 115	39.8	72.5	7607	2396	31871	1388.6	79.8
126 x 135	9.4	17.0	357	23	299	382.7	25.8
168 x 135	12.5	22.7	635	53	709	510.3	34.4
210 x 135	15.6	28.4	992	104	1386	637.9	43.1
252 x 135	18.7	34.0	1429	180	2394	765.5	51.7
294 x 135	21.8	39.7	1945	286	3802	893.0	60.3
336 x 135	24.9	45.4	2540	427	5676	1020.6	68.9
378 x 135	28.1	51.0	3215	608	8081	1148.2	77.5
420 x 135	31.2	56.7	3969	833	11085	1275.8	86.1
462 x 135	34.3	62.4	4802	1109	14755	1403.3	94.7
504 x 135	37.4	68.0	5715	1440	19156	1530.9	103.3
546 x 135	40.5	73.7	6708	1831	24355	1658.5	111.9
588 x 135	43.7	79.4	7779	2287	30418	1786.1	120.6
630 x 135	46.8	85.1	8930	2813	37413	1913.6	129.2

NOTES:

1. Due to the large range of SmartLam GL13C beams available, only the common sizes are stock items. Users wishing to purchase a SmartLam GL13C should contact their merchant to determine whether their selected size is a stock item or needs extra time to be made to order.

SmartLam GL13C and fire

Fire resistance

The Fire Resistance Level (FRL) is the performance criteria for fire resistance, i.e. the grading periods (in minutes) for the following criteria as specified in the BCA:

a. Structural adequacy: (the duration for which the elements can carry its designated load)

b. Integrity: (the duration for which the element can

maintain its integrity to prevent the spread of fire to/ from the compartment)

and

c. Insulation: (the duration for which the element is insulating the adjacent space from excessive temperature rise)

and is expressed in that order e.g. 30/30/30. The method for determining the structural component of the Fire Resistance Period for timber (including LVL and GLT) is described in AS /NZS 1720.4 - 2019 Timber Structures Part 4: Fire resistance of timber elements.

$$c = 0.4 + \left(\frac{280}{\delta}\right)^2$$

where:

c = notional charring rate, in mm per minute

d = timber density of SmartLam GL13 - ~ 650 kg/m^3

The effective depth of charring (d_c) after a period of time (t) shall be calculated in accordance with Clause 2.6.1 for surfaces exposed to fire and in accordance with Clause 2.6.2 for surfaces behind fire - resistant protective insulation.

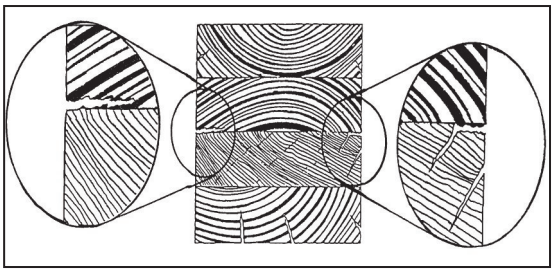
Further information about using SmartFrame product in fire rated applications can be obtained by contacting the Techsupport Helpline on 1300 668 690 or email techsupport@tilling.com.au.

Checking in SmartLam GL13C

One of the advantages of glued laminated timber construction is that while seasoning checks may occur for the same reasons that they do in sawn members, checking in glued laminated timber will generally occur to a much lesser degree because of careful control of the moisture content of timber used for laminating. Checks in wood are separations along the fibres normally occurring across the rings of annual growth resulting from stresses developed during changes in moisture content. Checks in glued laminate timber may appear as openings parallel to the grain on the sides of members.

As wood loses moisture to the surrounding atmosphere, the outer fibres of the member lose moisture at a more rapid rate than do the inner fibres. As outer fibres try to shrink, they are restrained by the inner portion of the member that has higher moisture content. The more rapid the rate of drying, the greater will be the differential in shrinkage between the outer and inner fibres resulting in higher shrinkage stresses.

These resultant stresses perpendicular to the grain of the wood can cause characteristic wood seasoning checks. The influence of checks on the structural performance of glued laminated timber members is generally minor. Checking can be minimized by careful installation practices that avoid prolonged exposure of the members during construction.



Identification of checking

Checks occur as transverse separations or openings that are nearly parallel to the grain direction in glued laminated timber and generally follow the grain direction around knots and along sloping grain. Differences in the shrinkage rate of individual laminations used is glued laminated timber tend to concentrate shrinkage stresses at or near glue lines, resulting in checks.

Checks are often confused with delamination that occurs when the glue bond is not adequate. The presence of wood fibre separation in these openings is the key distinguishing characteristic of seasoning checks. Openings due to inadequate adhesive bonding may appear as smooth wood surface separations, possibly darkened by the adhesive film, or as glossy surface areas of adhesive with an absence of torn wood fibres.

Checking often occurs along the first glue line adjacent to the outer lamination that may dry more rapidly because a larger surface area of that lamination is exposed to the air. This condition is sometimes aggravated when the outer lamination tends to cup, creating tension perpendicular to grain stresses along or near the first glue line.

Significance of checking

In general, checks have little effect on the strength of glued laminated members. Glued laminated members are made from laminations that are thin enough to season readily in kiln drying schedules without developing checks. Checks usually appear on the wide faces of the timber and do not materially affect the shear strength of the laminations. In cases where members are designed for loading parallel to the wide face of the laminations, checks may affect the shear strength of the beam their effect may be evaluated in the same manner as for sawn timber. Seasoning checks in bending members affect only the horizontal shear capacity.

In establishing allowable horizontal shear values, normal checking due to seasoning has been considered.

Checks are usually not of structural importance unless they are significant in depth, occur in the mid-height of the member near the supports, and the design of the member is governed by shear. If these conditions exist, the reduction in shear strength is directly proportional to the ratio of the depth of checks to the width of the bending member. Checks in columns are not of structural importance unless the check develops into a split, thereby increasing the l/d ratio of the column.

Additional information

While checking is not considered to be of structural significance, the reason for the checking and the means by which further checking may be minimized should be determined.

If there is concern regarding structural adequacy, advice can be obtained from engineers from the SmartFrame Design Centre or a structural engineer experienced and qualified in glued laminated timber technology should evaluate the significance of the checking.

The SmartFrame Technical Note - “Evaluation of Checking in Glued Laminated Timber (GLT)” gives detailed analysis of the modification to structural capacity as a result of severe checking.

SmartLam GL13C Design /Effective span

Normal structural analysis uses the centreline representation of the member. The term “span” can be defined in a number of ways and these are defined as follows:

Clear span. This is the distance between the faces of any support. It is generally the one easiest to measure and read from the drawings

Nominal span/centre-line span. This is the distance between the centre of the supports. This span is used to determine bending moments and deflections for continuous spaning members

Design span/Effective span. This is the span used for single span members to determine the bending moment, the slenderness of bending members and the deflections. In NZS 3603 this is the dimension referred to as “L”, and is defined below.

Design span/Effective span is the distance between -

- The centre of the bearing at each end of a beam where the bearing lengths have NOT been conservatively sized
- The centre of notional bearing that have been sized appropriately, where the size of the bearing IS conservative.

Diagram (a) shows beam where bearings have been designed appropriately. The effective span is taken as the distance between the centre of each bearing area

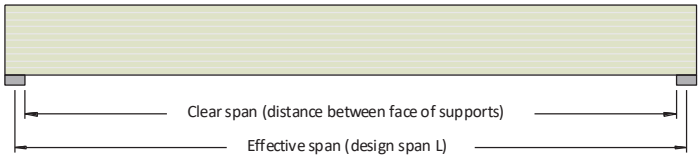
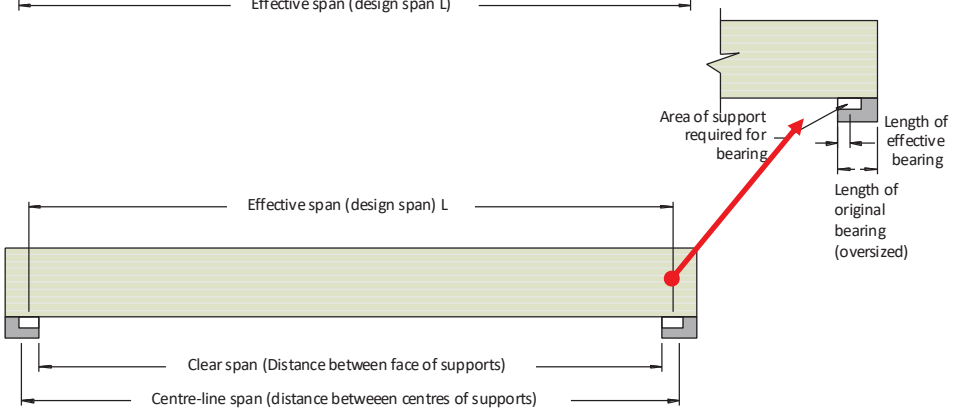


Diagram (b) shows beam where bearings at each end have been oversized. (This is frequently the case for beams that bear onto brickwork or concrete walls where the thickness of the wall is in excess of the area required to give the beam bearing capacity). To find the correct effective span:

1. Calculate the minimum bearing required to carry the loads satisfactorily
2. Add minimum bearing length to “clear span” distance



span difference	effective span	resultant span description
10% Max	main span	continuous
10 – 30%	1.1 x main span	continuous
Above 30% difference	main span	single

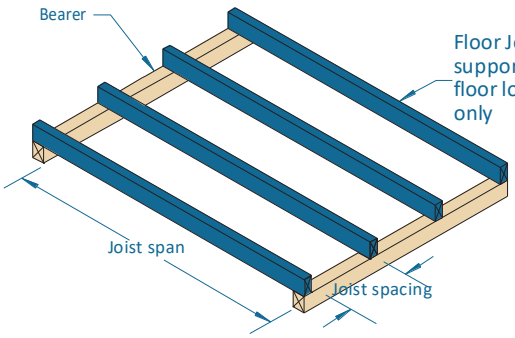
$$\text{span difference} = \frac{(\text{major span} - \text{minor span})}{(\text{major span} + \text{minor span})} \times 100$$

The span to use in the case of unequal continuous spans is the "resultant span description " as shown in the table above. (Note: It is recommended for the most accurate designs, that the SmartFrame software be used.)

Storage and handling of SmartLam GL13C

1. Store SmartLam GL13C's flat on a hard, dry surface
2. If surface isn't paved, the ground should be covered with a polythene film
3. Keep covered with waterproof material that allows bundles to "breathe"
4. Use bearers (bolsters) between the ground and the first bundle (4 metre max spacing)
5. Use 100 x 50 timber flat between bundles at same spacing as bolsters
6. Take great care to rewrap remaining material after opening bundles
7. Timber "grows" in thickness and depth when allowed to get wet....,KEEP DRY!
8. Timber products with high MC has short term reduction in Characteristic Strengths …. KEEP DRY!
9. Under NO circumstances is stored SmartLam GL13C to be in contact with the ground.

Floor joists supporting floor loads only



Floor mass - 40 kg/m^2

EXAMPLE:

domestic floor loads
single span
joist spacing = 450 mm
joist span = 6000 mm

Enter single span table at 450 mm in joist spacing column, read down to a span equal to or greater than 6000 mm

ADOPT: SmartLam GL13C - 275 x 60

Loadings: Permanent - Self weight + 40 kg/m^2 +0.5 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

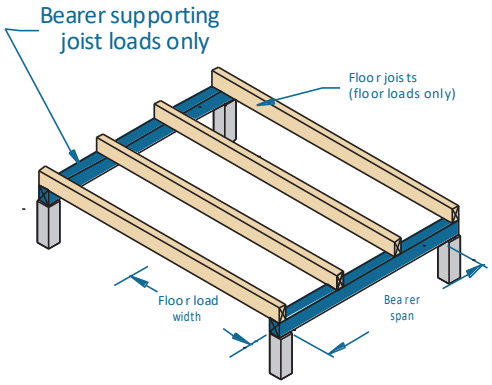
Joist spacing (mm)	300	450	600	300	450	600
Member size (GL13C) DxB (mm)	Maximum recommended joist span (mm)					
	Single span			Continuous span		
200x60	*5400*	*5000*	*4700*	*6600*	*5900*	*5500*
225x60	*5900*	*5400*	*5100*	*7200*	*6500*	*6000*
250x60	*6300*	*5800*	*5500*	*7800*	*7000*	*6500*
275x60	*6700*	*6200*	*5900*	*8300*	*7500*	*7000*
300x60	*7100*	*6600*	*6200*	*8900*	*8100*	*7500*
325x60	*7500*	*7000*	*6600*	*9400*	*8600*	*8000*
350x60	*7900*	*7400*	*7000*	*10400*	*9000*	*8400*
375x60	*8300*	*7700*	*7300*	*8900*	*9500*	*8800*
400x60	*8600*	*8100*	*7600*	*11300*	*10000*	*9300*
130x65	4000	3300	3000	4800	4000	3500
165x65	4900	4400	3900	5800	5200	4600
195x65	5500	5000	4700	6600	5900	5500
230x65	6200	5700	5300	7400	6700	6200
260x65	6800	6200	5800	8100	7400	6900
295x65	7400	6800	6400	9000	8100	7500
300x65	7500	6900	6500	9100	8200	7600
330x65	8000	7400	6900	10300	8800	8200
360x65	8500	7800	7400	8800	9400	8700
395x65	9000	8400	7900	9400	9900	9400
425x65	9400	8800	8300	10500	9900	9900
250x80	*6800*	*6300*	*6000*	*8500*	*7800*	*7200*
275x80	*7200*	*6700*	*6400*	*9000*	*8400*	*7800*
300x80	*7600*	*7100*	*6800*	*9600*	*8900*	*8300*
325x80	*8000*	*7500*	*7100*	*9000*	*9500*	*8800*
350x80	*8400*	*7900*	*7500*	*9500*	*9900*	*9300*
375x80	*8800*	*8300*	*7900*	*10400*	*9900*	*9800*
400x80	*9200*	*8600*	*8200*	*10900*	*9900*	*9900*
130x85	4300	3700	3300	5200	4500	3900
165x85	5200	4700	4300	6200	5600	5100
195x85	5800	5400	5000	7000	6400	5900
230x85	6500	6000	5700	7900	7200	6700
260x85	7100	6600	6200	8700	7900	7300
295x85	7800	7200	6800	8100	8700	8100
300x85	7800	7200	6800	8200	8800	8200
330x85	8300	7700	7300	11000	9400	8800
360x85	8800	8200	7800	9300	10000	9400
395x85	9400	8800	8300	10600	9900	10000
425x85	9900	9200	8700	11200	9900	9900

NOTES:

1. Spans are suitable for solid timber, particle board and ply flooring. floor sheeting glued and nailed to joists will improve floor rigidity. Where heavy overlay material is to be applied, such as a mortar bed tiled or slate floor, the permanent load allowance should be increased to 1.2 kPa. A reduction of joist spacing may be used to accommodate this extra permanent load. A satisfactory result can be achieved by adopting the maximum spans for 600 mm and 450 mm spacing but installing the joists at 450 and 300 mm spacing respectively.
2. For beams which are continuous over two unequal spans, the design span and the 'resultant span description' depend upon the percentage span differences between the two spans as shown on page 5
3. D = member depth, B = member breadth, NS = not suitable.
4. End bearing lengths = 42 mm at end supports and 58 mm at internal supports for continuous members.
5. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Single span floor bearers supporting floor loads only - Single span

Floor mass - 40 kg/m^2



EXAMPLE:

single span bearer = 4000 mm
floor load width = 5800 mm

Enter single span table at 6000 mm in floor load width column, read down to a span equal to or greater than 4000 mm

ADOPT:

SmartLam GL13C - 375 x 60

Loadings: permanent - self weight + 40 kg/m^2 +0.5 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

Floor load width (mm)	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600
Member size (GL13C) DxB (mm)	Maximum recommended Single span bearer span (mm)									
200x60	*3800*	*3300*	*3000*	*2800*	*2600*	*2500*	*2400*	*2300*	*2100*	*2000*
225x60	*4100*	*3700*	*3400*	*3200*	*3000*	*2800*	*2700*	*2600*	*2400*	*2300*
250x60	*4400*	*4000*	*3700*	*3500*	*3300*	*3100*	*3000*	*2800*	*2700*	*2600*
275x60	*4700*	*4300*	*4000*	*3800*	*3600*	*3400*	*3300*	*3100*	*3000*	*2800*
300x60	*5100*	*4600*	*4300*	*4000*	*3900*	*3700*	*3600*	*3400*	*3200*	*3100*
325x60	*5400*	*4900*	*4500*	*4300*	*4100*	*3900*	*3800*	*3700*	*3500*	*3300*
350x60	*5700*	*5100*	*4800*	*4500*	*4300*	*4200*	*4000*	*3900*	*3800*	*3600*
375x60	*6000*	*5400*	*5000*	*4800*	*4600*	*4400*	*4200*	*4100*	*4000*	*3800*
400x60	*6200*	*5700*	*5300*	*5000*	*4800*	*4600*	*4400*	*4300*	*4200*	*4100*
130x65	2600	2200	2000	1900	1700	1700	1600	1500	1400	1400
165x65	3300	2800	2600	2400	2200	2100	2000	1900	1800	1800
195x65	3800	3400	3000	2800	2600	2500	2400	2300	2200	2100
230x65	4300	3900	3600	3300	3100	3000	2800	2700	2600	2500
260x65	4700	4200	3900	3700	3500	3300	3200	3100	2900	2800
295x65	5100	4700	4300	4100	3900	3700	3600	3500	3300	3200
330x65	5600	5100	4700	4400	4200	4100	3900	3800	3700	3600
360x65	5900	5400	5000	4700	4500	4300	4200	4100	3900	3800
200x80	4000	3600	3300	3100	2900	2700	2600	2500	2400	2300
225x80	4400	4000	3700	3500	3300	3100	2900	2800	2700	2600
250x80	4700	4300	4000	3800	3600	3400	3300	3100	3000	2900
275x80	5100	4600	4300	4100	3900	3700	3600	3400	3300	3200
300x80	5400	4900	4600	4300	4100	4000	3800	3700	3600	3500
325x80	5700	5200	4900	4600	4400	4200	4100	3900	3800	3700
350x80	6000	5500	5100	4900	4600	4500	4300	4200	4000	3900
375x80	6300	5800	5400	5100	4900	4700	4500	4400	4300	4200
400x80	6600	6100	5700	5400	5100	4900	4700	4600	4500	4400
195x85	4000	3600	3300	3100	2900	2700	2600	2500	2400	2300
230x85	4500	4100	3800	3600	3400	3200	3100	2900	2800	2700
260x85	5000	4500	4200	4000	3800	3600	3500	3300	3200	3100
295x85	5500	5000	4600	4400	4200	4000	3800	3700	3600	3500
330x85	5900	5400	5000	4700	4500	4300	4200	4100	3900	3800
360x85	6300	5700	5400	5100	4800	4600	4500	4300	4200	4100
395x85	6800	6200	5700	5400	5200	5000	4800	4600	4500	4400
425x85	7100	6500	6000	5700	5500	5200	5100	4900	4800	4600
295x115	5900	5300	5000	4700	4500	4300	4100	4000	3900	3800
330x115	6300	5800	5400	5100	4900	4700	4500	4400	4200	4100
360x115	6800	6200	5700	5400	5200	5000	4800	4700	4500	4400
395x115	7200	6600	6100	5800	5600	5300	5200	5000	4900	4700
425x115	7600	7000	6500	6100	5900	5600	5500	5300	5100	5000
260x135	5500	5000	4700	4400	4200	4100	3900	3800	3700	3600
295x135	6100	5500	5200	4900	4700	4500	4300	4200	4100	4000
330x135	6600	6000	5600	5300	5100	4900	4700	4500	4400	4300
360x135	7000	6400	6000	5600	5400	5200	5000	4900	4700	4600
395x135	7500	6800	6400	6000	5800	5600	5400	5200	5100	4900
425x135	7800	7200	6700	6400	6100	5900	5700	5500	5300	5200

Continuous span floor bearers supporting floor loads only

Floor mass - 40 kg/m^2

Loadings: permanent - self weight + 40 kg/m^2 +0.5 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

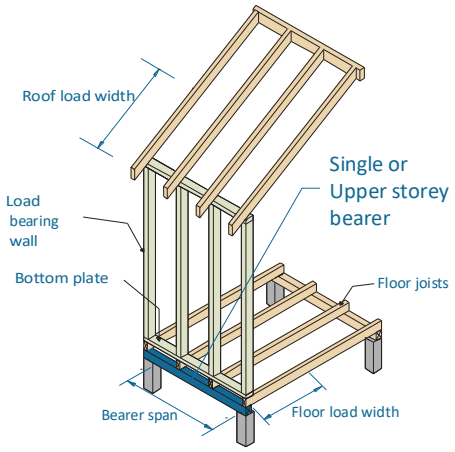
Floor load width (mm)	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600
Member size (GL13C) DxB (mm)	Maximum recommended Continuous span bearer span (mm)									
200x60	*4700*	*4000*	*3500*	*3100*	*2800*	*2600*	*2400*	*2300*	*2100*	*2000*
225x60	*5200*	*4500*	*3900*	*3500*	*3200*	*2900*	*2700*	*2600*	*2400*	*2300*
250x60	*5600*	*5000*	*4300*	*3900*	*3500*	*3200*	*3000*	*2800*	*2700*	*2600*
275x60	*6000*	*5400*	*4700*	*4200*	*3900*	*3600*	*3300*	*3100*	*3000*	*2800$_5$*
300x60	*6400*	*5800*	*5200*	*4600*	*4200*	*3900*	*3600*	*3400$_5$*	*3200$_{10}$*	*3100$_{15}$*
325x60	*6800*	*6100*	*5600*	*5000*	*4600*	*4200*	*3900$_5$*	*3700$_{10}$*	*3500$_{20}$*	*3300$_{25}$*
350x60	*7100*	*6500*	*6000*	*5400*	*4900*	*4500$_5$*	*4200$_{15}$*	*4000$_{20}$*	*3800$_{30}$*	*3600$_{35}$*
375x60	*7500*	*6800*	*6300*	*5800*	*5200$_5$*	*4900$_{15}$*	*4500$_{20}$*	*4300$_{30}$*	*4000$_{35}$*	*3800$_{50}$*
400x60	*7900*	*7200*	*6700*	*6100$_5$*	*5600$_{10}$*	*5200$_{20}$*	*4800$_{30}$*	*4500$_{40}$*	*4300$_{55}$*	*4100$_{65}$*
130x65	3500	3000	2600	2300	2100	1900	1800	1700	1600	1500
165x65	4200	3800	3200	2900	2600	2400	2300	2100	2000	1900
195x65	4800	4300	3800	3400	3100	2900	2700	2500	2400	2300
230x65	5400	4900	4500	4000	3700	3400	3200	3000	2800	2700
260x65	5900	5300	5000	4600	4200	3800	3600	3400	3200	3000
295x65	6500	5900	5400	5100	4700	4300	4100	3800	3600$_5$	3400$_{15}$
330x65	7000	6400	5900	5600	5300	4900	4500$_5$	4300$_{15}$	4000$_{20}$	3800$_{25}$
360x65	7500	6800	6300	6000	5700	5300$_{10}$	4900$_{15}$	4700$_{25}$	4400$_{30}$	4200$_{40}$
200x80	*5100*	*4600*	*4000*	*3600*	*3200*	*3000*	*2800*	*2600*	*2500*	*2400*
225x80	*5500*	*5000*	*4500*	*4000*	*3600*	*3400*	*3100*	*3000*	*2800*	*2700*
250x80	*6000*	*5400*	*5000*	*4400*	*4000*	*3700*	*3500*	*3300*	*3100*	*2900*
275x80	*6400*	*5800*	*5400*	*4900*	*4400*	*4100*	*3800*	*3600*	*3400*	*3200*
300x80	*6800*	*6200*	*5800*	*5300*	*4800*	*4500*	*4200*	*3900*	*3700*	*3500*
325x80	*7200*	*6600*	*6100*	*5700*	*5200*	*4800*	*4500*	*4300*	*4000$_5$*	*3800$_{10}$*
350x80	*7600*	*6900*	*6500*	*6100*	*5600*	*5200*	*4900*	*4600$_5$*	*4300$_{10}$*	*4100$_{15}$*
375x80	*8000*	*7300*	*6800*	*6400*	*6000*	*5600*	*5200$_5$*	*4900$_{10}$*	*4600$_{20}$*	*4400$_{25}$*
400x80	*8400*	*7600*	*7100*	*6700*	*6400*	*6000$_5$*	*560015*	*5200$_{20}$*	*5000$_{30}$*	*4700$_{35}$*
195x85	5100	4600	4300	3900	3600	3300	3100	2900	2700	2600
230x85	5700	5200	4800	4600	4200	3900	3600	3400	3200	3100
260x85	6300	5700	5300	5000	4700	4400	4100	3800	3600	3500
295x85	6900	6200	5800	5500	5200	5000	4600	4400	4100	3900
330x85	7500	6800	6300	6000	5700	5500	5200	4900	4600$_5$	4400$_{10}$
360x85	8000	7200	6700	6400	6100	5800	5600	5300$_{10}$	5000$_{15}$	4800$_{20}$
395x85	8500	7700	7200	6800	6500	6300	6000$_{10}$	5800$_{20}$	5500$_{25}$	5200$_{30}$
425x85	9000	8200	7600	7200	6900	6600$_5$	6400$_{15}$	6200$_{25}$	5900$_{35}$	5600$_{45}$
295x115	7400	6700	6200	5900	5600	5400	5200	5100	4800	4600
330x115	8000	7300	6800	6400	6100	5900	5700	5500	5400	5100
360x115	8500	7800	7200	6800	6500	6300	6100	5900	5700	5600$_5$
395x115	9100	8300	7700	7300	7000	6700	6500	6300	6100$_5$	6000$_{10}$
425x115	9600	8700	8200	7700	7400	7100	6900	6600	6500$_{10}$	6300$_{20}$
295x135	7600	7000	6500	6100	5900	5600	5400	5300	5100	4900
330x135	8300	7600	7000	6700	6400	6100	5900	5700	5600	5400
360x135	8800	8000	7500	7100	6800	6500	6300	6100	5900	5800
395x135	9400	8600	8000	7600	7300	7000	6800	6500	6400	6200
425x135	9900	9100	8500	8000	7700	7400	7100	6900	6700	6600$_5$

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum DL of 40 (kg/m^2), floor live load of 1.5 (kPa), floor point load of 1.8 (kN).
3. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members.Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports.
4. Restraint value for slenderness calculations is 600 mm. (floor joist centers at 600 mm max)
5. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Floor bearers supporting single storey load bearing wall - sheet and tiled roof
Single span

Floor mass - 40 kg/m^2



EXAMPLE:

sheet roof - 40 kg/m^2
floor load width = 3500 mm
roof load width = 1950 mm
bearer span = 3000 mm (single span)

Enter single span table at 4800 mm in floor load width column, 4500 roof load width column, read down to a span equal to or greater than 3000 mm in the 40 kg/m^2 row.

ADOPT:

SmartLam GL13C - 300 x 60

Floor load width (mm)	Roof mass (kg/m^2)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)		Maximum recommended Single span bearer span (mm)								
200x60	*40*	*3000*	*2700*	*2500*	*2600*	*2400*	*2300*	*2200*	*2100*	*2000*
	90	*2800*	*2300*	*2100*	*2500*	*2200*	*2000*	*2100*	*1900*	*1800*
225x60	*40*	*3400*	*3000*	*2800*	*3000*	*2700*	*2600*	*2500*	*2400*	*2300*
	90	*3100*	*2600*	*2300*	*2800*	*2400*	*2200*	*2400*	*2200*	*2000*
250x60	*40*	*3700*	*3400*	*3100*	*3300*	*3000*	*2900*	*2800*	*2600*	*2500*
	90	*3500*	*2900*	*2600*	*3100*	*2700*	*2500*	*2700*	*2400*	*2300*
275x60	*40*	*4000*	*3700*	*3400*	*3600*	*3300*	*3100*	*3000*	*2900*	*2800*
	90	*3800*	*3200*	*2900*	*3400*	*3000*	*2700*	*2900*	*2700*	*2500*
300x60	*40*	*4200*	*3900*	*3700*	*3800*	*3600*	*3400*	*3300*	*3200*	*3000*
	90	*4000*	*3500*	*3100*	*3700*	*3300*	*3000*	*3200*	*2900*	*2700*
325x60	*40*	*4500*	*4100*	*3900*	*4100*	*3900*	*3700*	*3600*	*3400*	*3300*
	90	*4300*	*3700*	*3400*	*3900*	*3500*	*3200*	*3500*	*3200*	*2900*
350x60	*40*	*4800*	*4400*	*4100*	*4300*	*4100*	*3900*	*3800*	*3600*	*3500*
	90	*4500*	*3900*	*3600*	*4200*	*3800*	*3500*	*3700*	*3400*	*3200*
375x60	*40*	*5000*	*4600*	*4300*	*4500*	*4300*	*4100*	*4000*	*3800*	*3700*
	90	*4700*	*4200*	*3800*	*4400*	*4000*	*3700*	*3900*	*3600*	*3400*
400x60	*40*	*5200*	*4800*	*4600*	*4800*	*4500*	*4300*	*4200*	*4000*	*3900*
	90	*5000*	*4400*	*4000*	*4600*	*4100*	*3900*	*4100*	*3800*	*3600*
130x65	40	2000	1800	1600	1700	1600	1500	1500	1400	1300
	90	1900	1500	1400	1700	1400	1300	1400	1300	1200
165x65	40	2500	2300	2100	2200	2100	1900	1900	1800	1700
	90	2400	2000	1700	2100	1800	1700	1800	1600	1500
195x65	40	3000	2700	2500	2600	2400	2300	2200	2100	2000
	90	2800	2300	2100	2500	2200	2000	2100	1900	1800
230x65	40	3600	3200	2900	3100	2900	2700	2600	2500	2400
	90	3300	2800	2500	3000	2600	2300	2500	2300	2100
260x65	40	3900	3600	3300	3500	3300	3100	2900	2800	2700
	90	3700	3100	2800	3300	2900	2600	2900	2600	2400
295x65	40	4300	3900	3700	3900	3700	3500	3300	3200	3100
	90	4100	3500	3200	3700	3300	3000	3200	3000	2700
330x65	40	4700	4300	4000	4200	4000	3800	3700	3600	3400
	90	4400	3900	3500	4100	3700	3400	3600	3300	3100
360x65	40	5000	4600	4300	4500	4300	4100	3900	3800	3700
	90	4700	4100	3800	4300	3900	3600	3900	3600	3400
395x65	40	5300	4900	4600	4800	4600	4400	4200	4100	4000
	90	5100	4400	4100	4700	4200	3900	4100	3900	3700
425x65	40	5600	5200	4900	5100	4800	4600	4500	4300	4200
	90	5300	4700	4300	4900	4400	4100	4400	4100	3900

Floor bearers supporting single storey load bearing wall - sheet and tiled roof
Single span (cont'd)

Floor load width (mm)	Roof mass (kg/m^2)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)		Maximum recommended single span bearer span (mm)								
200x80	40	3300	2900	2700	2900	2700	2500	2400	2300	2200
	90	3100	2600	2300	2700	2400	2200	2300	2100	2000
225x80	40	3700	3300	3100	3200	3000	2800	2700	2600	2500
	90	3400	2900	2600	3100	2700	2400	2600	2400	2200
250x80	40	4000	3700	3400	3600	3300	3100	3000	2900	2800
	90	3800	3200	2900	3400	3000	2700	2900	2700	2500
275x80	40	4300	3900	3700	3900	3600	3500	3300	3200	3000
	90	4000	3500	3100	3700	3300	3000	3200	2900	2700
300x80	40	4500	4200	3900	4100	3900	3700	3600	3500	3300
	90	4300	3800	3400	4000	3600	3300	3500	3200	3000
325x80	40	4800	4400	4200	4400	4100	3900	3800	3700	3600
	90	4600	4000	3700	4200	3800	3500	3800	3500	3200
350x80	40	5100	4700	4400	4600	4400	4200	4100	3900	3800
	90	4800	4200	3900	4500	4000	3700	4000	3700	3500
375x80	40	5400	4900	4700	4900	4600	4400	4300	4100	4000
	90	5100	4500	4100	4700	4200	3900	4200	3900	3700
400x80	40	5600	5200	4900	5100	4800	4600	4500	4300	4200
	90	5300	4700	4300	4900	4500	4100	4400	4100	3900
130x85	40	2200	2000	1800	1900	1800	1700	1600	1500	1400
	90	2000	1700	1500	1800	1600	1400	1500	1400	1300
165x85	40	2800	2500	2300	2400	2200	2100	2000	1900	1900
	90	2600	2200	1900	2300	2000	1800	2000	1800	1700
195x85	40	3300	2900	2700	2900	2700	2500	2400	2300	2200
	90	3100	2600	2300	2700	2400	2200	2300	2100	2000
230x85	40	3800	3500	3200	3400	3100	3000	2800	2700	2600
	90	3600	3000	2700	3200	2800	2600	2800	2500	2300
260x85	40	4200	3800	3600	3800	3600	3300	3200	3100	2900
	90	3900	3400	3000	3600	3200	2900	3100	2800	2600
295x85	40	4600	4200	4000	4100	3900	3700	3600	3500	3300
	90	4300	3800	3500	4000	3600	3300	3500	3200	3000
330x85	40	5000	4600	4300	4500	4300	4100	4000	3800	3700
	90	4700	4100	3800	4300	3900	3600	3900	3600	3400
360x85	40	5300	4900	4600	4800	4500	4300	4200	4100	3900
	90	5000	4400	4000	4600	4200	3900	4100	3900	3600
395x85	40	5700	5200	4900	5200	4900	4600	4500	4400	4200
	90	5400	4700	4300	5000	4500	4200	4400	4100	3900
425x85	40	6000	5500	5200	5500	5100	4900	4800	4600	4500
	90	5700	5000	4600	5300	4700	4400	4700	4400	4100
295x115	40	4900	4500	4300	4500	4200	4000	3900	3800	3700
	90	4700	4100	3700	4300	3900	3600	3800	3600	3300
330x115	40	5300	4900	4600	4900	4600	4400	4300	4100	4000
	90	5100	4400	4100	4700	4200	3900	4200	3900	3700
360x115	40	5700	5300	5000	5200	4900	4700	4500	4400	4300
	90	5400	4700	4400	5000	4500	4200	4400	4200	3900
395x115	40	6100	5600	5300	5600	5200	5000	4900	4700	4600
	90	5800	5100	4700	5300	4800	4500	4800	4500	4200
425x115	40	6400	5900	5600	5900	5500	5300	5200	5000	4800
	90	6100	5400	4900	5600	5100	4800	5000	4700	4500
295x135	40	5100	4700	4400	4600	4400	4200	4100	3900	3800
	90	4800	4300	3900	4500	4000	3800	4000	3700	3500
330x135	40	5500	5100	4800	5000	4800	4600	4400	4300	4100
	90	5300	4600	4200	4900	4400	4100	4300	4000	3800
360x135	40	5900	5500	5200	5400	5100	4900	4700	4600	4400
	90	5600	4900	4500	5200	4700	4400	4600	4300	4100
395x135	40	6300	5800	5500	5800	5400	5200	5100	4900	4700
	90	6000	5300	4900	5600	5000	4700	5000	4600	4400
425x135	40	6700	6200	5800	6100	5800	5500	5400	5200	5000
	90	6300	5600	5100	5900	5300	4900	5200	4900	4600

Floor bearers supporting single storey load bearing wall - sheet and tiled roof
Continuous span

Floor load width (mm)	Roof mass (kg/m^2)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)		Maximum recommended single span bearer span (mm)								
200x60	*40*	*3900*	*3400*	*3000*	*3100*	*2800*	*2600*	*2300*	*2200*	*2100*
	90	*3500*	*2700*	*2300*	*2900*	*2400*	*2100*	*2200*	*2000*	*1800*
225x60	*40*	*4300*	*3800*	*3300*	*3400*	*3200*	*3000*	*2500*	*2400*	*2300*
	90	*4000*	*3100*	*2500*	*3300*	*2800*	*2400*	*2500*	*2300*	*2100*
250x60	*40*	*4700*	*4200*	*3700*	*3800*	*3500*	*3300*	*2800*	*2700*	*2600*
	90	*4400*	*3400*	*2800*	*3600*	*3100*	*2600*	*2800*	*2500*	*2300_{5}*
275x60	*40*	*5000*	*4600*	*4100*	*4200*	*3900*	*3600*	*3100*	*3000*	*2900_{5}*
	90	*4700*	*3700*	*3100*	*4000*	*3400*	*2900*	*3000*	*2800_{10}*	*2600_{15}*
300x60	*40*	*5300*	*4900*	*4400*	*4600*	*4200*	*3900*	*3400_{5}*	*3300_{10}*	*3100_{15}*
	90	*5100*	*4100*	*3400_{5}*	*4400*	*3700*	*3200_{10}*	*3300_{5}*	*3000_{15}*	*2800_{25}*
325x60	*40*	*5700*	*5200*	*4800*	*4900*	*4600*	*4300*	*3700_{15}*	*3500_{15}*	*3400_{20}*
	90	*5400*	*4400*	*3700_{15}*	*4700*	*4000_{5}*	*3400_{20}*	*3600_{15}*	*3300_{25}*	*3000_{35}*
350x60	*40*	*6000*	*5500*	*5200*	*5300*	*4900*	*4600_{5}*	*4000_{20}*	*3800_{25}*	*3700_{35}*
	90	*5700*	*4700*	*4000_{20}*	*5100*	*4300_{15}*	*3700_{30}*	*3900_{25}*	*3500_{35}*	*3300_{60}*
375x60	*40*	*6300*	*5800*	*5500*	*5700*	*5300_{5}*	*4900_{10}*	*4200_{30}*	*4100_{35}*	*3900_{45}*
	90	*6000*	*5100_{10}*	*4200_{30}*	*5400*	*4600_{20}*	*4000_{40}*	*4100_{35}*	*3800_{55}*	*3500_{70}*
400x60	*40*	*6600*	*6100*	*57005*	*6000*	*5600_{10}*	*5200_{20}*	*4500_{40}*	*4300_{50}*	*4200_{65}*
	90	*6300*	*5400_{15}*	*4500_{40}*	*5800_{10}*	*4900_{30}*	*4200_{60}*	*4400_{45}*	*4000_{70}*	*3700_{80}*
130x65	40	2700	2400	2200	2200	2100	1900	1700	1600	1500
	90	2500	2000	1700	2100	1800	1500	1600	1500	1400
165x65	40	3500	3100	2800	2900	2600	2500	2100	2000	1900
	90	3200	2500	2100	2700	2300	2000	2100	1900	1700
195x65	40	4000	3600	3300	3400	3100	2900	2500	2400	2300
	90	3700	3000	2500	3200	2700	2300	2400	2200	2000
230x65	40	4500	4100	3900	4000	3700	3400	3000	2800	2700
	90	4200	3600	3000	3800	3200	2800	2900	2600	2400
260x65	40	4900	4500	4300	4500	4200	3900	3400	3200	3100
	90	4700	4000	3400	4300	3600	3100	3300	3000	2700_{10}
295x65	40	5400	5000	4700	4900	4600	4400	3800	3600_{5}	3500_{10}
	90	5100	4500	3800	4700	4100	3600_{10}	37005	3400_{15}	3100_{25}
330x65	40	5900	5400	5100	5300	5000	4800	4300_{15}	4100_{20}	3900_{25}
	90	5600	4900	4200_{15}	5100	4600_{5}	4000_{20}	4100_{15}	3800_{30}	3500_{40}
360x65	40	6300	5800	5400	5700	5400	5100_{5}	4600_{25}	4400_{30}	4300_{35}
	90	5900	5200	4600_{25}	5500	4900_{15}	4300_{35}	4500_{30}	4100_{40}	3800_{65}
395x65	40	6700	6200	5800	6100	5700	5500_{10}	5100_{35}	4900_{50}	4700_{60}
	90	6400	5600_{5}	5100_{35}	5900	5300_{20}	4800_{55}	4900_{40}	4500_{65}	4200_{80}
425x65	40	7100	6500	6100	6400	6100_{5}	5800_{15}	5500_{55}	5200_{65}	5000_{70}
	90	6700	5900_{10}	5400_{50}	6200	5600_{30}	5100_{70}	5300_{65}	4900_{80}	4500_{90}
200x80	*40*	*4200*	*3900*	*3400*	*3500*	*3300*	*3000*	*2600*	*2500*	*2400*
	90	*4000*	*3100*	*2600*	*3400*	*2800*	*2400*	*2500*	*2300*	*2100*
225x80	*40*	*4600*	*4300*	*3800*	*4000*	*3700*	*3400*	*2900*	*2800*	*2700*
	90	*4400*	*3500*	*2900*	*3800*	*3200*	*2700*	*2900*	*2600*	*2400*
250x80	*40*	*5000*	*4600*	*4300*	*4400*	*4100*	*3800*	*3300*	*3100*	*3000*
	90	*4700*	*3900*	*3300*	*4200*	*3500*	*3100*	*3200*	*2900*	*2700*
275x80	*40*	*5400*	*4900*	*4700*	*4800*	*4500*	*4200*	*3600*	*3400*	*3300*
	90	*5100*	*4300*	*3600*	*4600*	*3900*	*3400*	*3500*	*3200*	*2900*
300x80	*40*	*5700*	*5300*	*5000*	*5200*	*4900*	*4500*	*3900*	*3800*	*3600*
	90	*5400*	*4700*	*3900*	*5000*	*4200*	*3700*	*3800*	*3500*	*3200_{10}*
325x80	*40*	*6100*	*5600*	*5300*	*5500*	*5200*	*4900*	*4200*	*4100_{5}*	*3900_{5}*
	90	*5800*	*5100*	*4200*	*5300*	*4600*	*4000_{5}*	*4100*	*3800_{10}*	*3500_{20}*
350x80	*40*	*6400*	*5900*	*5600*	*5800*	*5500*	*5300*	*4600_{5}*	*4400_{10}*	*4200_{15}*
	90	*6100*	*5300*	*4600_{5}*	*5600*	*4900*	*4300_{15}*	*4400_{10}*	*4100_{20}*	*3800_{30}*
375x80	*40*	*6700*	*6200*	*5900*	*6100*	*5800*	*5500*	*4900_{15}*	*4700_{20}*	*4500_{20}*
	90	*6400*	*5600*	*4900_{15}*	*5900*	*5300_{5}*	*4600_{20}*	*4800_{15}*	*4400_{25}*	*4000_{35}*
400x80	*40*	*7100*	*6500*	*6200*	*6400*	*6100*	*5800*	*5200_{20}*	*5000_{25}*	*4800_{30}*
	90	*6700*	*5900*	*5200_{20}*	*6200*	*5600_{10}*	*4900_{30}*	*5100_{25}*	*4700_{35}*	*4300_{55}*

Floor bearers supporting single storey load bearing wall - sheet and tiled roof
Continuous span (cont'd)

Floor load width (mm)	Roof mass (kg/m^2)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)		Maximum recommended single span bearer span (mm)								
195x85	40	4200	3900	3700	3800	3600	3300	2900	2700	2600
	90	4000	3400	2900	3700	3100	2700	2800	2500	2300
230x85	40	4800	4400	4100	4300	4100	3900	3400	3200	3100
	90	4500	4000	3400	4200	3700	3200	3300	3000	2800
260x85	40	5200	4800	4500	4800	4500	4300	3800	3700	3500
	90	5000	4300	3800	4600	4100	3600	3700	3400	3100
295x85	40	5800	5300	5000	5200	4900	4700	4300	4200	4000
	90	5500	4800	4300	5000	4500	4100	4200	3900	3600_{10}
330x85	40	6300	5800	5400	5700	5400	5100	4900	4700_{5}	4500_{10}
	90	5900	5200	4800	5500	4900	4500_{5}	4700_{5}	4300_{10}	4000_{20}
360x85	40	6700	6200	5800	6100	5700	5500	5300_{10}	5100_{15}	4900_{20}
	90	6300	5600	5100_{5}	5800	5300	4900_{15}	5200_{15}	4700_{20}	4300_{30}
395x85	40	7200	6600	6200	6500	6100	5900	5700_{20}	5500_{25}	5300_{30}
	90	6800	6000	5500_{15}	6300	5700	5300_{25}	5600_{20}	5200_{35}	4800_{55}
425x85	40	7600	7000	6600	6900	6500	6200	6000_{25}	5800_{30}	5600_{40}
	90	7200	6300	5800_{20}	6600	6000_{5}	5600_{30}	5900_{25}	5500_{45}	5100_{70}
230x115	40	5100	4700	4500	4700	4400	4200	3900	3800	3600
	90	4900	4300	3900	4500	4100	3700	3800	3500	3200
260x115	40	5600	5200	4900	5100	4800	4600	4400	4300	4100
	90	5300	4700	4300	4900	4500	4100	4300	4000	3700
295x115	40	6200	5700	5400	5600	5300	5100	4900	4800	4600
	90	5900	5200	4700	5400	4900	4600	4800	4500	4100
330x115	40	6700	6200	5800	6100	5800	5500	5400	5200	5000
	90	6400	5600	5100	5900	5300	5000	5200	4900	4600_{5}
360x115	40	7200	6600	6200	6500	6200	5900	5700	5500	5400
	90	6800	6000	5500	6300	5700	5300	5600	5200	5000_{15}
395x115	40	7700	7100	6700	7000	6600	6300	6100	5900	5700_{5}
	90	7300	6400	5900	6700	6100	5700	6000	5600_{10}	5300_{20}
425x115	40	8100	7500	7000	7400	7000	6700	6500	6300_{5}	6100_{10}
	90	7700	6800	6200	7100	6400	6000_{5}	6300_{5}	5900_{15}	5600_{30}
230x135	40	5400	4900	4600	4900	4600	4400	4300	4100	3900
	90	5100	4400	4100	4700	4200	3900	4100	3800	3500
260x135	40	5900	5400	5100	5300	5000	4800	4700	4500	4400
	90	5600	4900	4500	5100	4600	4300	4600	4300	4000
295x135	40	6400	5900	5600	5800	5500	5300	5100	5000	4800
	90	6100	5400	4900	5600	5100	4700	5000	4700	4400
330x135	40	7000	6500	6100	6400	6000	5700	5600	5400	5200
	90	6600	5800	5400	6100	5500	5200	5500	5100	4800
360x135	40	7400	6900	6500	6800	6400	6100	6000	5800	5600
	90	7100	6200	5700	6500	5900	5500	5800	5400	5200
395x135	40	8000	7400	6900	7300	6900	6500	6400	6200	6000
	90	7600	6700	6100	7000	6300	5900	6200	5800	5500_{10}
425x135	40	8400	7800	7300	7700	7200	6900	6700	6500	6300
	90	8000	7000	6500	7400	6700	6200	6600	6200	5800_{15}

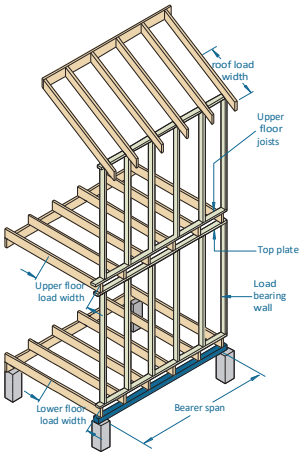
NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a total ground floor mass of 40 (kg/m^2), total wall mass of 37 kg/m^2, floor live load of 1.5 kPa, floor point load of 1.8 kN.
3. The above table was based on a wall height of 2700.
4. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports.
5. Restraint value for slenderness calculations is 600 mm.
6. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Floor bearers supporting two floors and roof - sheet and tiled roof

Single span

Floor mass - 40 kg/m^2



EXAMPLE:

sheet roof - 40 kg/m^2
lower floor load width = 3500 mm
upper floor load width = 1500 mm
roof load width = 1950 mm
bearer span = 3100 mm (single span)

Enter single span table at 3600 mm in lower floor load width column, 1800 mm in upper floor width column, 4500 mm roof load width column, read down to a span equal to or greater than 3100 mm in the 40 kg/m^2 row.

ADOPT:

SmartLam GL13C - 325 x 60

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended single span bearer span (mm)											
200x60	*40*	*2200*	*2100*	*2000*	*2000*	*1900*	*1800*	*2000*	*1900*	*1800*	*1800*	*1800*	*1700*
	90	*2100*	*1900*	*1700*	*1900*	*1800*	*1700*	*1900*	*1800*	*1600*	*1800*	*1700*	*1500*
225x60	*40*	*2500*	*2300*	*2200*	*2200*	*2100*	*2100*	*2200*	*2100*	*2000*	*2100*	*2000*	*1900*
	90	*2400*	*2100*	*2000*	*2200*	*2000*	*1900*	*2200*	*2000*	*1900*	*2000*	*1900*	*1700*
250x60	*40*	*2700*	*2600*	*2500*	*2500*	*2400*	*2300*	*2500*	*2400*	*2300*	*2300*	*2200*	*2100*
	90	*2600*	*2400*	*2200*	*2400*	*2200*	*2100*	*2400*	*2200*	*2100*	*2200*	*2100*	*1900*
275x60	*40*	*3000*	*2800*	*2700*	*2700*	*2600*	*2500*	*2700*	*2600*	*2500*	*2500*	*2400*	*2400*
	90	*2900*	*2600*	*2400*	*2700*	*2400*	*2300*	*2600*	*2400*	*2300*	*2500*	*2300*	*2100*
300x60	*40*	*3300*	*3100*	*3000*	*3000*	*2900*	*2800*	*3000*	*2800*	*2700*	*2800*	*2700*	*2600*
	90	*3200*	*2900*	*2600*	*2900*	*2700*	*2500*	*2900*	*2700*	*2500*	*2700*	*2500*	*2300*
325x60	*40*	*3500*	*3300*	*3200*	*3200*	*3100*	*3000*	*3200*	*3100*	*3000*	*3000*	*2900*	*2800*
	90	*3400*	*3100*	*2900*	*3200*	*2900*	*2700*	*3100*	*2900*	*2700*	*2900*	*2700*	*2500*
350x60	*40*	*3700*	*3500*	*3400*	*3400*	*3300*	*3200*	*3400*	*3300*	*3200*	*3200*	*3100*	*3000*
	90	*3600*	*3300*	*3100*	*3300*	*3100*	*2900*	*3300*	*3100*	*2900*	*3100*	*2900*	*2700$_5$*
375x60	*40*	*3900*	*3700*	*3600*	*3600*	*3500*	*3400*	*3600*	*3500*	*3400*	*3400*	*3300*	*3200*
	90	*3800*	*3500*	*3300*	*3500*	*3300*	*3100*	*3500*	*3300*	*3100*	*3300*	*3200$_5$*	*2900$_{10}$*
400x60	*40*	*4000*	*3900*	*3700*	*3800*	*3700*	*3600*	*3700*	*3600*	*3500*	*3600*	*3500*	*3400$_5$*
	90	*3900*	*3600*	*3400*	*3700*	*3500*	*3300$_5$*	*3700*	*3500*	*3300$_5$*	*3500*	*3300$_5$*	*3100$_{15}$*
165x65	40	1800	1700	1700	1700	1600	1500	1700	1600	1500	1500	1500	1400
	90	1800	1600	1500	1600	1500	1400	1600	1500	1400	1500	1400	1300
195x65	40	2200	2100	2000	2000	1900	1800	2000	1900	1800	1800	1800	1700
	90	2100	1900	1700	1900	1800	1700	1900	1800	1600	1800	1700	1600
230x65	40	2600	2400	2300	2300	2200	2200	2300	2200	2100	2200	2100	2000
	90	2500	2200	2100	2300	2100	2000	2300	2100	1900	2100	2000	1900
260x65	40	2900	2800	2600	2700	2500	2500	2600	2500	2400	2500	2400	2300
	90	2800	2500	2300	2600	2400	2200	2600	2400	2200	2400	2200	2100
295x65	40	3300	3100	3000	3000	2900	2800	3000	2900	2800	2800	2700	2600
	90	3200	2900	2700	2900	2700	2500	2900	2700	2500	2700	2500	2400
330x65	40	3600	3400	3300	3300	3200	3100	3300	3200	3100	3100	3000	2900
	90	3500	3200	3000	3300	3000	2800	3200	3000	2800	3100	2800	2700
360x65	40	3800	3700	3500	3600	3500	3400	3500	3400	3300	3400	3300	3200
	90	3700	3400	3200	3500	3300	3100	3500	3300	3100	3300	3100	2900
395x65	40	4100	3900	3800	3800	3700	3600	3800	3700	3600	3600	3500	3400
	90	4000	3700	3500	3700	3500	3300	3700	3500	3300	3500	3400	3200$_5$
200x80	*40*	*2400*	*2300*	*2200*	*2200*	*2100*	*2000*	*2200*	*2100*	*2000*	*2000*	*1900*	*1900*
	90	*2300*	*2100*	*1900*	*2100*	*1900*	*1800*	*2100*	*1900*	*1800*	*2000*	*1800*	*1700*
225x80	*40*	*2700*	*2600*	*2400*	*2500*	*2400*	*2300*	*2400*	*2300*	*2200*	*2300*	*2200*	*2100*
	90	*2600*	*2300*	*2200*	*2400*	*2200*	*2100*	*2400*	*2200*	*2000*	*2200*	*2100*	*2000*
250x80	*40*	*3000*	*2800*	*2700*	*2700*	*2600*	*2500*	*2700*	*2600*	*2500*	*2500*	*2400*	*2400*
	90	*2900*	*2600*	*2400*	*2700*	*2400*	*2300*	*2600*	*2400*	*2300*	*2500*	*2300*	*2200*
275x80	*40*	*3300*	*3100*	*3000*	*3000*	*2900*	*2800*	*3000*	*2900*	*2800*	*2800*	*2700*	*2600*
	90	*3200*	*2900*	*2700*	*2900*	*2700*	*2500*	*2900*	*2700*	*2500*	*2700*	*2500*	*2400*
300x80	*40*	*3500*	*3400*	*3200*	*3300*	*3100*	*3000*	*3200*	*3100*	*3000*	*3000*	*2900*	*2800*
	90	*3400*	*3100*	*2900*	*3200*	*2900*	*2800*	*3200*	*2900*	*2700*	*3000*	*2800*	*2600*
325x80	*40*	*3700*	*3600*	*3400*	*3500*	*3400*	*3300*	*3400*	*3300*	*3200*	*3300*	*3200*	*3100*
	90	*3600*	*3300*	*3100*	*3400*	*3200*	*3000*	*3400*	*3200*	*3000*	*3200*	*3000*	*2800*

Floor bearers supporting two floors and roof - sheet and tiled roof
Single span (Cont'd)

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended single span bearer span (mm)											
350x80	*40*	*3900*	*3800*	*3600*	*3700*	*3600*	*3500*	*3600*	*3500*	*3400*	*3500*	*3400*	*3300*
	90	*3800*	*3500*	*3300*	*3600*	*3400*	*3200*	*3600*	*3400*	*3200*	*3400*	*3200*	*3100*
375x80	*40*	*4100*	*4000*	*3800*	*3900*	*3700*	*3600*	*3800*	*3700*	*3600*	*3600*	*3500*	*3500*
	90	*4000*	*3700*	*3500*	*3800*	*3600*	*3400*	*3800*	*3500*	*3400*	*3600*	*3400*	*3300*
400x80	*40*	*4300*	*4200*	*4000*	*4100*	*3900*	*3800*	*4000*	*3900*	*3800*	*3800*	*3700*	*3600*
	90	*4200*	*3900*	*3700*	*4000*	*3700*	*3600*	*3900*	*3700*	*3500*	*3800*	*3600*	*3400*
195x85	40	2400	2300	2200	2200	2100	2000	2200	2100	2000	2000	1900	1900
	90	2300	2100	1900	2100	1900	1800	2100	1900	1800	2000	1800	1700
230x85	40	2800	2700	2500	2600	2500	2400	2500	2400	2300	2400	2300	2200
	90	2700	2500	2300	2500	2300	2100	2500	2300	2100	2300	2200	2000
260x85	40	3200	3000	2900	2900	2800	2700	2900	2800	2700	2700	2600	2500
	90	3100	2800	2600	2800	2600	2400	2800	2600	2400	2600	2400	2300
295x85	40	3500	3400	3300	3300	3200	3000	3300	3100	3000	3000	2900	2900
	90	3400	3200	2900	3200	3000	2800	3200	2900	2700	3000	2800	2600
330x85	40	3800	3700	3500	3600	3500	3400	3500	3400	3300	3400	3300	3200
	90	3700	3400	3200	3500	3300	3100	3500	3300	3100	3300	3100	2900
360x85	40	4100	3900	3800	3800	3700	3600	3800	3700	3600	3600	3500	3400
	90	4000	3700	3500	3700	3500	3300	3700	3500	3300	3500	3400	3200
395x85	40	4400	4200	4100	4100	4000	3800	4100	3900	3800	3800	3700	3700
	90	4300	3900	3700	4000	3800	3600	4000	3700	3600	3800	3600	3400
295x115	40	3800	3600	3500	3500	3400	3300	3500	3400	3300	3300	3200	3200
	90	3700	3400	3200	3500	3300	3100	3400	3200	3000	3300	3100	2900
330x115	40	4100	4000	3800	3800	3700	3600	3800	3700	3600	3600	3500	3400
	90	4000	3700	3500	3800	3500	3400	3700	3500	3400	3600	3400	3200
360x115	40	4400	4200	4100	4100	4000	3900	4100	4000	3800	3900	3800	3700
	90	4300	4000	3700	4000	3800	3600	4000	3800	3600	3800	3600	3500
395x115	40	4700	4500	4400	4400	4300	4100	4400	4200	4100	4100	4000	3900
	90	4600	4300	4000	4300	4100	3900	4300	4000	3800	4100	3900	3700
425x115	40	5000	4800	4600	4700	4500	4400	4600	4500	4400	4400	4300	4200
	90	4900	4500	4200	4600	4300	4100	4500	4300	4100	4300	4100	3900
295x135	40	3900	3800	3600	3700	3600	3500	3600	3500	3400	3500	3400	3300
	90	3800	3600	3300	3600	3400	3200	3600	3400	3200	3400	3200	3100
330x135	40	4300	4100	4000	4000	3900	3800	4000	3800	3700	3800	3700	3600
	90	4200	3900	3600	3900	3700	3500	3900	3700	3500	3700	3500	3400
360x135	40	4600	4400	4200	4300	4100	4000	4200	4100	4000	4000	3900	3800
	90	4500	4100	3900	4200	3900	3700	4200	3900	3700	4000	3800	3600
395x135	40	4900	4700	4500	4600	4400	4300	4500	4400	4300	4300	4200	4100
	90	4800	4400	4200	4500	4200	4000	4500	4200	4000	4200	4000	3900
425x135	40	5200	5000	4800	4800	4700	4600	4800	4700	4500	4600	4400	4300

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on total upper floor mass of 40 kg/m^2 , total ground floor mass of 40 kg/m^2, floor live load of 1.5 kPa, floor point load of 1.8 kN, wall mass of 32 kg/m^2, & permanent floor live load of 0.5 kPa.
3. The above table was based on a wall height of 5400 mm
4. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports.
5. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Floor bearers supporting two floors and roof - sheet and tiled roof
Continuous span

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended continuous span bearer span (mm)											
200x60	*40*	*2500*	*2300*	*2200*	*2100*	*2000*	*1900*	*2000*	*2000*	*1900*	*1800*	*1800*	*1700*
	90	*2400*	*2100*	*1800*	*2100*	*1900*	*1700*	*2000*	*1800*	*1700*	*1800*	*1700*	*1500*
225x60	*40*	*2800*	*2600*	*2400*	*2400*	*2300*	*2200*	*2300*	*2200*	*2100*	*2100*	*2000*	*1900*
	90	*2700*	*2300*	*2100*	*2300*	*2100*	*19005*	*2200*	*2000*	*1900_{5}*	*2000*	*1900_{5}*	*1700_{10}*
250x60	*40*	*3100*	*2900*	*2700*	*2700*	*2500*	*2400*	*2600*	*2500*	*2400_{5}*	*2300_{5}*	*2200_{10}*	*2200_{15}*
	90	*3000*	*2600*	*23005*	*2600*	*2300_{5}*	*2100_{15}*	*2500*	*2300_{10}*	*2100_{15}*	*2300_{10}*	*2100_{15}*	*1900_{25}*
275x60	*40*	*3400*	*3200*	*3000*	*3000*	*2800_{5}*	*2700_{10}*	*2800_{5}*	*2700_{10}*	*2600_{15}*	*2500_{20}*	*2500_{20}*	*2400_{25}*
	90	*3300*	*2800_{5}*	*2500_{20}*	*2900_{5}*	*2600_{15}*	*2300_{30}*	*2800_{10}*	*2500_{20}*	*2300_{30}*	*2500_{20}*	*2300_{30}*	*2100_{40}*
300x60	*40*	*3700*	*3500_{5}*	*3300_{10}*	*3200_{10}*	*3100_{15}*	*2900_{20}*	*3100_{15}*	*3000_{20}*	*2800_{25}*	*2800_{25}*	*2700_{30}*	*2600_{35}*
	90	*3600*	*3100_{15}*	*2800_{25}*	*3100_{15}*	*2800_{25}*	*2600_{40}*	*3000_{15}*	*2700_{30}*	*2500_{40}*	*2700_{30}*	*2500_{40}*	*2300_{65}*
325x60	*40*	*4000_{5}*	*3800_{10}*	*3500_{15}*	*3500_{20}*	*3300_{25}*	*3200_{35}*	*3300_{25}*	*3200_{30}*	*3100_{35}*	*3000_{35}*	*2900_{45}*	*2800_{55}*
	90	*3800_{10}*	*3400_{25}*	*3000_{35}*	*3400_{25}*	*3000_{35}*	*2800_{65}*	*3300_{30}*	*3000_{45}*	*2700_{65}*	*3000_{45}*	*2700_{65}*	*2500_{75}*
350x60	*40*	*4300_{10}*	*4000_{20}*	*3800_{25}*	*3800_{30}*	*3600_{35}*	*3400_{45}*	*3600_{35}*	*3500_{40}*	*3300_{50}*	*3300_{60}*	*3200_{65}*	*3000_{70}*
	90	*4100_{15}*	*3600_{35}*	*3300_{60}*	*3600_{30}*	*3300_{60}*	*3000_{75}*	*3500_{35}*	*3200_{65}*	*2900_{75}*	*3200_{65}*	*2900_{75}*	*2700_{85}*
375x60	*40*	*4600_{20}*	*4300_{25}*	*4100_{35}*	*4000_{35}*	*3800_{50}*	*3600_{65}*	*3800_{50}*	*3700_{60}*	*3600_{70}*	*3500_{70}*	*3400_{75}*	*3300_{85}*
	90	*4400_{25}*	*3900_{50}*	*3500_{70}*	*3900_{45}*	*3500_{70}*	*3200_{85}*	*3800_{60}*	*3400_{75}*	*3100_{90}*	*3400_{75}*	*3200_{90}*	*2900_{95}*
400x60	*40*	*4900_{25}*	*4600_{35}*	*4300_{50}*	*4300_{55}*	*4100_{65}*	*3900_{75}*	*4100_{65}*	*4000_{75}*	*3800_{80}*	*3700_{80}*	*3600_{85}*	*3500_{95}*
	90	*4700_{35}*	*4100_{65}*	*3700_{80}*	*4200_{65}*	*3700_{80}*	*3400_{95}*	*4000_{70}*	*3600_{85}*	*3400_{100}*	*3600_{85}*	*3400_{100}*	*3100_{110}*
165x65	40	2300	2200	2000	2000	1900	1800	1900	1800	1800	1700	1700	1600
	90	2200	1900	1700	1900	1700	1600	1900	1700	1500	1700	1600	1400
195x65	40	2700	2600	2400	2400	2300	2100	2300	2200	2100	2000	2000	1900
	90	2600	2300	2000	2300	2100	1900	2200	2000	1800	2000	1800	1700
230x65	40	3200	3000	2800	2800	2700	2500	2700	2600	2500	2400	2300	2300_{5}
	90	3100	2700	2400	2700	2400	2200_{5}	2600	2400	2200_{10}	2400	2200_{5}	2000_{15}
260x65	40	3700	3400	3200	3200	3000	2900_{5}	3000	2900_{5}	2800_{5}	2700_{10}	2700_{15}	2600_{20}
	90	3500	3100	2700_{10}	3100	2800_{10}	2500_{20}	3000_{5}	2700_{10}	2500_{20}	2700_{10}	2500_{20}	2300_{30}
295x65	40	4100	3900	3600_{5}	3600_{5}	3400_{15}	3300_{20}	3400_{10}	3300_{15}	3200_{20}	3100_{25}	3000_{30}	2900_{35}
	90	4000	3500_{10}	3100_{25}	3500_{10}	3100_{25}	2900_{35}	3400_{15}	3100_{30}	2800_{40}	3100_{30}	2800_{35}	2600_{55}
330x65	40	4500	4300_{10}	4100_{20}	4000_{20}	3800_{25}	3600_{35}	3800_{25}	3700_{30}	3600_{40}	3500_{40}	3400_{50}	3300_{65}
	90	4400_{10}	3900_{25}	3500_{40}	3900_{25}	3500_{40}	3200_{65}	3800_{30}	3400_{45}	3100_{65}	3400_{45}	3200_{70}	2900_{75}
360x65	40	4800_{10}	4600_{20}	4400_{30}	4400_{30}	4200_{40}	4000_{55}	4200_{35}	4000_{45}	3900_{60}	3800_{65}	3700_{70}	3600_{75}
	90	4700_{15}	4200_{35}	3800_{65}	4300_{35}	3800_{65}	3500_{75}	4100_{45}	3700_{65}	3400_{80}	3700_{65}	3400_{80}	3200_{90}
395x65	40	5200_{15}	5000_{30}	4800_{45}	4800_{45}	4600_{65}	4400_{75}	4600_{65}	4400_{70}	4200_{75}	4200_{80}	4000_{85}	3900_{90}
	90	5000_{25}	4600_{60}	4200_{80}	4700_{60}	4200_{80}	3800_{95}	4500_{65}	4100_{80}	3800_{100}	4100_{80}	3800_{95}	3500_{110}
200x80	40	2900	2700	2500	2500	2300	2200	2400	2300	2200	2100	2100	2000
	90	2700	2400	2100	2400	2100	2000	2300	2100	1900	2100	1900	1800
225x80	40	3200	3000	2800	2800	2600	2500	2700	2600	2500	2400	2300	2200
	90	3100	2700	2400	2700	2400	2200	2600	2400	2200	2400	2200	2000
250x80	40	3600	3300	3100	3100	2900	2800	3000	2900	2700	2700	2600	2500
	90	3400	3000	2700	3000	2700	2500	2900	2600	2400	2600	2400	2200_{10}
275x80	40	3900	3700	3400	3400	3200	3100	3300	3100	3000	2900_{5}	2900_{5}	2800_{10}
	90	3800	3300	2900	3300	3000	2700_{10}	3200	2900_{5}	2700_{15}	2900_{5}	2700_{10}	2500_{20}
300x80	40	4300	4000	3800	3700	3500	3400_{5}	3600	3400_{5}	3300_{10}	3200_{10}	3100_{15}	3000_{15}
	90	4100	3600	3200_{10}	3600	3200_{10}	3000_{20}	3500_{5}	3200_{15}	2900_{20}	3200_{15}	2900_{20}	2700_{30}
325x80	40	4600	4300	4100_{5}	4000_{5}	3800_{10}	3600_{15}	3800_{10}	3700_{10}	3500_{15}	3500_{20}	3400_{25}	3300_{30}
	90	4400	3900_{10}	3500_{20}	3900_{5}	3500_{20}	3200_{30}	3800_{10}	3400_{20}	3100_{30}	3400_{20}	3200_{35}	2900_{45}

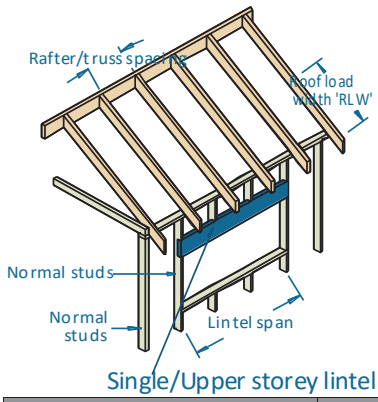
Floor bearers supporting two floors and roof - sheet and tiled roof
Continuous span (Cont'd)

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended continuous span bearer span (mm)											
350x80	40	5000	4600_{5}	4400_{10}	4300_{10}	4100_{15}	3900_{20}	4100_{15}	4000_{20}	3800_{25}	3800_{30}	3600_{30}	3500_{35}
	90	4800	4200_{15}	3700_{30}	4200_{15}	3800_{30}	3400_{40}	4000_{20}	3700_{30}	3400_{45}	3700_{30}	3400_{45}	3200_{65}
375x80	40	5200	5000_{10}	4700_{20}	4600^{20}	4400_{25}	4200_{30}	4400_{25}	4300_{30}	4100_{35}	4000_{35}	3900_{45}	3800_{60}
	90	5100_{10}	4500_{25}	4000_{35}	4500_{25}	4000_{35}	3700_{60}	4300_{25}	3900_{40}	3600_{65}	3900_{40}	3600_{65}	3400_{75}
400x80	40	5500_{5}	5300_{20}	5000_{25}	5000_{30}	4700_{35}	4500_{45}	4700_{35}	4600_{40}	4400_{50}	4300_{55}	4200_{65}	4000_{70}
	90	5300_{15}	4800_{35}	4300_{55}	4800_{30}	4300_{55}	3900_{70}	4600_{35}	4200_{60}	3900_{75}	4200_{60}	3900_{75}	3600_{85}
195x85	40	3100	2900	2700	2700	2600	2500	2600	2500	2400	2300	2300	2200
	90	3000	2600	2300	2600	2400	2200	2500	2300	2100	2300	2100	2000
230x85	40	3700	3500	3200	3200	3000	2900	3100	3000	2800	2800	2700	2600
	90	3500	3100	2800	3100	2800	2500	3000	2700	2500	2700	2500	2300
260x85	40	4000	3900	3700	3600	3400	3300	3500	3300	3200	3100	3000	2900_{5}
	90	3900	3500	3100	3500	3200	2900_{5}	3400	3100	2800_{5}	3100	2800_{5}	2600_{15}
295x85	40	4400	4300	4100	4100	3900	3700_{5}	3900	3800_{5}	3600_{5}	3600_{10}	3500_{15}	3300_{15}
	90	4300	4000	3600_{10}	4000	3600_{10}	3300_{20}	3800	3500_{10}	3200_{20}	3500_{10}	3200_{20}	3000_{30}
330x85	40	4800	4600	4500	4500_{5}	4400_{10}	4200_{15}	4400_{10}	4200_{15}	4100_{20}	4000_{20}	3900_{25}	3700_{30}
	90	4700	4300_{10}	4000_{20}	4400_{10}	4000_{20}	3700_{35}	4300_{15}	3900_{25}	3600_{35}	3900_{25}	3600_{35}	3400_{55}
360x85	40	5200	4900	4800_{10}	4800_{10}	4700_{20}	4500_{25}	4800_{20}	4600_{25}	4400_{30}	4300_{35}	4200_{35}	4100_{50}
	90	5000	4600_{15}	4300_{30}	4700_{15}	4400_{35}	4000_{50}	4700_{25}	4300_{35}	3900_{55}	4300_{35}	3900_{55}	3700_{70}
395x85	40	5500	5300_{5}	5100_{15}	5200_{20}	5000_{25}	4800_{35}	5100_{30}	5000_{35}	4800_{45}	4800_{55}	4600_{65}	4500_{70}
	90	5400	5000_{25}	4700_{50}	5000_{25}	4700_{50}	4400_{70}	5000_{30}	4700_{60}	4300_{75}	4700_{60}	4300_{75}	4000_{85}
425x85	40	5800	5600_{10}	5400_{20}	5400_{25}	5300_{35}	5100_{50}	5400_{35}	5200_{45}	5100_{60}	5100_{70}	5000_{75}	4800_{80}
	90	5700_{10}	5300_{30}	5000_{65}	5300_{30}	5000_{65}	4700_{85}	5300_{40}	5000_{70}	4600_{85}	5000_{70}	4600_{85}	4300_{100}
295x115	40	4800	4600	4400	4500	4300	4200	4400	4300	4200	4100	4000	3900
	90	4700	4300	4100	4400	4100	3800	4300	4100	37005	4100	3700_{5}	3500_{10}
330x115	40	5200	5000	4800	4800	4700	4600	4800	4700	4500	4600_{5}	4400_{10}	4300_{10}
	90	5100	4700	4400	4800	4500	4200_{15}	4700	4400_{5}	4200_{15}	4500_{5}	4200_{15}	3900_{25}
360x115	40	5500	5300	5100	5200	5000	4900	5100	5000	4800_{5}	4900_{10}	4800_{15}	4600_{20}
	90	5400	5000	4700_{10}	5100	4800_{10}	4500_{20}	5000	4700_{10}	4500_{25}	4800_{10}	4600_{25}	4200_{35}
395x115	40	5900	5700	5500	5500	5400	5200_{10}	5500_{5}	5300_{10}	5200_{15}	5200_{20}	5100_{20}	5000_{30}
	90	5800	5400	5100_{15}	5400	5100_{15}	4900_{30}	5400_{5}	5100_{20}	4800_{35}	5100_{20}	4900_{35}	4700_{65}
425x115	40	6300	6000	5800	5900	5700_{10}	5500_{15}	5800_{10}	5600_{15}	5500_{20}	5500_{25}	5400_{30}	5300_{40}
	90	6100	5700_{5}	5300_{20}	5700_{5}	5400_{20}	5100_{40}	5700_{10}	5400_{25}	5100_{50}	5400_{30}	5200_{50}	4900_{75}
295x135	40	5000	4800	4600	4600	4500	4400	4600	4500	4300	4400	4300	4200
	90	4800	4500	4200	4500	4300	4100	4500	4200	4000	4300	4100	3800_{5}
330x135	40	5400	5200	5000	5000	4900	4700	5000	4900	4700	4700	4600	4500
	90	5300	4900	4600	4900	4600	4400	4900	4600	4400_{5}	4700	4400_{5}	4200_{15}
360x135	40	5800	5500	5300	5400	5200	5100	5300	5200	5000	5100	4900_{5}	48005
	90	5600	5200	4900	5300	5000	4700_{10}	5200	4900	4700_{15}	5000	4700_{15}	4500_{25}
395x135	40	6200	5900	5700	5800	5600	5400	5700	5600	5400	5400_{5}	5300_{10}	5200_{15}
	90	6000	5600	5300_{5}	5700	5300_{5}	5100_{15}	5600	5300_{5}	5000_{20}	5300_{10}	5100_{20}	4900_{35}
425x135	40	6500	6300	6000	6100	5900	5700_{5}	6100	5900	5700_{10}	5700_{10}	5600_{15}	5500_{20}
	90	6400	5900	5600_{10}	6000	5600_{10}	5300_{25}	5900	5600_{15}	5300_{30}	5700_{15}	5400_{25}	5200_{45}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on total upper floor mass of 40 kg/m^2 , total ground floor mass of 40 kg/m^2, floor live load of 1.5 kPa, floor point load of 1.8 kN, wall mass of 32 kg/m^2, & permanent floor live load of 0.5 kPa.
3. The above table was based on a wall height of 5400 mm
4. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports.
5. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Single span lintels in single/upper storey walls
AS 4055 Classification N1, N2, N3 & N4



EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m^2
roof load width = 3900 mm
rafter/truss spacing = 600 mm
lintel span = 3500 mm

Enter span table at 4500 roof load width column, rafter/truss spacing 600 mm, and read down to a span equal to or greater than 3500 mm

ADOPT:

SmartLam GL13C- 225 x 65

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size	Roof mass	Maximum recommended Lintel span (mm)									
(GL13C) DxB (mm)	(kg/m^2)	Single span - Wind speed N1, N2, N3 & N4									
200x60	*40*	*4300*	*4300*	*3700*	*3700*	*3400*	*3300*	*3100*	*3100*	*2800*	*2800*
	90	*3600*	*3600*	*3100*	*3000*	*2700*	*2700*	*2500*	*2500*	*2300*	*2300*
225x60	*40*	*4700*	*4700*	*4100*	*4000*	*3700*	*3700*	*3400*	*3400*	*3200*	*3100*
	90	*3900*	*3900*	*3300*	*3300*	*3000*	*3000*	*2800*	*2800*	*2600*	*2600*
250x60	*40*	*5100*	*5100*	*4400*	*4400*	*4000*	*4000*	*3700*	*3700*	*3500*	*3400*
	90	*4300*	*4300*	*3600*	*3600*	*3300*	*3200*	*3000*	*3000*	*2900*	*2900*
275x60	*40*	*5500*	*5500*	*4700*	*4700*	*4300*	*4300*	*4000*	*4000*	*3800*	*3800*
	90	*4600*	*4600*	*3900*	*3900*	*3500*	*3500*	*3300*	*3200*	*3100*	*3100*
300x60	*40*	*5800*	*5800*	*5000*	*5000*	*4600*	*4500*	*4300*	*4300*	*4000*	*4000*
	90	*4900*	*4900*	*4100*	*4100*	*3800*	*3700*	*3500*	*3500*	*3300*	*3300*
325x60	*40*	*6100*	*6100*	*5300*	*5300*	*4800*	*4800*	*4500*	*4500*	*4300*	*4300*
	90	*5200*	*5200*	*4400*	*4400*	*4000*	*4000*	*3700*	*3700*	*3500*	*3500*
350x60	*40*	*6500*	*6500*	*5600*	*5600*	*5100*	*5100*	*4800*	*4800*	*4500*	*4500*
	90	*5500*	*5400*	*4700*	*4600*	*4200*	*4200*	*3900*	*3900*	*3700*	*3700*
375x60	*40*	*6800*	*6800*	*5900*	*5900*	*5400*	*5400*	*5000*	*5000*	*4800*	*4800*
	90	*5700*	*5700*	*4900*	*4900*	*4400*	*4400*	*4100*	*4100*	*3900*	*3900*
400x60	*40*	*7100*	*7100*	*6200*	*6100*	*5600*	*5600*	*5300*	*5300*	*5000*	*5000*
	90	*6000*	*6000*	*5100*	*5100*	*4700*	*4600*	*4400*	*4300*	*4100*	*4100*
130x65	40	3300	3200	2700	2700	2400	2400	2100	2100	2000	1900
	90	2600	2700	2100	2000	1800	1800	1600	1500	1500	1400
165x65	40	3900	3900	3300	3300	3000	3000	2700	2800	2500	2600
	90	3200	3200	2600	2700	2300	2300	2100	2100	1900	1900
195x65	40	4400	4400	3700	3700	3400	3400	3200	3100	3000	3000
	90	3600	3600	3100	3100	2700	2700	2500	2500	2300	2300
230x65	40	5000	5000	4200	4200	3800	3800	3600	3500	3400	3400
	90	4100	4100	3500	3400	3100	3100	2900	2900	2700	2700
260x65	40	5400	5400	4600	4600	4200	4200	3900	3900	3700	3700
	90	4500	4500	3800	3800	3500	3400	3200	3200	3000	3000
295x65	40	6000	5900	5100	5100	4600	4600	4300	4300	4100	4100
	90	5000	5000	4200	4200	3800	3800	3500	3500	3400	3300
330x65	40	6400	6400	5500	5500	5000	5000	4700	4700	4500	4400
	90	5400	5400	4600	4500	4100	4100	3900	3800	3600	3600
360x65	40	6900	6800	5900	5900	5400	5400	5000	5000	4800	4700
	90	5700	5700	4900	4900	4400	4400	4100	4100	3900	3900
395x65	40	7300	7300	6300	6300	5800	5700	5400	5400	5100	5100
	90	6100	6100	5200	5200	4800	4700	4400	4400	4200	4200
425x65	40	7700	7700	6700	6600	6100	6000	5700	5700	5400	5400
	90	6500	6500	5500	5500	5000	5000	4700	4600	4400	4400
200x80	*40*	*4600*	*4600*	*4000*	*4000*	*3600*	*3600*	*3400*	*3300*	*3200*	*3200*
	90	*3900*	*3800*	*3300*	*3300*	*3000*	*3000*	*2700*	*2700*	*2500*	*2600*
225x80	*40*	*5000*	*5000*	*4300*	*4300*	*3900*	*3900*	*3700*	*3700*	*3500*	*3500*
	90	*4200*	*4200*	*3600*	*3600*	*3300*	*3200*	*3000*	*3000*	*2800*	*2800*
250x80	*40*	*5400*	*5400*	*4700*	*4700*	*4300*	*4300*	*4000*	*4000*	*3800*	*3800*
	90	*4600*	*4500*	*3900*	*3900*	*3500*	*3500*	*3300*	*3200*	*3100*	*3100*
275x80	*40*	*5800*	*5800*	*5000*	*5000*	*4600*	*4600*	*4300*	*4300*	*4100*	*4000*
	90	*4900*	*4900*	*4200*	*4200*	*3800*	*3700*	*3500*	*3500*	*3300*	*3300*
300x80	*40*	*6100*	*6100*	*5300*	*5300*	*4900*	*4900*	*4600*	*4500*	*4300*	*4300*
	90	*5200*	*5200*	*4400*	*4400*	*4000*	*4000*	*3800*	*3700*	*3600*	*3500*
325x80	*40*	*6500*	*6500*	*5700*	*5600*	*5200*	*5200*	*4800*	*4800*	*4600*	*4600*
	90	*5500*	*5500*	*4700*	*4700*	*4300*	*4300*	*4000*	*4000*	*3800*	*3800*
350x80	*40*	*6800*	*6800*	*6000*	*5900*	*5500*	*5400*	*5100*	*5100*	*4900*	*4800*
	90	*5800*	*5800*	*5000*	*5000*	*4500*	*4500*	*4200*	*4200*	*4000*	*4000*
375x80	*40*	*7200*	*7100*	*6300*	*6200*	*5700*	*5700*	*5400*	*5400*	*5100*	*5100*
	90	*6100*	*6100*	*5200*	*5200*	*4800*	*4700*	*4400*	*4400*	*4200*	*4200*
400x80	*40*	*7500*	*7500*	*6600*	*6500*	*6000*	*6000*	*5600*	*5600*	*5400*	*5400*
	90	*6400*	*6400*	*5500*	*5500*	*5000*	*5000*	*4700*	*4600*	*4400*	*4400*

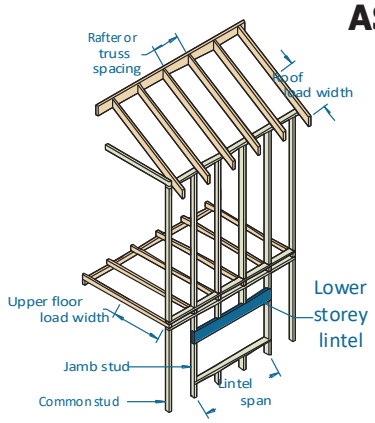
Single span lintels in single/upper storey walls (cont'd)
AS 4055 Classification N1, N2, N3 & N4

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Lintel span (mm) Single span - Wind speed N1, N2, N3 & N4									
130x85	40	3500	3400	2900	2900	2600	2600	2300	2400	2200	2200
	90	2800	2800	2200	2300	2000	2000	1800	1800	1600	1600
165x85	40	4100	4100	3500	3500	3200	3200	3000	3000	2800	2800
	90	3400	3400	2900	2900	2500	2600	2300	2300	2100	2100
195x85	40	4700	4700	4000	4000	3600	3600	3400	3300	3200	3200
	90	3900	3900	3300	3300	3000	3000	2700	2700	2500	2600
230x85	40	5300	5300	4500	4500	4100	4100	3800	3800	3600	3600
	90	4400	4400	3700	3700	3400	3300	3100	3100	3000	3000
260x85	40	5800	5700	4900	4900	4500	4500	4200	4200	4000	4000
	90	4800	4800	4100	4100	3700	3700	3400	3400	3300	3200
295x85	40	6300	6300	5400	5400	4900	4900	4600	4600	4400	4400
	90	5300	5300	4500	4500	4100	4000	3800	3800	3600	3500
330x85	40	6800	6800	5900	5900	5400	5400	5000	5000	4800	4700
	90	5700	5700	4900	4900	4400	4400	4100	4100	3900	3900
360x85	40	7200	7200	6300	6200	5700	5700	5300	5300	5100	5100
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
395x85	40	7700	7700	6700	6700	6100	6100	5700	5700	5400	5400
	90	6500	6500	5600	5600	5100	5000	4700	4700	4500	4400
425x85	40	8100	8100	7100	7000	6500	6400	6000	6000	5700	5700
	90	6900	6900	5900	5900	5300	5300	5000	5000	4700	4700
230x115	40	5600	5600	4800	4800	4400	4400	4100	4100	3900	3900
	90	4700	4700	4000	4000	3600	3600	3400	3300	3200	3200
260x115	40	6100	6100	5300	5300	4800	4800	4500	4500	4300	4300
	90	5100	5200	4400	4400	4000	4000	3700	3700	3500	3500
295x115	40	6700	6700	5800	5800	5300	5300	5000	4900	4700	4700
	90	5600	5600	4800	4800	4400	4400	4100	4100	3900	3800
330x115	40	7200	7200	6300	6300	5700	5700	5400	5400	5100	5100
	90	6100	6100	5200	5200	4800	4700	4400	4400	4200	4200
360x115	40	7700	7600	6700	6700	6100	6100	5700	5700	5400	5400
	90	6500	6500	5600	5600	5100	5100	4700	4700	4500	4500
395x115	40	8200	8100	7200	7100	6500	6500	6100	6100	5800	5800
	90	7000	6900	6000	5900	5400	5400	5100	5100	4800	4800
425x115	40	8600	8500	7500	7500	6900	6900	6500	6500	6100	6100
	90	7300	7300	6300	6300	5700	5700	5400	5400	5100	5100

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 75 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 75 mm.
3. Restraint value for slenderness calculations is 600 mm.
4. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Single span lintels in lower storey walls
AS 4055 classification N1, N2, N3 & C1



EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m^2
roof load width = 3900 mm
floor load width = 1200 mm
rafter/truss spacing = 600 mm
lintel span = 3500 mm

Enter span table at 4500 roof load width column, floor load width 1200 mm, and read down to a span equal to or greater than 3500 mm

ADOPT: SmartLam GL13C– 300 x 60

Roof load width (mm)		1500			3000			4500			6000		
Floor load width (mm)		1200	2400	3600	1200	2400	3600	1200	2400	3600	1200	2400	3600
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended single span lintel span (mm)											
200x60	*40*	*2900*	*2600*	*2400*	*2700*	*2500*	*2300*	*2600*	*2400*	*2300*	*2500*	*2400*	*2200*
	90	*2700*	*2500*	*2300*	*2500*	*2300*	*2200*	*2300*	*2200*	*2100*	*2200*	*2100*	*2000*
225x60	*40*	*3100*	*2900*	*2700*	*3000*	*2800*	*2600*	*2900*	*2700*	*2600*	*2800*	*2700*	*2500*
	90	*3000*	*2800*	*2600*	*2800*	*2600*	*2500*	*2600*	*2500*	*2300*	*2400*	*2300*	*2200*
250x60	*40*	*3400*	*3100*	*2900*	*3200*	*3000*	*2900*	*3100*	*2900*	*2800*	*3000*	*2900*	*2700*
	90	*3200*	*3000*	*2900*	*3000*	*2800*	*2700*	*2800*	*2700*	*2600*	*2700*	*2600*	*2500*
275x60	*40*	*3600*	*3400*	*3200*	*3500*	*3300*	*3100*	*3400*	*3200*	*3000*	*3300*	*3100*	*3000*
	90	*3500*	*3200*	*3100*	*3200*	*3100*	*2900*	*3000*	*2900*	*2800*	*2900*	*2800*	*2700*
300x60	*40*	*3900*	*3600*	*3400*	*3700*	*3500*	*3300*	*3600*	*3400*	*3200*	*3500*	*3300*	*3200*
	90	*3700*	*3500*	*3300*	*3400*	*3300*	*3100*	*3200*	*3100*	*3000*	*3100*	*3000*	*2900*
325x60	*40*	*4100*	*3800*	*3600*	*3900*	*3700*	*3500*	*3800*	*3600*	*3400*	*3700*	*3500*	*3300*
	90	*3900*	*3700*	*3500*	*3600*	*3500*	*3300*	*3400*	*3300*	*3200*	*3300*	*3200*	*3100*
350x60	*40*	*4300*	*4000*	*3800*	*4200*	*3900*	*3700*	*4000*	*3800*	*3600*	*3900*	*3700*	*3500*
	90	*4100*	*3900*	*3700*	*3900*	*3700*	*3500*	*3600*	*3500*	*3400*	*3500*	*3400*	*3300*
347x60	*40*	*4300*	*4000*	*3800*	*4100*	*3900*	*3700*	*4000*	*3800*	*3600*	*3900*	*3700*	*3500*
	90	*4100*	*3900*	*3700*	*3800*	*3600*	*3500*	*3600*	*3500*	*3300*	*3500*	*3300*	*3200*
400x60	*40*	*4800*	*4500*	*4200*	*4600*	*4300*	*4100*	*4500*	*4200*	*4000*	*4300*	*4100*	*3900*
	90	*4600*	*4300*	*4100*	*4300*	*4100*	*3900*	*4000*	*3900*	*3700*	*3800*	*3700*	*3600*
130x65	40	2000	1800	1600	1800	1700	1600	1800	1600	1500	1700	1600	1500
	90	1800	1700	1500	1600	1500	1400	1500	1400	1400	1400	1400	1300
165x65	40	2500	2200	2100	2300	2100	2000	2200	2100	1900	2100	2000	1900
	90	2300	2100	2000	2100	2000	1800	1900	1800	1800	1800	1700	1700
195x65	40	2900	2700	2400	2700	2500	2400	2600	2400	2300	2500	2400	2200
	90	2700	2500	2300	2500	2300	2200	2300	2200	2100	2200	2100	2000
230x65	40	3200	3000	2800	3100	2900	2800	3000	2800	2700	2900	2800	2600
	90	3100	2900	2700	2900	2700	2600	2700	2600	2500	2600	2400	2300
260x65	40	3600	3300	3100	3400	3200	3000	3300	3100	3000	3200	3000	2900
	90	3400	3200	3000	3100	3000	2900	3000	2900	2700	2800	2700	2700
295x65	40	3900	3600	3400	3800	3500	3300	3600	3400	3200	3500	3300	3200
	90	3700	3500	3300	3500	3300	3200	3300	3100	3000	3100	3000	2900
330x65	40	4300	3900	3700	4100	3800	3600	3900	3700	3500	3800	3600	3500
	90	4000	3800	3600	3800	3600	3400	3600	3400	3300	3400	3300	3200
360x65	40	4500	4200	4000	4400	4100	3900	4200	4000	3800	4100	3900	3700
	90	4300	4100	3800	4000	3800	3700	3800	3700	3500	3600	3500	3400
395x65	40	4900	4500	4200	4700	4400	4100	4500	4300	4100	4400	4200	4000
	90	4600	4300	4100	4300	4100	3900	4100	3900	3800	3900	3800	3600
200x80	*40*	*3100*	*2800*	*2700*	*2900*	*2800*	*2600*	*2800*	*2700*	*2500*	*2700*	*2600*	*2400*
	90	*2900*	*2700*	*2600*	*2700*	*2600*	*2400*	*2500*	*2400*	*2300*	*2400*	*2300*	*2200*
225x80	*40*	*3300*	*3100*	*2900*	*3200*	*3000*	*2800*	*3100*	*2900*	*2800*	*3000*	*2900*	*2700*
	90	*3200*	*3000*	*2800*	*3000*	*2800*	*2700*	*2800*	*2700*	*2600*	*2700*	*2600*	*2500*
250x80	*40*	*3600*	*3400*	*3200*	*3500*	*3300*	*3100*	*3400*	*3200*	*3000*	*3300*	*3100*	*2900*
	90	*3400*	*3200*	*3100*	*3200*	*3100*	*2900*	*3000*	*2900*	*2800*	*2900*	*2800*	*2700*
275x80	*40*	*3900*	*3600*	*3400*	*3700*	*3500*	*3300*	*3600*	*3400*	*3200*	*3500*	*3300*	*3200*
	90	*3700*	*3500*	*3300*	*3400*	*3300*	*3100*	*3300*	*3100*	*3000*	*3100*	*3000*	*2900*
300x80	*40*	*4200*	*3900*	*3600*	*4000*	*3700*	*3500*	*3800*	*3600*	*3500*	*3700*	*3500*	*3400*
	90	*3900*	*3700*	*3500*	*3700*	*3500*	*3400*	*3500*	*3300*	*3200*	*3300*	*3200*	*3100*
325x80	*40*	*4400*	*4100*	*3800*	*4200*	*4000*	*3800*	*4100*	*3900*	*3700*	*4000*	*3800*	*3600*
	90	*4200*	*3900*	*3700*	*3900*	*3700*	*3600*	*3700*	*3600*	*3400*	*3500*	*3400*	*3300*
350x80	*40*	*4700*	*4300*	*4100*	*4500*	*4200*	*4000*	*4300*	*4100*	*3900*	*4200*	*4000*	*3800*
	90	*4400*	*4200*	*3900*	*4100*	*3900*	*3800*	*3900*	*3800*	*3600*	*3700*	*3600*	*3500*
347x80	*40*	*4600*	*4300*	*4000*	*4400*	*4200*	*3900*	*4300*	*4100*	*3900*	*4200*	*4000*	*3800*
	90	*4400*	*4100*	*3900*	*4100*	*3900*	*3700*	*3900*	*3700*	*3600*	*3700*	*3600*	*3500*
400x80	*40*	*5100*	*4800*	*4500*	*4900*	*4600*	*4400*	*4800*	*4500*	*4300*	*4600*	*4400*	*4200*
	90	*4900*	*4600*	*4400*	*4600*	*4300*	*4200*	*4300*	*4200*	*4000*	*4100*	*4000*	*3900*

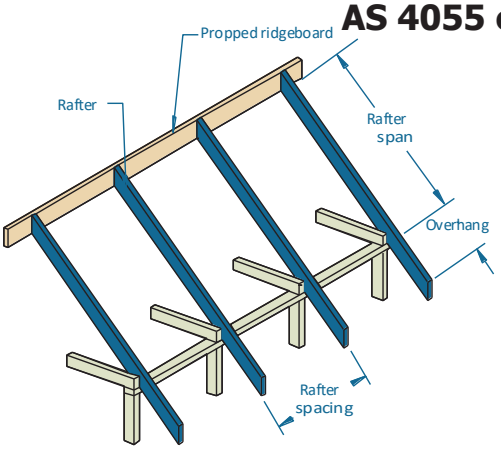
Single span lintels in lower storey walls (Cont'd)
AS 4055 classification N1, N2, N3 & C1

Roof load width (mm)		1500			3000			4500			6000		
Floor load width (mm)		1200	2400	3600	1200	2400	3600	1200	2400	3600	1200	2400	3600
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended single span lintel span (mm)											
260x85	40	3800	3500	3300	3600	3400	3200	3500	3300	3200	3400	3200	3100
	90	3600	3400	3200	3400	3200	3100	3200	3100	2900	3000	2900	2800
295x85	40	4200	3900	3600	4000	3800	3600	3900	3700	3500	3800	3600	3400
	90	4000	3700	3500	3700	3500	3400	3500	3400	3200	3300	3200	3100
330x85	40	4500	4200	4000	4400	4100	3900	4200	4000	3800	4100	3900	3700
	90	4300	4100	3800	4000	3800	3700	3800	3700	3500	3600	3500	3400
360x85	40	4900	4500	4200	4700	4400	4100	4500	4200	4000	4400	4100	4000
	90	4600	4300	4100	4300	4100	3900	4100	3900	3800	3900	3800	3600
395x85	40	5200	4800	4500	5000	4700	4400	4800	4500	4300	4700	4400	4200
	90	4900	4600	4400	4600	4400	4200	4400	4200	4000	4200	4000	3900
425x85	40	5500	5100	4800	5300	4900	4700	5100	4800	4600	4900	4700	4500
	90	5200	4900	4600	4900	4600	4400	4600	4400	4300	4400	4300	4100
295x115	40	4500	4200	3900	4300	4000	3800	4200	3900	3700	4000	3800	3700
	90	4300	4000	3800	4000	3800	3600	3800	3600	3500	3600	3500	3400
330x115	40	4900	4500	4300	4700	4400	4200	4500	4300	4100	4400	4200	4000
	90	4700	4400	4100	4300	4100	4000	4100	3900	3800	3900	3800	3700
360x115	40	5200	4800	4600	5000	4700	4400	4800	4600	4300	4700	4500	4300
	90	5000	4700	4400	4600	4400	4200	4400	4200	4100	4200	4000	3900
395x115	40	5600	5200	4900	5400	5000	4800	5200	4900	4700	5000	4800	4600
	90	5300	5000	4700	5000	4700	4500	4700	4500	4300	4500	4300	4200
425x115	40	5900	5500	5200	5700	5300	5000	5500	5200	4900	5300	5000	4800
	90	5600	5300	5000	5200	5000	4800	5000	4800	4600	4700	4600	4400

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Total upper floor mass of 40 kg/m^2, floor live load of 1.5 kPa, floor point load of 1.8 kN.
3. Minimum bearing length = 35 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm.
4. Restraint value for slenderness calculations is 600 mm.
5. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Single/continuous span roof rafter with ceiling attached - AS 4055 classification N1, N2, N3 & N4



Maximum Birdsmouth = 30% of rafter depth

EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m^2
Rafter spacing = 600
rafter span = 5800 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm for a 40 kg/m^2 roof

ADOPT:
SmartLam GL13C- 200 x 60

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
200x60	30	6800	6500	6100	5700	8600	8200	7600	7200
	40	6500	6200	5700	5300	8200	7800	7200	6800
	75	5800	5400	4800	4400	7300	6900	6400	6000
	90	5500	5100	4500	4200	7100	6700	6100	5700
225x60	30	7300	7000	6600	6200	9200	8800	8300	7900
	40	7000	6700	6200	5900	8900	8400	7800	7400
	75	6300	6000	5400	4900	8000	7500	6900	6500
	90	6100	5700	5100	4700	7700	7200	6700	6200
250x60	30	7800	7500	7100	6700	9900	9500	8900	8400
	40	7500	7200	6700	6400	9500	9100	8400	8000
	75	6800	6400	5900	5500	8600	8100	7500	7000
	90	6600	6200	5600	5200	8300	7800	7200	6700
275x60	30	8300	8000	7500	7200	10500	10100	9500	9000
	40	8000	7700	7200	6800	10100	9600	9000	8500
	75	7300	6900	6400	6000	9100	8600	8000	7500
	90	7000	6600	6100	5700	8800	8300	7700	7200
300x60	30	8800	8500	8000	7600	11100	10600	10000	9600
	40	8500	8100	7600	7200	10700	10200	9500	9100
	75	7700	7300	6800	6300	9700	9200	8500	8000
	90	7400	7100	6500	6100	9400	8900	8200	7700
325x60	30	9200	8900	8400	8000	11600	11200	10600	10100
	40	8900	8600	8000	7600	11200	10800	10100	9600
	75	8100	7700	7100	6700	10200	9700	9000	8500
	90	7900	7400	6900	6500	9900	9400	8700	8100
350x60	30	9600	9300	8800	8400	12000	11800	11100	10600
	40	9300	9000	8400	8000	11800	11300	10600	10100
	75	8500	8100	7500	7100	10700	10200	9500	8900
	90	8300	7800	7200	6800	10400	9900	9100	8600
375x60	30	10000	9700	9200	8800	12000	12000	11600	11100
	40	9800	9400	8800	8400	12000	11800	11100	10600
	75	8900	8500	7900	7400	11200	10700	9900	9400
	90	8700	8200	7600	7200	10900	10300	9600	9000
400x60	30	10400	10100	9600	9200	12000	12000	12000	11600
	40	10200	9800	9200	8800	12000	12000	11600	11000
	75	9300	8900	8300	7800	11700	11200	10400	9800
	90	9100	8600	8000	7500	11400	10800	10000	9400
130x65	30	5200	4800	4300	4000	6800	6400	5900	5400
	40	4800	4500	4000	3600	6400	6000	5400	4900
	75	4000	3700	3300	3000	5500	5000	4400	4100
	90	3800	3500	3100	2800	5200	4800	4200	3800
165x65	30	6300	6000	5400	5000	7900	7500	7000	6600
	40	6000	5600	5000	4600	7600	7100	6600	6200
	75	5100	4700	4100	3800	6600	6200	5600	5100
	90	4800	4400	3900	3600	6400	6000	5300	4800
195x65	30	7100	6700	6200	5800	8900	8400	7800	7400
	40	6700	6400	5800	5400	8500	8000	7400	6900
	75	5900	5500	4900	4400	7500	7000	6400	6000
	90	5600	5200	4600	4200	7200	6800	6200	5700

Single/continuous span roof rafter with ceiling attached - AS 4055 classification N1, N2, N3 & N4 (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
230x65	30	7900	7500	7000	6600	9900	9400	8800	8300
	40	7500	7100	6600	6200	9500	9000	8300	7800
	75	6700	6300	5700	5200	8400	7900	7300	6800
	90	6400	6100	5400	4900	8100	7600	7000	6500
260x65	30	8500	8200	7600	7200	10700	10300	9600	9000
	40	8200	7800	7200	6800	10300	9800	9100	8500
	75	7300	6900	6300	5900	9200	8600	7900	7400
	90	7000	6600	6100	5600	8900	8300	7600	7100
295x65	30	9200	8900	8300	7800	11600	11100	10400	9900
	40	8900	8400	7800	7400	11100	10600	9900	9300
	75	8000	7500	6900	6500	10000	9400	8700	8100
	90	7700	7200	6600	6200	9700	9100	8400	7800
330x65	30	9900	9500	8900	8500	12000	12000	11200	10700
	40	9600	9100	8500	8000	12000	11500	10700	10100
	75	8600	8100	7500	7000	10800	10200	9400	8800
	90	8300	7800	7200	6700	10500	9800	9100	8500
360x65	30	10500	10100	9500	9000	12000	12000	11900	11300
	40	10100	9700	9000	8500	12000	12000	11300	10700
	75	9100	8600	8000	7500	11400	10800	10000	9400
	90	8800	8300	7700	7200	11100	10500	9600	9000
395x65	30	11100	10700	10100	9600	12000	12000	12000	12000
	40	10700	10300	9600	9100	12000	12000	12000	11400
	75	9700	9200	8500	8000	12000	11600	10700	10000
	90	9400	8900	8200	7700	11800	11200	10300	9600
200x80	*30*	*7100*	*6800*	*6400*	*6100*	*8900*	*8500*	*8000*	*7600*
	40	*6800*	*6500*	*6100*	*5700*	*8600*	*8200*	*7600*	*7200*
	75	*6200*	*5800*	*5200*	*4800*	*7700*	*7300*	*6800*	*6400*
	90	*5900*	*5500*	*4900*	*4500*	*7500*	*7100*	*6500*	*6100*
225x80	*30*	*7600*	*7300*	*6900*	*6600*	*9600*	*9200*	*8700*	*8300*
	40	*7300*	*7000*	*6600*	*6200*	*9200*	*8800*	*8300*	*7900*
	75	*6700*	*6300*	*5800*	*5400*	*8400*	*7900*	*7300*	*6900*
	90	*6400*	*6100*	*5500*	*5100*	*8100*	*7700*	*7100*	*6600*
250x80	*30*	*8100*	*7800*	*7400*	*7100*	*10200*	*9800*	*9300*	*8900*
	40	*7800*	*7500*	*7100*	*6700*	*9900*	*9500*	*8900*	*8400*
	75	*7200*	*6800*	*6300*	*5900*	*9000*	*8500*	*7900*	*7500*
	90	*6900*	*6600*	*6100*	*5600*	*8700*	*8300*	*7600*	*7200*
275x80	*30*	*8600*	*8300*	*7900*	*7500*	*10800*	*10500*	*9900*	*9500*
	40	*8300*	*8000*	*7500*	*7200*	*10500*	*10100*	*9500*	*9000*
	75	*7600*	*7200*	*6700*	*6300*	*9600*	*9100*	*8400*	*8000*
	90	*7400*	*7000*	*6500*	*6100*	*9300*	*8800*	*8200*	*7700*
300x80	*30*	*9000*	*8800*	*8300*	*8000*	*11400*	*11000*	*10500*	*10000*
	40	*8800*	*8500*	*8000*	*7600*	*11100*	*10600*	*10000*	*9600*
	75	*8100*	*7700*	*7200*	*6700*	*10200*	*9700*	*9000*	*8500*
	90	*7800*	*7400*	*6900*	*6500*	*9900*	*9400*	*8700*	*8200*
325x80	*30*	*9500*	*9200*	*8800*	*8400*	*11900*	*11600*	*11000*	*10600*
	40	*9200*	*8900*	*8400*	*8000*	*11600*	*11200*	*10600*	*10100*
	75	*8500*	*8100*	*7500*	*7100*	*10700*	*10200*	*9500*	*9000*
	90	*8300*	*7900*	*7300*	*6900*	*10400*	*9900*	*9200*	*8600*
350x80	*30*	*9900*	*9600*	*9200*	*8800*	*12000*	*12000*	*11500*	*11100*
	40	*9700*	*9300*	*8800*	*8400*	*12000*	*11800*	*11100*	*10600*
	75	*8900*	*8500*	*7900*	*7500*	*11200*	*10700*	*10000*	*9400*
	90	*8700*	*8300*	*7700*	*7200*	*10900*	*10400*	*9700*	*9100*
375x80	*30*	*10300*	*10100*	*9600*	*9200*	*12000*	*12000*	*12000*	*11600*
	40	*10100*	*9700*	*9200*	*8800*	*12000*	*12000*	*11600*	*11100*
	75	*9300*	*8900*	*8300*	*7900*	*11700*	*11200*	*10500*	*9900*
	90	*9100*	*8600*	*8000*	*7600*	*11400*	*10900*	*10100*	*9600*
400x80	*30*	*10700*	*10500*	*10000*	*9600*	*12000*	*12000*	*12000*	*12000*
	40	*10500*	*10100*	*9600*	*9200*	*12000*	*12000*	*12000*	*11600*
	75	*9700*	*9300*	*8700*	*8200*	*12000*	*11700*	*10900*	*10400*
	90	*9500*	*9000*	*8400*	*8000*	*11900*	*11400*	*10600*	*10000*

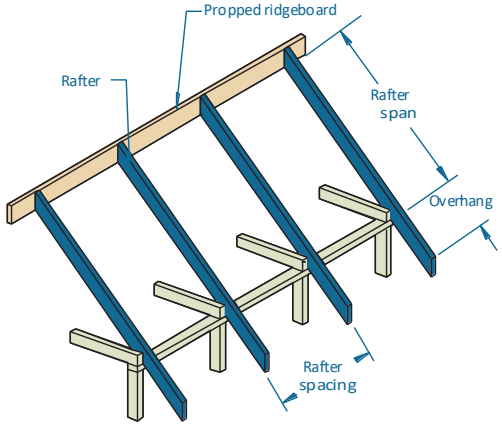
Single/continuous span roof rafter with ceiling attached - AS 4055 classification N1, N2, N3 & N4 (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
130x85	30	5500	5200	4600	4300	7100	6700	6200	5800
	40	5200	4800	4300	3900	6700	6400	5800	5400
	75	4400	4000	3500	3200	5900	5500	4800	4400
	90	4100	3800	3300	3100	5600	5200	4600	4200
165x85	30	6600	6300	5800	5400	8300	7900	7300	6900
	40	6300	6000	5400	5000	7900	7500	6900	6500
	75	5500	5000	4500	4100	7000	6600	6100	5600
	90	5200	4800	4200	3900	6800	6400	5800	5300
195x85	30	7400	7000	6500	6200	9300	8800	8200	7800
	40	7100	6700	6200	5800	8900	8400	7800	7300
	75	6300	5900	5300	4800	7900	7400	6800	6400
	90	6100	5600	5000	4600	7600	7200	6600	6100
230x85	30	8200	7800	7300	7000	10300	9900	9200	8700
	40	7900	7500	7000	6600	9900	9400	8700	8300
	75	7100	6700	6100	5700	8900	8400	7700	7200
	90	6800	6400	5900	5400	8600	8100	7400	6900
260x85	30	8800	8500	8000	7600	11200	10700	10000	9500
	40	8500	8100	7600	7200	10700	10200	9500	9000
	75	7700	7200	6700	6300	9700	9100	8400	7900
	90	7400	7000	6400	6000	9300	8800	8100	7600
295x85	30	9600	9200	8700	8200	12000	11600	10900	10400
	40	9200	8800	8200	7800	11600	11100	10400	9800
	75	8400	7900	7300	6900	10500	10000	9200	8600
	90	8100	7600	7000	6600	10200	9600	8900	8300
330x85	30	10300	9900	9300	8900	12000	12000	11800	11200
	40	9900	9500	8900	8400	12000	12000	11200	10600
	75	9000	8500	7900	7400	11300	10700	9900	9400
	90	8700	8300	7600	7200	11000	10400	9600	9000
360x85	30	10800	10500	9900	9400	12000	12000	12000	11900
	40	10500	10100	9400	9000	12000	12000	11900	11300
	75	9600	9100	8400	7900	12000	11400	10600	10000
	90	9300	8800	8100	7600	11600	11000	10200	9600
395x85	30	11500	11100	10500	10000	12000	12000	12000	12000
	40	11100	10700	10000	9600	12000	12000	12000	12000
	75	10200	9700	9000	8500	12000	12000	11300	10600
	90	9800	9300	8600	8100	12000	11800	10900	10200
425x85	30	12000	11600	11000	10500	12000	12000	12000	12000
	40	11600	11200	10500	10000	12000	12000	12000	12000
	75	10700	10200	9400	8900	12000	12000	11900	11200
	90	10400	9800	9100	8600	12000	12000	11400	10800

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Maximum birdsmouth depth = 30 % of rafter depth
4. End bearing lengths = 35 mm at end supports and 35 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 35 mm at internal supports
5. Construction loads shall not be applied to overhangs until a 190 x 19 (minimum) timber fascia or other fascia of equivalent stiffness is rigidly and permanently attached to the end of rafter overhangs
6. rafter spacing up to 1200 mm
7. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Single/continuous span roof rafter without ceiling attached
AS 4055 classification N1, N2, N3 & N4



Maximum Birdsmouth = 30% of rafter depth

EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
rafter span = 5800 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm for a 40 kg/m^2 roof

ADOPT:

SmartLam GL13C - 200 x 60

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
200x60	*10*	*7600*	*7500*	*7200*	*6700*	*9600*	*9400*	*8900*	*7500*
	20	*7200*	*6900*	*6500*	*6200*	*9000*	*8700*	*8200*	*7700*
	40	*6500*	*6200*	*5700*	*5300*	*8200*	*7800*	*7200*	*6800*
	60	*6100*	*5700*	*5100*	*4700*	*7700*	*7200*	*6700*	*6300*
225x60	*10*	*8200*	*8000*	*7700*	*7400*	*10300*	*10100*	*9700*	*8500*
	20	*7700*	*7400*	*7000*	*6700*	*9700*	*9400*	*8800*	*8400*
	40	*7000*	*6700*	*6200*	*5900*	*8900*	*8400*	*7800*	*7400*
	60	*6600*	*6200*	*5700*	*5300*	*8300*	*7900*	*7300*	*6800*
250x60	*10*	*8700*	*8500*	*8200*	*7900*	*10900*	*10700*	*10300*	*9500*
	20	*8200*	*7900*	*7500*	*7200*	*10300*	*10000*	*9500*	*9100*
	40	*7500*	*7200*	*6700*	*6400*	*9500*	*9100*	*8400*	*8000*
	60	*7100*	*6700*	*6200*	*5800*	*8900*	*8400*	*7800*	*7400*
275x60	*10*	*9200*	*9000*	*8700*	*8400*	*11500*	*11300*	*10900*	*10500*
	20	*8700*	*8400*	*8000*	*7700*	*10900*	*10600*	*10100*	*9600*
	40	*8000*	*7700*	*7200*	*6800*	*10100*	*9600*	*9000*	*8500*
	60	*7500*	*7200*	*6600*	*6300*	*9500*	*9000*	*8400*	*7900*
300x60	*10*	*9600*	*9500*	*9100*	*8900*	*12000*	*11900*	*11500*	*11200*
	20	*9200*	*8900*	*8500*	*8100*	*11500*	*11200*	*10600*	*10200*
	40	*8500*	*8100*	*7600*	*7200*	*10700*	*10200*	*9500*	*9100*
	60	*8000*	*7600*	*7000*	*6700*	*10100*	*9600*	*8900*	*8400*
325x60	*10*	*10100*	*9900*	*9600*	*9300*	*12000*	*12000*	*12000*	*11800*
	20	*9600*	*9300*	*8900*	*8600*	*12000*	*11800*	*11200*	*10800*
	40	*8900*	*8600*	*8000*	*7600*	*11200*	*10800*	*10100*	*9600*
	60	*8400*	*8000*	*7400*	*7000*	*10600*	*10100*	*9400*	*8900*
350x60	*10*	*10500*	*10300*	*10000*	*9800*	*12000*	*12000*	*12000*	*12000*
	20	*10000*	*9800*	*9300*	*9000*	*12000*	*12000*	*11800*	*11300*
	40	*9400*	*9000*	*8400*	*8000*	*11800*	*11300*	*10600*	*10100*
	60	*8800*	*8400*	*7800*	*7400*	*11100*	*10600*	*9900*	*9300*
375x60	*10*	*10900*	*10700*	*10400*	*10200*	*12000*	*12000*	*12000*	*12000*
	20	*10500*	*10200*	*9700*	*9400*	*12000*	*12000*	*12000*	*11800*
	40	*9800*	*9400*	*8800*	*8400*	*12000*	*11800*	*11100*	*10600*
	60	*9200*	*8800*	*8200*	*7800*	*11600*	*11100*	*10300*	*9800*
400x60	*10*	*11300*	*11100*	*10800*	*10600*	*12000*	*12000*	*12000*	*12000*
	20	*10800*	*10600*	*10100*	*9800*	*12000*	*12000*	*12000*	*12000*
	40	*10200*	*9800*	*9200*	*8800*	*12000*	*12000*	*11600*	*11000*
	60	*9600*	*9200*	*8600*	*8100*	*12000*	*11600*	*10800*	*10200*
130x65	10	5400	5300	4900	4500	6900	6900	6400	5400
	20	5400	5300	4800	4500	6900	6900	6400	5500
	40	4800	4500	4000	3600	6400	6000	5400	4900
	60	4300	4000	3500	3200	5900	5400	4800	4400
165x65	10	7400	7100	6300	5700	9300	9000	8200	7000
	20	6700	6400	6000	5600	8500	8100	7500	7100
	40	6000	5600	5000	4600	7600	7100	6600	6200
	60	5400	5000	4400	4000	7000	6600	6000	5500
195x65	10	8200	7900	7400	6700	10300	9900	9400	8300
	20	7500	7200	6700	6400	9400	9000	8400	8000
	40	6700	6400	5800	5400	8500	8000	7400	6900
	60	6200	5800	5200	4800	7800	7400	6800	6300

Single/continuous span roof rafter without ceiling attached
AS 4055 classification N1, N2, N3 & N4 (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
230x65	10	9000	8700	8300	8000	11300	11000	10500	9900
	20	8400	8000	7500	7100	10500	10100	9400	9000
	40	7500	7100	6600	6200	9500	9000	8300	7800
	60	7000	6600	6100	5600	8800	8300	7600	7100
260x65	10	9700	9400	9000	8700	12000	11900	11300	10900
	20	9000	8700	8100	7800	11300	10900	10200	9800
	40	8200	7800	7200	6800	10300	9800	9100	8500
	60	7600	7200	6600	6200	9600	9000	8300	7800
295x65	10	10400	10200	9700	9400	12000	12000	12000	11800
	20	9800	9400	8900	8400	12000	11800	11100	10600
	40	8900	8400	7800	7400	11100	10600	9900	9300
	60	8300	7800	7200	6800	10400	9900	9100	8600
330x65	10	11100	10900	10400	10100	12000	12000	12000	12000
	20	10500	10100	9500	9100	12000	12000	12000	11500
	40	9600	9100	8500	8000	12000	11500	10700	10100
	60	9000	8500	7800	7400	11200	10700	9900	9300
360x65	10	11600	11400	11000	10600	12000	12000	12000	12000
	20	11000	10600	10100	9700	12000	12000	12000	12000
	40	10100	9700	9000	8500	12000	12000	11300	10700
	60	9500	9000	8300	7800	11900	11300	10500	9900
395x65	10	12000	12000	11600	11300	12000	12000	12000	12000
	20	11600	11300	10700	10300	12000	12000	12000	12000
	40	10700	10300	9600	9100	12000	12000	12000	11400
	60	10100	9600	8900	8400	12000	12000	11200	10500
200x80	*10*	*7800*	*7700*	*7400*	*7200*	*9800*	*9600*	*9300*	*8800*
	20	*7400*	*7200*	*6800*	*6500*	*9300*	*9000*	*8500*	*8200*
	40	*6800*	*6500*	*6100*	*5700*	*8600*	*8200*	*7600*	*7200*
	60	*6400*	*6100*	*5500*	*5100*	*8000*	*7600*	*7100*	*6700*
225x80	*10*	*8300*	*8200*	*7900*	*7700*	*10500*	*10300*	*10000*	*9700*
	20	*7900*	*7700*	*7300*	*7000*	*10000*	*9700*	*9200*	*8800*
	40	*7300*	*7000*	*6600*	*6200*	*9200*	*8800*	*8300*	*7900*
	60	*6900*	*6600*	*6100*	*5700*	*8700*	*8300*	*7700*	*7200*
250x80	*10*	*8800*	*8700*	*8400*	*8200*	*11100*	*11000*	*10600*	*10300*
	20	*8500*	*8200*	*7800*	*7500*	*10600*	*10300*	*9800*	*9500*
	40	*7800*	*7500*	*7100*	*6700*	*9900*	*9500*	*8900*	*8400*
	60	*7400*	*7100*	*6600*	*6200*	*9300*	*8900*	*8300*	*7800*
275x80	*10*	*9300*	*9200*	*8900*	*8700*	*11700*	*11600*	*11200*	*11000*
	20	*8900*	*8700*	*8300*	*8000*	*11200*	*11000*	*10400*	*10100*
	40	*8300*	*8000*	*7500*	*7200*	*10500*	*10100*	*9500*	*9000*
	60	*7900*	*7500*	*7000*	*6600*	*9900*	*9500*	*8800*	*8300*
300x80	*10*	*9800*	*9600*	*9400*	*9200*	*12000*	*12000*	*11800*	*11500*
	20	*9400*	*9200*	*8800*	*8500*	*11800*	*11500*	*11000*	*10600*
	40	*8800*	*8500*	*8000*	*7600*	*11100*	*10600*	*10000*	*9600*
	60	*8300*	*8000*	*7400*	*7100*	*10500*	*10000*	*9400*	*8900*
325x80	*10*	*10200*	*10100*	*9800*	*9600*	*12000*	*12000*	*12000*	*12000*
	20	*9800*	*9600*	*9200*	*8900*	*12000*	*12000*	*11600*	*11200*
	40	*9200*	*8900*	*8400*	*8000*	*11600*	*11200*	*10600*	*10100*
	60	*8800*	*8400*	*7900*	*7400*	*11000*	*10600*	*9900*	*9400*
350x80	*10*	*10600*	*10500*	*10200*	*10000*	*12000*	*12000*	*12000*	*12000*
	20	*10300*	*10000*	*9600*	*9300*	*12000*	*12000*	*12000*	*11800*
	40	*9700*	*9300*	*8800*	*8400*	*12000*	*11800*	*11100*	*10600*
	60	*9200*	*8800*	*8300*	*7800*	*11500*	*11100*	*10400*	*9900*
375x80	*10*	*11000*	*10900*	*10700*	*10400*	*12000*	*12000*	*12000*	*12000*
	20	*10700*	*10400*	*10000*	*9700*	*12000*	*12000*	*12000*	*12000*
	40	*10100*	*9700*	*9200*	*8800*	*12000*	*12000*	*11600*	*11100*
	60	*9600*	*9200*	*8600*	*8200*	*12000*	*11600*	*10900*	*10300*
400x80	*10*	*11400*	*11300*	*11100*	*10800*	*12000*	*12000*	*12000*	*12000*
	20	*11100*	*10800*	*10400*	*10100*	*12000*	*12000*	*12000*	*12000*
	40	*10500*	*10100*	*9600*	*9200*	*12000*	*12000*	*12000*	*11600*
	60	*10000*	*9600*	*9000*	*8600*	*12000*	*12000*	*11400*	*10800*

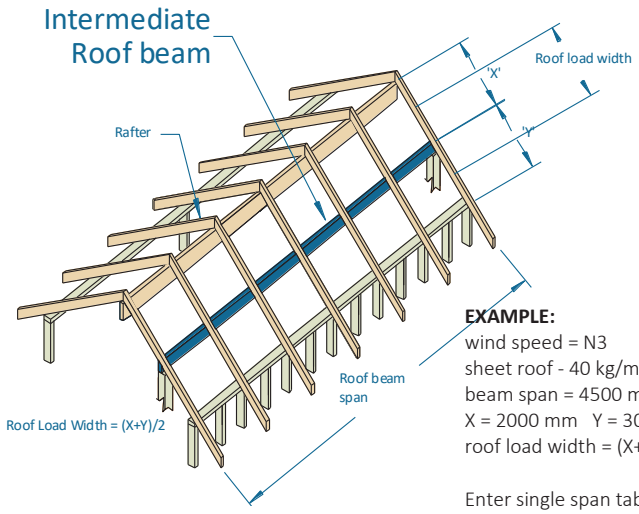
Single/continuous span roof rafter without ceiling attached
AS 4055 classification N1, N2, N3 & N4 (Cont'd)

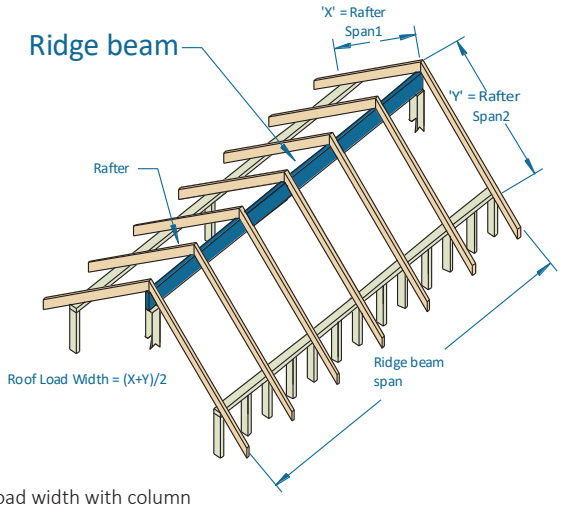
Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
130x85	10	6100	6000	5400	4900	7900	7900	7300	6300
	20	6000	5700	5200	4800	7600	7200	6700	6400
	40	5200	4800	4300	3900	6700	6400	5800	5400
	60	4600	4300	3800	3500	6200	5800	5200	4700
165x85	10	7600	7400	6900	6200	9500	9300	8800	8000
	20	7000	6700	6300	6000	8800	8500	7900	7500
	40	6300	6000	5400	5000	7900	7500	6900	6500
	60	5800	5400	4800	4400	7300	6900	6400	6000
195x85	10	8400	8100	7800	7400	10500	10200	9800	9400
	20	7800	7500	7000	6700	9800	9400	8800	8400
	40	7100	6700	6200	5800	8900	8400	7800	7300
	60	6600	6200	5600	5200	8300	7800	7200	6700
230x85	10	9200	9000	8600	8300	11500	11300	10800	10500
	20	8600	8300	7800	7500	10900	10500	9900	9400
	40	7900	7500	7000	6600	9900	9400	8700	8300
	60	7300	7000	6400	6000	9200	8700	8100	7600
260x85	10	9900	9600	9300	9000	12000	12000	11700	11300
	20	9300	9000	8500	8100	11700	11300	10700	10200
	40	8500	8100	7600	7200	10700	10200	9500	9000
	60	8000	7600	7000	6600	10000	9500	8800	8300
295x85	10	10600	10400	10000	9700	12000	12000	12000	12000
	20	10000	9700	9200	8800	12000	12000	11600	11100
	40	9300	8800	8200	7800	11600	11100	10400	9800
	60	8700	8200	7600	7200	10900	10400	9600	9100
330x85	10	11200	11100	10700	10400	12000	12000	12000	12000
	20	10700	10400	9900	9500	12000	12000	12000	12000
	40	9900	9500	8900	8400	12000	12000	11200	10600
	60	9400	8900	8300	7800	11800	11200	10400	9800
360x85	10	11800	11600	11300	11000	12000	12000	12000	12000
	20	11300	11000	10500	10100	12000	12000	12000	12000
	40	10500	10100	9400	9000	12000	12000	11900	11300
	60	9900	9400	8800	8300	12000	11900	11100	10400
395x85	10	12000	12000	11900	11600	12000	12000	12000	12000
	20	11900	11600	11100	10700	12000	12000	12000	12000
	40	11100	10700	10000	9600	12000	12000	12000	12000
	60	10500	10000	9300	8800	12000	12000	11800	11100
425x85	10	12000	12000	12000	12000	12000	12000	12000	12000
	20	12000	12000	11600	11200	12000	12000	12000	12000
	40	11600	11200	10500	10000	12000	12000	12000	12000
	60	11000	10500	9800	9300	12000	12000	12000	11800

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Maximum birdsmouth depth = 30 % of rafter depth
4. End bearing lengths = 35 mm at end supports and 35 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 35 mm at internal supports
5. Construction loads shall not be applied to overhangs until a 190 x 19 (minimum) timber fascia or other fascia of equivalent stiffness is rigidly and permanently attached to the end of rafter overhangs
6. rafter spacing up to 1200 mm
7. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Ridge/Intermediate roof beam
AS 4055 Classification N1, N2, N3 & N4





EXAMPLE:
wind speed = N3
sheet roof - 40 kg/m^2
beam span = 4500 mm
X = 2000 mm Y = 3000 mm
roof load width = (X+Y)/2 = 2500 mm

Enter single span table at 3000 roof load width with column and read down to span equal to or greater than 4500 mm

ADOPT:
SmartLam GL13C - 250 x 60 mm

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
200x60	*40*	*4600*	*3900*	*3400*	*3100*	*2800*	*2700*	*6200*	*4600*	*3900*	*3400*	*3000*	*2800*
	90	*3600*	*3000*	*2700*	*2500*	*2300*	*2100*	*4900*	*3800*	*3200*	*2800*	*2500*	*2300*
225x60	*40*	*5100*	*4300*	*3800*	*3500*	*3200*	*3000*	*6700*	*5200*	*4300*	*3800*	*3400*	*3100*
	90	*4100*	*3400*	*3000*	*2800*	*2600*	*2400*	*5500*	*4300*	*3600*	*3100*	*2800*	*2500*
250x60	*40*	*5700*	*4800*	*4300*	*3900*	*3600*	*3300*	*7200*	*5700*	*4800*	*4200*	*3800*	*3500*
	90	*4500*	*3800*	*3400*	*3100*	*2900*	*2700*	*6100*	*4700*	*4000*	*3500*	*3100*	*2800*$_{10}$
275x60	*40*	*6200*	*5300*	*4700*	*4200*	*3900*	*3700*	*7700*	*6300*	*5300*	*4600*	*4200*	*3800*
	90	*5000*	*4200*	*3700*	*3400*	*3200*	*3000*	*6500*	*5200*	*4400*	*3800*	*3400*$_{10}$	*3100*$_{15}$
300x60	*40*	*6500*	*5700*	*5100*	*4600*	*4300*	*4000*	*8200*	*7000*	*5800*	*5100*	*4600*	*4200*$_{5}$
	90	*5400*	*4600*	*4100*	*3700*	*3400*	*3200*	*7000*	*5700*	*4800*	*4200*$_{5}$	*3700*$_{15}$	*3400*$_{25}$
325x60	*40*	*6900*	*6100*	*5500*	*5000*	*4600*	*4300*	*8700*	*7600*	*6300*	*5500*	*4900*$_{5}$	*4500*$_{15}$
	90	*5800*	*4900*	*4400*	*4000*	*3700*	*3500*	*7400*	*6100*	*5200*	*4500*$_{15}$	*4000*$_{25}$	*3700*$_{35}$
350x60	*40*	*7300*	*6500*	*5900*	*5400*	*5000*	*4700*	*9200*	*8200*	*6700*	*5900*$_{5}$	*5300*$_{10}$	*4900*$_{20}$
	90	*6200*	*5300*	*4700*	*4300*	*4000*	*3800*	*7800*	*6700*	*5500*$_{10}$	*4900*$_{20}$	*4400*$_{30}$	*4000*$_{40}$
375x60	*40*	*7700*	*6800*	*6200*	*5800*	*5300*	*5000*	*9700*	*8600*	*7200*	*6300*$_{10}$	*5700*$_{20}$	*5200*$_{25}$
	90	*6500*	*5700*	*5100*	*4600*	*4300*	*4000*	*8200*	*7200*	*5900*$_{15}$	*5200*$_{25}$	*4700*$_{40}$	*4200*$_{50}$
400x60	*40*	*8000*	*7100*	*6500*	*6100*	*5700*	*5300*	*10100*	*9000*	*7700*$_{5}$	*6700*$_{15}$	*6100*$_{25}$	*5500*$_{35}$
	90	*6800*	*6000*	*5400*	*4900*	*4600*	*4300*	*8600*	*7600*$_{5}$	*6300*$_{20}$	*5500*$_{35}$	*5000*$_{45}$	*4500*$_{60}$
130x65	40	3100	2600	2300	2100	1900	1800	4200	3400	2900	2500	2200	2000
	90	2400	2000	1800	1600	1500	1400	3300	2800	2400	2000	1800	1700
165x65	40	3900	3300	2900	2600	2400	2300	5400	4300	3600	3200	2800	2600
	90	3100	2600	2300	2100	1900	1800	4200	3500	3000	2600	2300	2100
195x65	40	4600	3900	3400	3100	2900	2700	6200	5100	4300	3800	3400	3100
	90	3600	3100	2700	2500	2300	2100	5000	4200	3500	3100	2800	2500
230x65	40	5500	4600	4000	3700	3400	3200	7000	6000	5000	4400	4000	3600
	90	4300	3600	3200	2900	2700	2500	5800	4900	4200	3600	3300	3000
260x65	40	6100	5200	4600	4100	3800	3600	7700	6700	5700	5000	4500	4100
	90	4900	4100	3600	3300	3100	2900	6400	5600	4700	4100	3700$_{5}$	3400$_{10}$
295x65	40	6700	5800	5200	4700	4300	4000	8400	7400	6500	5700	5100	4700$_{5}$
	90	5500	4600	4100	3800	3500	3300	7100	6200	5300	4700$_{5}$	4200$_{15}$	3800$_{20}$

Ridge/Intermediate roof beam
AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
330x65	40	7200	6400	5800	5300	4900	4500	9100	8000	7200	6300	5700_{5}	5200_{15}
	90	6100	5200	4600	4200	3900	3700	7600	6800	6000_{5}	5200_{15}	4700_{25}	4300_{35}
360x65	40	7700	6800	6200	5700	5300	4900	9700	8600	7800	6900_{5}	6200_{15}	5700_{20}
	90	6500	5600	5000	4600	4300	4000	8200	7200	6500_{10}	5700_{20}	5100_{35}	4600_{45}
395x65	40	8200	7300	6700	6200	5800	5400	10400	9200	8400	7600_{15}	6800_{20}	6200_{30}
	90	6900	6100	5500	5000	4700	4400	8800	7700	7100_{20}	6200_{30}	5600_{45}	5100_{55}
425x65	40	8700	7700	7000	6500	6200	5800	10900	9700	8800_{5}	8100_{20}	7300_{30}	6700_{40}
	90	7300	6500	5900	5400	5000	4700	9200	8200	7500_{25}	6700_{40}	6000_{55}	5500_{75}
200x80	*40*	*5000*	*4200*	*3700*	*3400*	*3100*	*2900*	*6600*	*5300*	*4500*	*3900*	*3500*	*3200*
	90	*4000*	*3300*	*3000*	*2700*	*2500*	*2400*	*5400*	*4400*	*3700*	*3200*	*2900*	*2600*
225x80	*40*	*5600*	*4700*	*4200*	*3800*	*3500*	*3300*	*7100*	*5900*	*5000*	*4400*	*3900*	*3600*
	90	*4400*	*3800*	*3300*	*3100*	*2800*	*2700*	*6000*	*4900*	*4100*	*3600*	*3200*	*2900*
250x80	*40*	*6100*	*5200*	*4700*	*4200*	*3900*	*3700*	*7700*	*6700*	*5600*	*4900*	*4400*	*4000*
	90	*4900*	*4200*	*3700*	*3400*	*3200*	*3000*	*6500*	*5400*	*4600*	*4000*	*3600*	*3300*
275x80	*40*	*6500*	*5700*	*5100*	*4700*	*4300*	*4000*	*8200*	*7300*	*6100*	*5400*	*4800*	*4400*
	90	*5400*	*4600*	*4100*	*3700*	*3500*	*3300*	*7000*	*6000*	*5000*	*4400*	*3900*	3600_{5}
300x80	*40*	*6900*	*6200*	*5600*	*5100*	*4700*	*4400*	*8700*	*7800*	*6600*	*5800*	*5200*	*4800*
	90	*5900*	*5000*	*4500*	*4100*	*3800*	*3600*	*7400*	*6500*	*5500*	*4800*	4300_{5}	3900_{10}
325x80	*40*	*7300*	*6500*	*6000*	*5500*	*5100*	*4700*	*9200*	*8200*	*7200*	*6300*	*5700*	*5200*
	90	*6300*	*5400*	*4800*	*4400*	*4100*	*3900*	*7900*	*7000*	*5900*	*5200*	4700_{10}	4200_{20}
350x80	*40*	*7700*	*6900*	*6300*	*5900*	*5500*	*5100*	*9700*	*8700*	*7700*	*6800*	*6100*	5600_{5}
	90	*6600*	*5800*	*5200*	*4800*	*4400*	*4200*	*8300*	*7400*	*6400*	5600_{10}	5000_{15}	4600_{25}
375x80	*40*	*8100*	*7200*	*6700*	*6200*	*5800*	*5500*	*10200*	*9100*	*8300*	*7300*	6500_{5}	6000_{15}
	90	*6900*	*6200*	*5600*	*5100*	*4700*	*4400*	*8700*	*7700*	6800_{5}	6000_{15}	5400_{25}	4900_{35}
400x80	*40*	*8500*	*7600*	*7000*	*6500*	*6200*	*5800*	*10700*	*9500*	*8800*	*7700*	7000_{10}	6400_{20}
	90	*7300*	*6400*	*5900*	*5400*	*5000*	*4700*	*9200*	*8100*	7200_{10}	6300_{20}	5700_{30}	5200_{40}
130x85	40	3400	2800	2500	2300	2100	1900	4600	3900	3300	2900	2600	2300
	90	2600	2200	2000	1800	1700	1600	3600	3000	2700	2300	2100	1900
165x85	40	4300	3600	3200	2900	2600	2500	5800	4900	4100	3600	3300	3000
	90	3400	2800	2500	2300	2100	2000	4600	3800	3400	3000	2700	2400
195x85	40	5000	4200	3700	3400	3100	2900	6600	5800	4900	4300	3900	3500
	90	4000	3300	3000	2700	2500	2400	5400	4500	4000	3500	3200	2900
230x85	40	5900	5000	4400	4000	3700	3400	7400	6600	5800	5100	4500	4200
	90	4700	3900	3500	3200	3000	2800	6300	5400	4800	4200	3700	3400
260x85	40	6500	5600	5000	4500	4200	3900	8100	7200	6500	5700	5100	4700
	90	5300	4500	4000	3600	3400	3200	6800	6000	5400	4700	4200	3800
295x85	40	7100	6300	5600	5100	4700	4400	8900	7900	7200	6500	5800	5300
	90	6000	5000	4500	4100	3800	3600	7500	6600	6100	5300	4800_{5}	4300_{10}
	90	8200	7300	6700	6300	5900	5600	10400	9200	8400_{10}	7900_{30}	7400_{45}	6700_{60}

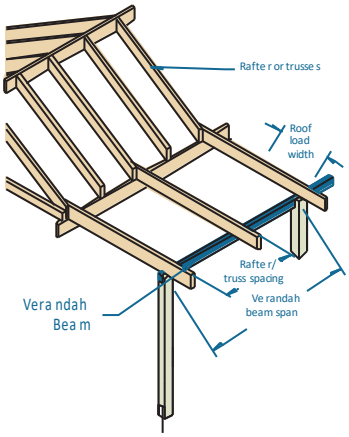
Ridge/Intermediate roof beam
AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
330x85	40	7700	6800	6200	5700	5300	4900	9700	8500	7800	7200	6500	59005
	90	6500	5600	5000	4600	4300	4000	8200	7200	6600	59005	530010	490020
360x85	40	8200	7200	6600	6200	5800	5400	10300	9100	8300	7700	71005	650010
	90	6900	6100	5500	5000	4700	4400	8700	7700	7000	650010	580020	530030
395x85	40	8700	7700	7100	6600	6200	5900	11000	9700	8900	8300	780010	710020
	90	7400	6500	6000	5500	5100	4800	9300	8200	7600	700020	640030	580040
425x85	40	9200	8200	7500	7000	6600	6200	11500	10300	9400	88005	830015	760025
	90	7800	6900	6300	5900	5500	5200	9800	8700	80005	740025	680035	620050
195x115	40	5500	4700	4100	3700	3500	3200	7100	6200	5600	5000	4500	4100
	90	4400	3700	3300	3000	2800	2600	5900	5000	4500	4100	3700	3300
230x115	40	6300	5500	4900	4400	4100	3800	8000	7000	6400	5900	5300	4800
	90	5100	4300	3900	3500	3300	3100	6700	5900	5300	4800	4300	3900
260x115	40	6900	6100	5500	5000	4600	4300	8700	7700	7000	6500	6000	5400
	90	5800	4900	4400	4000	3700	3500	7300	6500	5900	5400	4900	4400
295x115	40	7500	6700	6100	5600	5200	4900	9500	8400	7700	7200	6800	6200
	90	6400	5600	5000	4500	4200	4000	8100	7100	6500	6100	5500	5000
330x115	40	8200	7300	6700	6200	5800	5400	10300	9100	8400	7800	7400	6900
	90	6900	6100	5500	5100	4700	4400	8700	7700	7100	6600	6200	56005
360x115	40	8700	7700	7100	6600	6200	5900	10900	9700	8900	8300	7900	7500
	90	7400	6600	6000	5500	5100	4800	9300	8200	7600	7100	6700_{5}	6100_{15}
395x115	40	9300	8300	7600	7100	6700	6400	11600	10400	9500	8900	8400	8000_{5}
	90	7900	7000	6400	6000	5600	5300	10000	8800	8100	7600	7200_{15}	6700_{25}
425x115	40	9700	8700	8000	7500	7100	6700	12000	10900	10100	9400	8900	8400_{10}
	90	8300	7400	6800	6400	6000	5700	10500	9300	8600	8000_{5}	7600_{20}	7200_{30}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 70 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 70 mm at internal supports.
3. rafter spacing up to 1200 mm
4. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Single span Verandah beam
AS 4055 Classification N1, N2, N3 & N4



EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m^2
roof load width = 3900 mm
rafter/truss spacing = 600 mm
verandah span = 3500 mm

Enter span table at 4500 roof load width column, rafter spacing of 600 mm, and read down to a span equal to or greater than 3500 mm

ADOPT:

SmartLam GL13C - 250 x 60

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended verandah span (mm)									
		Single span									
200x60	*40*	*4300*	*4300*	*3600*	*3500*	*3000*	*2900*	*2600*	*2500*	*2300*	*2200*
	90	*3500*	*3500*	*2800*	*2800*	*2400*	*2500*	*2200*	*2200*	*2100*	*2000*
225x60	*40*	*4700*	*4700*	*4000*	*4000*	*3400*	*3200*	*2900*	*2800*	*2600*	*2500*
	90	*3900*	*3900*	*3100*	*3100*	*2800*	*2800*	*2500*	*2500*	*2300*	*2300*
250x60	*40*	*5100*	*5100*	*4400*	*4400*	*3800*	*3600*	*3200*	*3100*	*2900*	*2800*
	90	*4300*	*4200*	*3500*	*3500*	*3100*	*3000*	*28500*	*2800*	*2600*	*2600*
275x60	*40*	*5400*	*5400*	*4700*	*4700*	*4100*	*4000*	*3600*	*3400*	*3200*	*3000*
	90	*4600*	*4500*	*3900*	*3800*	*3400*	*3300*	*3100*	*3000*	*2800*	*2900*
300x60	*40*	*5800*	*5800*	*5000*	*5000*	*4500*	*4500*	*3900*	*3800*	*3500*	*3300*
	90	*4900*	*4900*	*4100*	*4100*	*3700*	*3600*	*3400*	*3300*	*3100*	*3100*
325x60	*40*	*6100*	*6100*	*5300*	*5300*	*4800*	*4800*	*4200*	*4100*	*3800*	*3600*
	90	*5200*	*5200*	*4400*	*4400*	*4000*	*4000*	*3600*	*3600*	*3400*	*3300*
350x60	*40*	*6500*	*6400*	*5600*	*5600*	*5100*	*5100*	*4600*	*4600*	*4100*	*4000*
	90	*5400*	*5400*	*4700*	*4600*	*4200*	*4200*	*3900*	*3900*	*3600*	*3600*
375x60	*40*	*6800*	*6800*	*5900*	*5900*	*5400*	*5400*	*4900*	*4900*	*4400*	*4300*
	90	*5700*	*5700*	*4900*	*4900*	*4400*	*4400*	*4100*	*4100*	*3900*	*3900*
400x60	*40*	*7100*	*7100*	*6200*	*6100*	*5600*	*5600*	*5200*	*5200*	*4700*	*4700*
	90	*6000*	*6000*	*5100*	*5100*	*4700*	*4600*	*4300*	*4300*	*4100*	*4100*
130x65	40	3000	3000	2400	2500	2100	2100	1800	1600	1600	1200
	90	2300	2400	1800	1800	1600	1500	1500	1300	1400	1100
165x65	40	3900	3800	3100	3100	2700	2700	2400	2300	2100	2000
	90	3000	3000	2400	2400	2100	2000	1900	1900	1700	1700
195x65	40	4400	4400	3700	3600	3200	3200	2800	2800	2500	2500
	90	3500	3500	2800	2800	2500	2500	2200	2200	2100	2000
230x65	40	5000	5000	4200	4200	3800	3800	3400	3200	3000	2900
	90	4100	4100	3300	3300	2900	2900	2600	2700	2400	2400
260x65	40	5400	5400	4600	4600	4200	4200	3800	3700	3400	3300
	90	4500	4500	3800	3700	3300	3300	3000	3000	2800	2800
295x65	40	5900	5900	5100	5100	4600	4600	4300	4300	3900	3800
	90	4900	4900	4200	4200	3700	3700	3400	3400	3200	3100

Single span Verandah beam
AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended verandah span (mm)									
		Single span									
330x65	40	6400	6400	5500	5500	5000	5000	4700	4700	4400	4300
	90	5400	5400	4600	4500	4100	4100	3800	3800	3500	3500
360x65	40	6800	6800	5900	5900	5400	5400	5000	5000	4800	4700
	90	5700	5700	4900	4800	4400	4400	4100	4100	3900	3800
395x65	40	7300	7300	6300	6300	5700	5700	5400	5400	5100	5100
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
425x65	40	7700	7700	6600	6600	6100	6000	5700	5600	5400	5400
	90	6500	6500	5500	5500	5000	5000	4700	4600	4400	4400
200x80	*40*	*4600*	*4600*	*4000*	*3900*	*3500*	*3300*	*3000*	*2900*	*2700*	*2600*
	90	*3800*	*3800*	*3100*	*3100*	*2700*	*2700*	*2400*	*2500*	*2300*	*2200*
225x80	*40*	*5000*	*5000*	*4300*	*4300*	*3900*	*3800*	*3400*	*3200*	*3000*	*2900*
	90	*4200*	*4200*	*3500*	*3400*	*3000*	*3000*	*2800*	*2800*	*2600*	*2600*
250x80	*40*	*5000*	*5400*	*4700*	*4700*	*4300*	*4200*	*3800*	*3600*	*3400*	*3200*
	90	*4600*	*4500*	*3800*	*3800*	*3400*	*3300*	*3100*	*3000*	*2800*	*2900*
275x80	*40*	*5800*	*5800*	*5000*	*5000*	*4600*	*4500*	*4100*	*4000*	*3700*	*3500*
	90	*4900*	*4900*	*4200*	*4200*	*3700*	*3700*	*3400*	*3300*	*3100*	*3100*
300x80	*40*	*6100*	*6100*	*5300*	*5300*	*4900*	*4900*	*4500*	*4500*	*4000*	*3900*
	90	*5200*	*5200*	*4400*	*4400*	*4000*	*4000*	*3700*	*3600*	*3400*	*3400*
325x80	*40*	*6500*	*6500*	*5600*	*5600*	*5200*	*5200*	*4800*	*4800*	*4400*	*4300*
	90	*5500*	*5500*	*4700*	*4700*	*4300*	*4300*	*4000*	*4000*	*3700*	*3700*
350x80	*40*	*6800*	*6800*	*6000*	*5900*	*5400*	*5400*	*5100*	*5100*	*4800*	*4700*
	90	*5800*	*5800*	*5000*	*5000*	*4500*	*4500*	*4200*	*4200*	*4000*	*4000*
375x80	*40*	*7200*	*7100*	*6300*	*6200*	*5700*	*5700*	*5400*	*5400*	*5100*	*5100*
	90	*6100*	*6100*	*5200*	*5200*	*4800*	*4700*	*4400*	*4400*	*4200*	*4200*
400x80	*40*	*7500*	*7400*	*6500*	*6500*	*6000*	*6000*	*5600*	*5600*	*5300*	*5300*
	90	*6400*	*6400*	*5500*	*5500*	*5000*	*5000*	*4700*	*4600*	*4400*	*4400*
165x85	40	4100	4100	3400	3300	3000	3000	2700	2700	2500	2400
	90	3300	3200	2600	2700	2300	2300	2100	2000	1900	1900
195x85	40	4700	4700	4000	4000	3500	3500	3200	3100	2900	2800
	90	3900	3800	3100	3100	2700	2700	2400	2500	2300	2200
230x85	40	5300	5300	4500	4500	4100	4100	3800	3700	3500	3300
	90	4400	4400	3600	3600	3200	3100	2900	2900	2700	2700
260x85	40	5700	5700	4900	4900	4500	4500	4200	4200	3900	3800
	90	4800	4800	4100	4100	3600	3500	3300	3200	3000	3000
295x85	40	6300	6300	5400	5400	4900	4900	4600	4600	4400	4300
	90	5300	5300	4500	4400	4000	4000	3700	3700	3500	3400
330x85	40	6800	6800	5900	5800	5300	5300	5000	5000	4700	4700
	90	5700	5700	4900	4800	4400	4400	4100	4100	3900	3800
360x85	40	7200	7200	6300	6200	5700	5700	5300	5300	5100	5000
	90	6100	6100	5200	5200	4700	4700	4400	4400	4100	4100
395x85	40	7700	7700	6700	6700	6100	6100	5700	5700	5400	5400
	90	6500	6500	5600	5500	5000	5000	4700	4700	4500	4400
425x85	40	8100	8100	7100	7000	6400	6400	6000	6000	5700	5700
	90	6900	6800	5900	5800	5300	5300	5000	4900	4700	4700

Single span Verandah beam
AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended verandah span (mm)									
		Single span									
165x115	40	4400	4400	3700	3700	3300	3200	3000	3000	2800	2800
	90	3600	3500	2900	2900	2500	2600	2300	2300	2100	2100
195x115	40	5000	5000	4300	4300	3900	3800	3500	3500	3300	3200
	90	4200	4200	3400	3400	3000	3000	2700	2700	2500	2600
230x115	40	5600	5600	4800	4800	4400	4400	4100	4100	3900	3800
	90	4700	4700	4000	4000	3500	3500	3200	3200	3000	3000
260x115	40	6100	6100	5300	5300	4800	4800	4500	4500	4300	4300
	90	5100	5100	4400	4400	4000	3900	3600	3600	3400	3300
295x115	40	6700	6700	5800	5800	5300	5300	4900	4900	4700	4700
	90	5600	5600	4800	4800	4400	4300	4100	4100	3800	3800
330x115	40	7200	7200	6300	6200	5700	5700	5400	5400	5100	5100
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
360x115	40	7700	7600	6700	6700	6100	6100	5700	5700	5400	5400
	90	6500	6500	5600	5600	5100	5100	4700	4700	4500	4500
395x115	40	8200	8100	7100	7100	6500	6500	6100	6100	5800	5800
	90	6900	6900	6000	5900	5400	5400	5100	5000	4800	4800
425x115	40	8600	8500	7500	7500	6900	6900	6400	6500	6100	6100
	90	7300	7300	6300	6300	5700	5700	5300	5300	5100	5000

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 70 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 70 mm at internal supports.
3. Restraint value for slenderness calculations is 1200 mm
4. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Continuous span Verandah beam
AS 4055 Classification C1, C2 & C3

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended verandah span (mm)									
		Continuous span									
200x60	*40*	*4300*	*4200*	*3000*	*3000*	*2400*	*2400*	*2100*	*1600*	*1600*	*1300*
	90	*4300*	*4200*	*3000*	*3000*	*2500*	*2600*	*2100*	*1600*	*1600*	*1400*
225x60	*40*	*4800*	*4800*	*3400*	*3300*	*2700*	*2800*	*2300*	*1800*	*1800*	*1800*
	90	*4800*	*4800*	*3400*	*3300*	*2800*	*2800*	*2300*	*1800*	*1800*	*1800_5*
250x60	*40*	*5300*	*5300*	*3800*	*3700*	*3000*	*3000*	*2600*	*2700*	*2200*	*1900*
	90	*5300*	*5300*	*3800*	*3700*	*3100*	*3100*	*2700_{15}*	*2700_{15}*	*2300_{15}*	*1900_{15}*
275x60	*40*	*5900*	*5800*	*4100*	*4100*	*3400*	*3200*	*2900_5*	*2900_5*	*2500_{10}*	*2500_{10}*
	90	*5700*	*5700*	*4200*	*4200*	*3400_{10}*	*3300_5*	*2900_{20}*	*2900_{20}*	*2500_{25}*	*2700_{35}*
300x60	*40*	*6400*	*6400*	*4500*	*4500*	*3700*	*3600*	*3200_{15}*	*3200_{15}*	*2600_{20}*	*2800_{25}*
	90	*6100*	*6100*	*4500*	*4500*	*3700_{15}*	*3600_{15}*	*3200_{30}*	*3200_{30}*	*2600_{35}*	*2900_{45}*
325x60	*40*	*7000*	*6900*	*4900*	*4900*	*4000_{10}*	*4000_{10}*	*3400_{20}*	*3300_{20}*	*3100_{35}*	*2900_{30}*
	90	*6400*	*6400*	*4900_5*	*4900_5*	*4000_{25}*	*4000_{25}*	*3500_{40}*	*3300_{35}*	*3100_{50}*	*3000_{50}*
350x60	*40*	*7500*	*7500*	*5300*	*5300*	*4300_{15}*	*4300_{15}*	*3700_{30}*	*3400_{20}*	*3300_{40}*	*3100_{35}*
	90	*6700*	*6800*	*5300_{10}*	*5300_{10}*	*4300_{30}*	*4300_{30}*	*3700_{45}*	*3400_{40}*	*3400_{70}*	*3100_{55}*
375x60	*40*	*8100*	*8000*	*5700_5*	*5600_5*	*4600_{20}*	*4600_{20}*	*4000_{35}*	*3500_{25}*	*3400_{45}*	*3300_{45}*
	90	*7000*	*7100*	*5700_{20}*	*5600_{20}*	*4600_{40}*	*4600_{40}*	*4000_{55}*	*3900_{55}*	*3500_{80}*	*3000_{50}*
400x60	*40*	*8300*	*8600*	*6100_{10}*	*6000_{10}*	*4900_{30}*	*4900_{30}*	*4200_{45}*	*4200_{45}*	*3600_{50}*	*3300_{40}*
	90	*7300*	*7500*	*6100_{25}*	*6000_{25}*	*5000_{50}*	*4900_{45}*	*4300_{75}*	*4300_{75}*	*3700_{90}*	*3300_{65}*
130x65	40	3100	3100	2200	2100	1700	1500	1500	1300	1400	NS
	90	3200	3100	2200	2100	1800	1700	1500	1400	1400	NS
165x65	40	4000	4000	2800	2800	2200	2200	2000	1600	1600	1400
	90	4000	4000	2800	2800	2300	2200	2000	1900	1600	1400
195x65	40	4700	4700	3300	3200	2700	2700	2300	2200	2100	1600
	90	4500	4500	3400	3300	2700	2800	2300	2200	2100	1600
230x65	40	5600	5500	3900	3900	3200	3200	2800	2800	2400	2400
	90	5100	5200	4000	3900	3200	3200	2800_5	2800_5	2400_{15}	2500_{15}
260x65	40	6300	6300	4400	4400	3600	3500	3100	3100	2800_{10}	2800_{10}
	90	5600	5600	4500	4400	3600_5	3600_5	3200_{15}	3100_{15}	2800_{25}	2800_{30}
295x65	40	7200	7100	5000	5000	4100	4100	3500_{15}	3400_{10}	3200_{20}	3100_{20}
	90	6200	6200	5100	5100	4100_{15}	4100_{15}	3600_{30}	3500_{25}	3200_{40}	3200_{40}
330x65	40	7700	8000	5600	5600	4600_{10}	4500_{10}	4000_{25}	3900_{20}	3600_{35}	3300_{30}
	90	6600	6700	5700_5	5700_5	4700_{25}	4600_{25}	4000_{40}	4000_{40}	3600_{55}	3300_{45}
360x65	40	8100	8600	6100	6100	5000_{15}	5000_{15}	4300_{30}	4300_{30}	3900_{45}	3400_{35}
	90	7000	7100	6100_{10}	6100_{15}	5100_{35}	5100_{35}	4400_{50}	4400_{50}	3900_{75}	3700_{60}
395x65	40	8500	9100	6700	6700_{10}	5500_{25}	5500_{25}	4800_{40}	4700_{40}	4200_{55}	4200_{55}
	90	7400	7600	6500_{20}	6500_{20}	5600_{45}	5600_{45}	4800_{70}	4700_{65}	4300_{95}	4300_{95}
425x65	40	8900	9600	7300_{15}	7200_{15}	5900_{35}	5900_{35}	5100_{50}	5100_{50}	4600_{75}	4600_{75}
	90	7700	8100	6800_{20}	6800_{25}	6000_{55}	5900_{55}	5200_{90}	5200_{90}	4600_{105}	4600_{105}
200x80	*40*	*4900*	*5000*	*3500*	*3400*	*2800*	*2800*	*2400*	*2400*	*2200*	*1700*
	90	*4800*	*4800*	*3500*	*3400*	*2800*	*2800*	*2500*	*2600*	*2200*	*1700*
225x80	*40*	*5600*	*5500*	*3900*	*3900*	*3200*	*3100*	*2700*	*2800*	*2400*	*2400*
	90	*5300*	*5300*	*3900*	*3900*	*3200*	*3200*	*2800*	*2800*	*2400*	*2500*

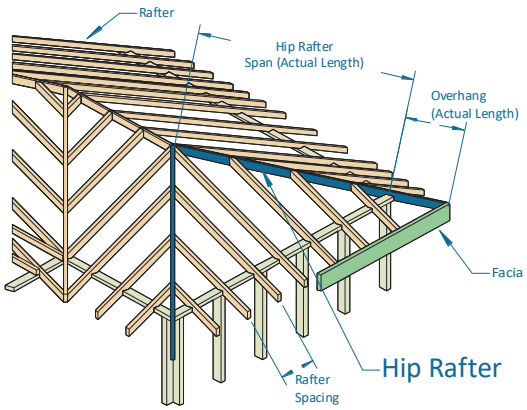
Continuous span Verandah beam
AS 4055 Classification C1, C2 & C3

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended verandah span (mm)									
		Continuous span									
250x80	*40*	*6200*	*6100*	*4300*	*4300*	*3500*	*3500*	*3000*	*3000*	*2700*	*2700*
	90	*5700*	*5700*	*4400*	*4300*	*3600*	*3500*	*3100*	*3100*	*2800_{10}*	*2800_{10}*
275x80	*40*	*6800*	*6800*	*4800*	*4700*	*3900*	*3800*	*3400*	*3200*	*3000_{5}*	*3000_{5}*
	90	*6100*	*6100*	*4800*	*4700*	*3900*	*3900*	*3400_{10}*	*3300_{5}*	*3000_{20}*	*3000_{15}*
300x80	*40*	*7400*	*7500*	*5200*	*5200*	*4200*	*4200*	*3700*	*3600*	*3300_{10}*	*3200_{10}*
	90	*6500*	*6500*	*5200*	*5200*	*4300_{5}*	*4300_{5}*	*3700_{15}*	*3600_{15}*	*3300_{25}*	*3200_{25}*
325x80	*40*	*7800*	*8100*	*5700*	*5600*	*4600*	*4600*	*4000_{10}*	*4000_{10}*	*3600_{20}*	*3300_{15}*
	90	*6800*	*6800*	*5700*	*5700*	*4700_{10}*	*4600_{10}*	*4000_{25}*	*4000_{25}*	*3600_{35}*	*3300_{30}*
350x80	*40*	*8100*	*8500*	*6100*	*6000*	*5000_{5}*	*5000_{5}*	*4300_{15}*	*4300_{15}*	*3800_{25}*	*3400_{15}*
	90	*7100*	*7200*	*6100*	*6100*	*5000_{15}*	*5000_{15}*	*4300_{30}*	*4300_{30}*	*3900_{45}*	*3800_{40}*
375x80	*40*	*8400*	*8900*	*6500*	*6500*	*5300_{10}*	*5300_{10}*	*4600_{20}*	*4600_{20}*	*4100_{30}*	*4100_{35}*
	90	*7400*	*7600*	*6500_{5}*	*6500_{5}*	*5300_{25}*	*5400_{25}*	*4600_{40}*	*4600_{40}*	*4100_{50}*	*4100_{50}*
400x80	*40*	*8700*	*9300*	*7000*	*7000*	*5700_{15}*	*5700_{15}*	*4900_{30}*	*4900_{30}*	*4400_{40}*	*4400_{40}*
	90	*7700*	*8000*	*6800_{10}*	*6800_{10}*	*5700_{30}*	*5700_{30}*	*5000_{50}*	*4900_{45}*	*4400_{65}*	*4400_{65}*
195x85	40	5400	5400	3800	3700	3100	3100	2700	2700	2300	2200
	90	4800	4900	3800	3800	3100	3100	2700	2700	2400	2400
230x85	40	6400	6400	4500	4400	3600	3600	3200	3100	2800	2800
	90	5500	5500	4500	4500	3700	3600	3200	3200	2800_{5}	2900_{5}
260x85	40	7000	7200	5100	5100	4100	4100	3600	3500	3200	3100
	90	6000	6000	5100	5100	4200	4200	3600_{5}	3500_{5}	3200_{15}	3100_{10}
295x85	40	7500	7800	5800	5700	4700	4600	4000	4000	3600_{10}	3500_{10}
	90	6500	6600	5600	5600	48005	4700	4100_{15}	4100_{15}	3700_{25}	3600_{25}
330x85	40	8100	8500	6400	6400	5200	5300	4500_{10}	4500_{10}	4100_{20}	4000_{20}
	90	7000	7100	6100	6100	5300_{10}	5300_{10}	4600_{25}	4600_{25}	4100_{35}	4100_{40}
360x85	40	8500	9000	7000	7000	5700_{5}	5700_{5}	5000_{20}	4900_{20}	4400_{30}	4400_{30}
	90	7400	7600	6500	6500	5800_{20}	5700_{20}	5000_{35}	5000_{35}	4500_{50}	4500_{50}
395x85	40	9000	9600	7700	7700	6300_{15}	6300_{15}	5400_{25}	5400_{25}	4900_{40}	4800_{40}
	90	7800	8100	6800	6900	6300_{30}	6300_{30}	5500_{45}	5500_{45}	4900_{65}	4900_{65}
425x85	40	9400	10100	8300_{5}	8300_{5}	6800_{20}	6800_{20}	5900_{35}	5800_{35}	5200_{50}	5200_{45}
	90	8100	8600	7100_{5}	7300_{5}	6600_{35}	6600_{35}	5900_{55}	5900_{55}	5300_{85}	5300_{85}
195x115	40	6200	6200	4400	4400	3600	3500	3100	3100	2800	2800
	90	5200	5200	4400	4400	3600	3600	3200	3100	2800	2800
230x115	40	6900	7000	5200	5200	4200	4200	3700	3600	3300	3200
	90	5900	5900	5000	5000	4300	4300	3700	3600	3300	3300
260x115	40	7400	7600	5900	5900	4800	4800	4100	4100	3700	3600
	90	6400	6400	5500	5500	4800	4800	4200	4200	3800	3700
295x115	40	7900	8300	6700	6700	5500	5400	4700	4700	4200	4200
	90	6900	7000	6000	6000	5400	5500	4800_{5}	4700	4300_{10}	4300_{10}
330x115	40	8400	9000	7500	7500	6100	6100	5300	5300	4800_{10}	4700_{5}
	90	7400	7600	6500	6500	5900	5900	5300_{10}	5300_{10}	4800_{20}	4700_{20}
360x115	40	8900	9500	7900	8200	6700	6700	5800_{5}	5700_{5}	5200_{15}	5200_{15}
	90	7700	8100	6900	6900	6300	6300	5800_{20}	5800_{20}	5200_{30}	5200_{30}
395x115	40	9400	10200	8300	8900	7300	7300	6300_{15}	6300_{10}	5700_{25}	5600_{25}
	90	8200	8700	7200	7400	6700_{5}	6700_{10}	6300_{30}	6300_{25}	5700_{40}	5700_{40}
425x115	40	9900	10700	8700	9300	7900_{10}	7900_{10}	6800_{20}	6800_{20}	6100_{30}	6000_{30}
	90	8600	9100	7600	7800	7000_{10}	7100_{15}	6600_{35}	6700_{35}	6200_{50}	6100_{50}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 35 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 70 mm at internal supports.
3. Restraint value for slenderness calculations is 1200 mm
4. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Hip rafter - sheet and tile roof
AS 4055 Classification N1, N2, N3, N4, C1, C2 &C3



EXAMPLE:

wind speed = N3
roof load = 40 kg/m2 (sheet roof)
hip rafter span = 4500 mm (single span)
rafter spacing = 600 mm

Enter column at (N1,N2 & N3) wind speed, 600 mm rafter spacing and read down to span equal to or greater than 4500 mm for a 40 kg/m^2 roof load

ADOPT:
SmartLam GL13C - 225 x 60

Wind speed		N1, N2, N3 & N4				C1, C2 & C3			
Rafter spacing (mm)		600		1200		600		1200	
Member size (GL13C) DxB (mm)	Roof & ceiling mass (kg/m^2)	Maximum recommended rafter span + overhang span (mm)							
		Span	Overhang	Span	Overhang	Span	Overhang	Span	Overhang
200x60	*40*	*4100*	*750*	*4100*	*650*	*3800*	*750*	*3800*	*650*
	90	*3600*	*650*	*3600*	*550*	*3600*	*650*	*3600*	*550*
225x60	*40*	*4500*	*900*	*4500*	*750*	*4100*	*800*	*4100*	*750*
	90	*3900*	*750*	*3900*	*600*	*3900*	*750*	*3900*	*600*
250x60	*40*	*4700*	*900*	*4700*	*850*	*4400*	*800*	*4400*	*850*
	90	*4200*	*800*	*4200*	*700*	*4200*	*800*	*4200*	*700*
275x60	*40*	*5000*	*1000*	*5000*	*1000*	*4600*	*900*	*4600*	*900*
	90	*4400*	*800*	*4400*	*750*	*4400*	*800*	*4400*	*750*
300x60	*40*	*5300*	*1050*	*5300*	*1050*	*4900*	*900*	*4900*	*900*
	90	*4600*	*900*	*4600*	*850*	*4600*	*900*	*4600*	*850*
325x60	*40*	*5600*	*1100*	*5600*	*1100*	*5100*	*1000*	*5100*	*1000*
	90	*4900*	*900*	*4900*	*900*	*4900*	*900*	*4900*	*900*
350x60	*40*	*5800*	*1150*	*5800*	*1150*	*5400*	*1000*	*5400*	*1000*
	90	*5100*	*1000*	*5100*	*950*	*5100*	*1000*	*5100*	*950*
375x60	*40*	*6100*	*1200*	*6100*	*1200*	*5600*	*1100*	*5600*	*1100*
	90	*5300*	*1050*	*5300*	*1000*	*5300*	*1050*	*5300*	*1000*
400x60	*40*	*6300*	*1250*	*6300*	*1250*	*5800*	*1150*	*5800*	*1150*
	90	*5500*	*1100*	*5500*	*1050*	*5500*	*1100*	*5500*	*1050*
130x65	40	3200	600	3200	600	3000	600	3000	600
	90	2900	500	2900	550	2900	500	2900	550
165x65	40	3700	700	3700	700	3500	700	3500	700
	90	3300	650	3300	650	3300	650	3300	650
195x65	40	4100	800	4100	800	3800	750	3800	750
	90	3700	700	3700	700	3700	700	3700	700
230x65	40	4600	900	4600	900	4200	800	4200	800
	90	4000	800	4000	800	4000	800	4000	800
260x65	40	4900	900	4900	900	4600	900	4600	900
	90	4400	800	4400	800	4400	800	4400	800
295x65	40	5300	1050	5300	1050	4900	900	4900	900
	90	4700	900	4700	900	4700	900	4700	900
330x65	40	5700	1100	5700	1100	5300	1050	5300	1050
	90	5000	1000	5000	1000	5000	1000	5000	1000
360x65	40	6000	1200	6000	1200	5600	1100	5600	1100
	90	5300	1050	5300	1050	5300	1050	5300	1050
395x65	40	6400	1200	6400	1200	5900	1100	5900	1100
	90	5600	1100	5600	1100	5600	1100	5600	1100
425x65	40	6600	1300	6600	1300	6100	1200	6100	1200
	90	5900	1100	5800	1150	5800	1150	5900	1100
200x80	*40*	*4400*	*800*	*4400*	*850*	*4100*	*800*	*4100*	*800*
	90	*3800*	*750*	*3800*	*650*	*3800*	*750*	*3800*	*650*
225x80	*40*	*4700*	*900*	*4700*	*900*	*4400*	*800*	*4400*	*800*
	90	*4100*	*800*	*4100*	*750*	*4100*	*800*	*4100*	*750*
250x80	*40*	*5000*	*1000*	*5000*	*1000*	*4700*	*900*	*4700*	*900*
	90	*4400*	*800*	*4400*	*850*	*4400*	*800*	*4400*	*850*

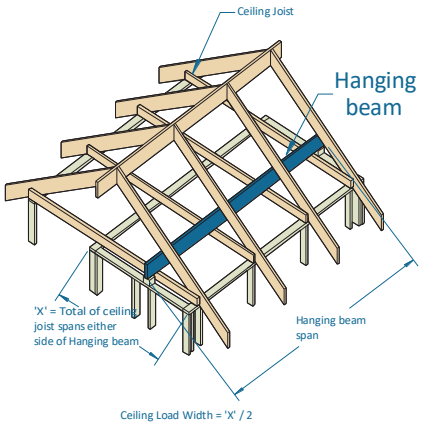
Hip rafter - sheet and tile roof
AS 4055 Classification N1, N2, N3, N4, C1, C2 &C3

Wind speed		N1, N2, N3 & N4				C1, C2 & C3			
Rafter spacing (mm)		600		1200		600		1200	
Member size (GL13C) DxB (mm)	Roof & ceiling mass (kg/m^2)	Maximum recommended rafter span + overhang span (mm)							
		Span	Overhang	Span	Overhang	Span	Overhang	Span	Overhang
275x80	*40*	*5300*	*1050*	*5300*	*1050*	*4900*	*900*	*4900*	*900*
	90	*4700*	*900*	*4700*	*900*	*4700*	*900*	*4700*	*900*
300x80	*40*	*5600*	*1100*	*5600*	*1100*	*5200*	*1000*	*5200*	*1000*
	90	*4900*	*900*	*4900*	*900*	*4900*	*900*	*4900*	*900*
325x80	*40*	*5900*	*1100*	*5900*	*1100*	*5400*	*1000*	*5500*	*1100*
	90	*5100*	*1000*	*5100*	*1000*	*5100*	*1000*	*5100*	*1000*
350x80	*40*	*6200*	*1200*	*6200*	*1200*	*5700*	*1100*	*5700*	*1100*
	90	*5400*	*1000*	*5400*	*1000*	*5400*	*1000*	*5400*	*1000*
375x80	*40*	*6400*	*1200*	*6400*	*1200*	*5900*	*1100*	*5900*	*1100*
	90	*5600*	*1100*	*5600*	*1100*	*5600*	*1100*	*5600*	*1100*
400x80	*40*	*6700*	*1300*	*6700*	*1300*	*6200*	*1200*	*6200*	*1200*
	90	*5800*	*1150*	*5800*	*1150*	*5800*	*1150*	*5800*	*1150*
130x85	40	3400	600	3400	600	3200	600	3200	600
	90	3000	600	3000	600	3000	600	3000	600
165x85	40	4000	800	4000	800	3700	700	3700	700
	90	3500	700	3500	700	3500	700	3500	700
195x85	40	4400	800	4400	800	4000	800	4000	800
	90	3900	700	3900	700	3900	700	3900	700
230x85	40	4800	950	4800	950	4500	900	4500	900
	90	4300	850	4300	850	4300	850	4300	850
260x85	40	5200	1000	5200	1000	4800	950	4800	950
	90	4600	900	4600	900	4600	900	4600	900
295x85	40	5600	1100	5600	1100	5200	1000	5200	1000
	90	4900	900	4900	900	4900	900	4900	900
330x85	40	6000	1200	6000	1200	5600	1100	5600	1100
	90	5300	1050	5300	1050	5300	1050	5300	1050
360x85	40	6300	1250	6300	1250	5900	1100	5900	1100
	90	5600	1100	5600	1100	5600	1100	5600	1100
395x85	40	6700	1300	6700	1300	6200	1200	6200	1200
	90	5900	1100	5900	1100	5900	1100	5900	1100
425x85	40	7000	1400	7000	1400	6500	1300	6500	1300
	90	6200	1200	6200	1200	6200	1200	6200	1200

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Minimum Backspan = 200 % of overhang
4. Maximum Birdsmouth depth = 30 % of depth
5. End bearing length = 35 at end supports and 35 mm. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end support.
6. Construction loads shall not be applied to overhangs until a 190 x 1 9 mm (min) timber fascia or other fascia of equivalent stiffness is rigidly and permanently attached to the end of rafter overhangs
7. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Hanging beam supporting ceiling loads only
AS 4055 Classification N1, N2, N3 & N4



ceiling mass - 20 kg/m^2

EXAMPLE:

Wind speed = N3
X = 5000 mm
Ceiling load width = X/2 = 5000/2 = 2500 mm
Hanging beam span = 4200 mm

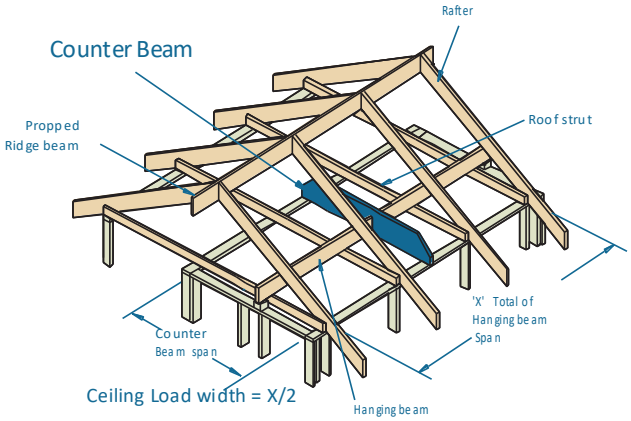
Enter column at 3000 mm ceiling load width & read down to a span greater than or equal to 4200 mm

ADOPT:
SmartLam GL13C - 200 x 60

Ceiling load width (mm)	1800	2400	3000	3600	4200	4800
Member size (GL13C) DxB (mm)	Maximum recommended Hanging beam span (mm)					
200x60	*4900*	*4600*	*4300*	*4100*	*3900*	*3700*
225x60	*5300*	*5000*	*4700*	*4500*	*4300*	*4100*
250x60	*5700*	*5400*	*5100*	*4800*	*4600*	*4400*
275x60	*6100*	*5700*	*5400*	*5200*	*4900*	*4700*
300x60	*6500*	*6100*	*5800*	*5500*	*5300*	*5100*
325x60	*6900*	*6400*	*6100*	*5800*	*5600*	*5400*
350x60	*7200*	*6800*	*6400*	*6100*	*5900*	*5700*
130x65	3700	3400	3100	2900	2700	2600
165x65	4400	4100	3800	3600	3400	3300
195x65	5000	4600	4300	4100	3900	3800
230x65	5600	5200	4900	4700	4400	4300
265x65	6200	5800	5400	5200	4900	4700
295x65	6700	6200	5900	5600	5300	5100
330x65	7200	6800	6400	6100	5800	5600
360x65	7700	7200	6800	6500	6200	5900
200x80	*5200*	*4800*	*4600*	*4400*	*4200*	*4000*
225x80	*5600*	*5300*	*5000*	*4700*	*4500*	*4400*
250x80	*6000*	*5700*	*5400*	*5100*	*4900*	*4700*
275x80	*6500*	*6100*	*5700*	*5500*	*5300*	*5100*
300x80	*6800*	*6400*	*6100*	*5800*	*5600*	*5400*
325x80	*7200*	*6800*	*6500*	*6200*	*5900*	*5700*
350x80	*7600*	*7100*	*6800*	*6500*	*6200*	*6000*
130x85	3900	3700	3400	3200	3000	2800
165x85	4700	4300	4100	3900	3700	3600
195x85	5300	4900	4600	4400	4200	4000
230x85	5900	5500	5200	5000	4700	4500
295x85	7100	6600	6200	5900	5700	5500
330x85	7600	7100	6800	6400	6200	5900
360x85	8100	7600	7200	6800	6600	6300

Counter beam supporting hanging beam
AS 4055 Classification N1, N2, N3 & N4

Ceiling mass - 20 kg/m^2



EXAMPLE:

wind speed = N3
total of hanging beam SPAN = 6400 mm
ceiling load width = 'X' / 2 = 6400 / 2 = 3200 mm
counter beam span = 4500 mm

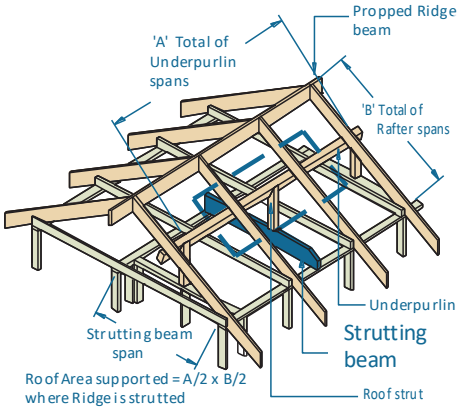
Enter column at 3600 mm ceiling load width and read down to a span greater than or equal to 4500 mm

ADOPT:

SmartLam GL13C - 200 x 60

Ceiling load width (mm)	600	1800	2400	3000	3600	4200	4800	5400	6600
Member size (GL13C) DxB (mm)	Maximum recommended Counter beam span (mm)								
200x60	*6600*	*5600*	*5300*	*5100*	*4900*	*4700*	*4600*	*4400*	*4200*
225x60	*7100*	*6100*	*5700*	*5500*	*5300*	*5100*	*5000*	*4800*	*4600*
250x60	*7600*	*6500*	*6200*	*5900*	*5700*	*5500*	*5400*	*5200*	*5000*
275x60	*8100*	*6900*	*6600*	*6300*	*6100*	*5900*	*5700*	*5600*	*5400*
300x60	*8500*	*7400*	*7000*	*6700*	*6500*	*6300*	*6100*	*6000*	*5700*
325x60	*8900*	*7800*	*7400*	*7100*	*6900*	*6600*	*6500*	*6300*	*6100*
350x60	*9300*	*8100*	*7800*	*7500*	*7200*	*7000*	*6800*	*6700*	*6400*
375x60	*9700*	*8500*	*8100*	*7800*	*7600*	*7300*	*7200*	*7000*	*6700*
400x60	*10000*	*8900*	*8500*	*8200*	*7900*	*7700*	*7500*	*7300*	*7000*
130x65	5300	4200	3900	3600	3400	3300	3100	3000	2800
165x65	6200	5100	4800	4500	4300	4100	4000	3800	3600
195x65	6900	5700	5400	5100	4900	4800	4600	4500	4200
230x65	7700	6400	6100	5800	5600	5400	5200	5100	4800
260x65	8300	7000	6600	6300	6100	5900	5700	5600	5300
295x65	9000	7600	7200	6900	6600	6400	6200	6100	5800
330x65	9700	8200	7800	7500	7200	7000	6800	6600	6300
360x65	10200	8700	8300	7900	7600	7400	7200	7000	6700
395x65	10800	9300	8800	8500	8200	7900	7700	7500	7200
425x65	11200	9800	9300	8900	8600	8300	8100	7900	7600
200x80	*6800*	*5900*	*5600*	*5400*	*5200*	*5000*	*4900*	*4700*	*4500*
225x80	*7300*	*6400*	*6100*	*5800*	*5600*	*5400*	*5300*	*5200*	*4900*
250x80	*7800*	*6800*	*6500*	*6200*	*6000*	*5900*	*5700*	*5600*	*5300*
275x80	*8300*	*7300*	*6900*	*6700*	*6400*	*6300*	*6100*	*6000*	*5700*
300x80	*8700*	*7700*	*7300*	*7100*	*6800*	*6700*	*6500*	*6300*	*6100*
325x80	*9100*	*8100*	*7700*	*7500*	*7200*	*7000*	*6900*	*6700*	*6400*
350x80	*9500*	*8500*	*8100*	*7800*	*7600*	*7400*	*7200*	*7100*	*6800*
375x80	*9900*	*8900*	*8500*	*8200*	*8000*	*7800*	*7600*	*7400*	*7100*
400x80	*10300*	*9200*	*8900*	*8600*	*8300*	*8100*	*7900*	*7800*	*7400*
165x85	6500	5400	5100	4800	4600	4500	4300	4200	3900
195x85	7200	6000	5700	5400	5200	5100	4900	4800	4600
230x85	8000	6800	6400	6100	5900	5700	5500	5400	5200
260x85	8600	7300	7000	6700	6400	6200	6000	5900	5600
295x85	9300	8000	7600	7300	7000	6800	6600	6500	6200
330x85	9900	8600	8200	7900	7600	7400	7200	7000	6700
360x85	10500	9100	8700	8300	8100	7800	7600	7400	7100
395x85	11000	9700	9200	8900	8600	8400	8100	8000	7600
425x85	11500	10200	9700	9300	9000	8800	8600	8400	8000

Strutting beam supporting underpurlins
AS 4055 Classification N1, N2, N3 & N4



EXAMPLE:
wind speed = N3
sheet roof = 20 kg/m^2
total of underpurlin span 'A'= 5000 mm
total of rafter span 'B' = 4200 mm
roof area supported = (A/2) x (B/2)
= (5000/2) x (4200/2)
= 5250000 mm^2 **(convert to m^2)**
= 5250000/1000000 = 5.25 m^2
strutting beam span = 4500 mm

Enter column at 6m^2 roof area supported and read down to a span greater than or equal to 4500 mm

ADOPT: SmartLam GL13C - 200 x 60

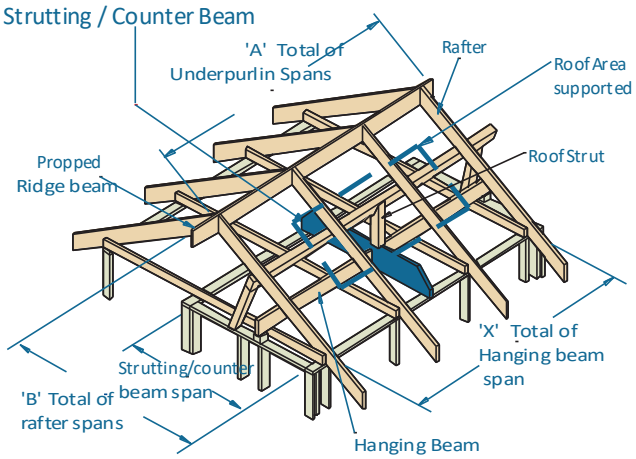
Roof area supported (m^2)		2	4	6	8	10	12
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting beam span (mm)					
200x60	*20*	*6200*	*5400*	*4800*	*3800*	*3000*	*2500*
	60	*5200*	*4200*	*3500*	*3000*	*2600*	*2200*
225x60	*20*	*6800*	*5900*	*5400*	*4900*	*3900*	*3200*
	60	*5700*	*4800*	*4100*	*3600*	*3200*	*2800*
250x60	*20*	*7300*	*6500*	*5900*	*5500*	*4800*	*4000*
	60	*6300*	*5300*	*4700*	*4200*	*3800*	*3400*
275x60	*20*	*7800*	*7000*	*6400*	*6000*	*5600*	*4800*
	60	*6800*	*5700*	*5100*	*4700*	*4400*	*4000*
300x60	*20*	*8300*	*7500*	*6900*	*6500*	*6100*	*5800*
	60	*7300*	*6200*	*5600*	*5100*	*4800*	*4500*
325x60	*20*	*8800*	*8000*	*7400*	*6900*	*6600*	*6200*
	60	*7800*	*6700*	*6000*	*5500*	*5200*	*4900*
350x60	*20*	*9200*	*8400*	*7800*	*7400*	*7000*	*6700*
	60	*8200*	*7100*	*6400*	*5900*	*5500*	*5200*
375x60	*20*	*9600*	*8900*	*8300*	*7800*	*7400*	*7100*
	60	*8700*	*7500*	*6800*	*6300*	*5900*	*5600*
400x60	*20*	*10000*	*9300*	*8700*	*8200*	*7800*	*7500*
	60	*9100*	*8000*	*7200*	*6700*	*6300*	*5900*
195x65	20	6200	5500	4900	4500	3700	3100
	60	5300	4200	3500	3100	2700	2500
230x65	20	7300	6400	5700	5300	5000	4300
	60	6100	5100	4500	3900	3500	3200
260x65	20	8100	7100	6400	5900	5600	5300
	60	6800	5700	5000	4600	4200	3900
295x65	20	8900	7900	7200	6700	6300	5900
	60	7600	6400	5700	5200	4900	4600
330x65	20	9600	8600	7900	7400	6900	6600
	60	8300	7100	6300	5800	5400	5100
360x65	20	10200	9200	8500	7900	7500	7100
	60	8900	7600	6800	6300	5900	5600
395x65	20	10800	9900	9200	8600	8100	7800
	60	9600	8300	7400	6900	6400	6100
200x80	*20*	*6500*	*5700*	*5200*	*4800*	*4100*	*3400*
	60	*5500*	*4600*	*4000*	*3500*	*3100*	*2900*
225x80	*20*	*7100*	*6300*	*5800*	*5400*	*5100*	*4300*
	60	*6100*	*5200*	*4600*	*4100*	*3700*	*3400*
250x80	*20*	*7600*	*6900*	*6300*	*5900*	*5600*	*5300*
	60	*6700*	*5700*	*5100*	*4700*	*4300*	*4000*
275x80	*20*	*8100*	*7400*	*6800*	*6400*	*6100*	*5800*
	60	*7200*	*6200*	*5600*	*5100*	*4800*	*4500*
300x80	*20*	*8600*	*7900*	*7300*	*6900*	*6600*	*6300*
	60	*7700*	*6700*	*6000*	*5600*	*5200*	*4900*
325x80	*20*	*9000*	*8300*	*7800*	*7400*	*7000*	*6700*
	60	*8200*	*7100*	*6500*	*6000*	*5600*	*5300*
350x80	*20*	*9400*	*8800*	*8300*	*7800*	*7500*	*7200*
	60	*8600*	*7600*	*6900*	*6400*	*6000*	*5700*
375x80	*20*	*9900*	*9200*	*8700*	*8300*	*7900*	*7600*
	60	*9000*	*8000*	*7300*	*6800*	*6400*	*6100*
400x80	*20*	*10200*	*9600*	*9100*	*8700*	*8300*	*8000*
	60	*9500*	*8400*	*7700*	*7200*	*6800*	*6500*

Strutting beam supporting underpurlins
AS 4055 Classification N1, N2, N3 & N4

Roof area supported (m^2)		2	4	6	8	10	12
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting beam span (mm)					
195x85	20	6800	5900	5300	4900	4600	4100
	60	5700	4700	4000	3500	3100	2900
230x85	20	7700	6800	6200	5700	5400	5100
	60	6500	5500	4900	4400	4000	3700
260x85	20	8400	7500	6900	6400	6000	5700
	60	7300	6100	5500	5000	4700	4400
295x85	20	9200	8300	7600	7100	6700	6400
	60	8000	6900	6100	5600	5300	5000
330x85	20	9900	9000	8400	7900	7400	7100
	60	8800	7600	6800	6300	5900	5600
360x85	20	10500	9600	9000	8500	8000	7700
	60	9400	8200	7400	6800	6400	6000
395x85	20	11100	10300	9700	9100	8700	8300
	60	10100	8800	8000	7400	7000	6600
425x85	20	11700	10800	10200	9700	9200	8900
	60	10600	9400	8500	7900	7400	7100

Strutting/counter beam supporting underpurlins & hanging beam
AS 4055 Classification N1, N2, N3 & N4

Ceiling mass - 20 kg/m^2



Roof Area supported = A/2xB/2 Counter/Strutting beam spacing = X/2

EXAMPLE:
wind speed = N3
sheet roof = 40kg/m^2
total of underpurlin span 'A'= 5000 mm
total of rafter span 'B' = 4200 mm
roof area supported = (A/2) x (B/2)
= (5000/2) x (4200/2)
= 5250000 mm^2 **(convert to m^2)**
= 5250000/1000000 = 5.25 m^2
total of hanging beam span 'X' = 4500 mm
effective beam spacing = 'X' / 2 = 4500 / 2 = 2250 mm
strutting/counter beam span = 4500 mm

Enter column at 3600 mm effective beam spacing, 6m^2 roof area supported and read down to a span greater than or equal to 4500 mm

ADOPT: SmartLam GL13C - 275 x 60

Effective beam spacing (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting/Counter beam span (mm)											
200x60	40	4400	3900	3600	2700	2100	1700	4000	3700	3400	2800	2200	1800
	90	3900	3300	2800	2300	1900	1600	3700	3100	2700	2300	1900	1600
225x60	40	4800	4400	4000	3400	2700	2200	4400	4100	3800	3500	2800	2300
	90	4400	3800	3300	2900	2400	2000	4100	3600	3200	2800	2300	2000
250x60	40	5200	4800	4400	4100	3400	2800	4700	4400	4200	4000	3500	2800
	90	4800	4100	3700	3400	2900	2500	4400	4000	3600	3300	2900	2400
275x60	40	5600	5200	4800	4500	4100	3400	5100	4800	4500	4300	4100	3400
	90	5200	4500	4100	3800	3500	3000	4800	4300	3900	3700	3400	2900
300x60	40	6000	5500	5200	4900	4600	4100	5400	5100	4900	4600	4400	4200
	90	5500	4900	4400	4100	3900	3500	5100	4600	4300	4000	3800	3400
325x60	40	6400	5900	5500	5200	5000	4800	5800	5500	5200	5000	4800	4600
	90	5900	5200	4800	4400	4200	4000	5500	5000	4600	4300	4100	3900
350x60	40	6700	6300	5900	5600	5300	5100	6100	5800	5500	5300	5100	4900
	90	6300	5600	5100	4800	4500	4200	5800	5300	4900	4600	4400	4200
375x60	40	7100	6600	6200	5900	5700	5400	6400	6100	5800	5600	5400	5200
	90	6600	5900	5400	5100	4800	4500	6100	5600	5200	4900	4600	4400
400x60	40	7400	6900	6600	6300	6000	5800	6700	6400	6100	5900	5700	5500
	90	6900	6300	5800	5400	5100	4800	6400	5900	5500	5200	4900	4700
165x65	40	3900	3400	2900	2300	1800	1500	3500	3100	2800	2400	1900	1500
	90	3400	2600	2200	1900	1700	1400	3100	2500	2100	1900	1600	1400
195x65	40	4400	4000	3600	3300	2600	2200	4000	3700	3400	3100	2700	2200
	90	4000	3300	2800	2500	2200	1900	3700	3100	2700	2400	2200	1900
230x65	40	5100	4600	4200	4000	3700	3000	4600	4300	4000	3800	3600	3100
	90	4600	4000	3600	3200	2900	2600	4300	3800	3400	3100	2800	2600
260x65	40	5600	5100	4700	4400	4200	3900	5000	4700	4400	4200	4000	3900
	90	5100	4400	4000	3700	3400	3100	4700	4200	3900	3600	3300	3100
295x65	40	6200	5700	5300	5000	4700	4500	5500	5200	4900	4700	4500	4300
	90	5700	5000	4500	4200	3900	3700	5200	4700	4300	4000	3800	3600
330x65	40	6700	6200	5800	5500	5200	5000	6000	5700	5400	5200	5000	4800
	90	6200	5500	5000	4600	4400	4100	5700	5200	4800	4500	4200	4000
360x65	40	7200	6600	6300	5900	5600	5400	6400	6100	5800	5600	5400	5200
	90	6600	5900	5400	5000	4700	4500	6100	5600	5200	4900	4600	4400
395x65	40	7700	7200	6700	6400	6100	5900	6900	6500	6300	6000	5800	5600
	90	7200	6400	5900	5500	5200	4900	6500	6000	5600	5300	5000	4800
425x65	40	8100	7600	7200	6800	6500	6300	7200	6900	6600	6400	6200	6000
	90	7600	6800	6300	5900	5500	5300	6900	6400	6000	5600	5400	5100

Strutting/counter beam supporting underpurlins & hanging beam AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

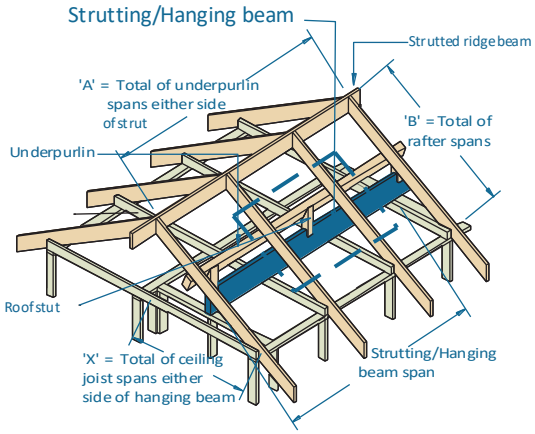
Ceiling mass - 20 kg/m^2

Effective beam spacing (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting/Counter beam span (mm)											
200x80	*40*	*4700*	*4300*	*3900*	*3600*	*2900*	*2400*	*4300*	*4000*	*3700*	*3500*	*2900*	*2400*
	90	*4300*	*3700*	*3200*	*2800*	*2500*	*2100*	*4000*	*3500*	*3100*	*2700*	*2500*	*2100*
225x80	*40*	*5100*	*4700*	*4400*	*4100*	*3700*	*3000*	*4700*	*4400*	*4100*	*3900*	*3700*	*3100*
	90	*4700*	*4100*	*3700*	*3400*	*3000*	*2700*	*4400*	*3900*	*3600*	*3200*	*3000*	*2600*
250x80	*40*	*5600*	*5100*	*4800*	*4500*	*4300*	*3800*	*5100*	*4800*	*4500*	*4300*	*4100*	*3800*
	90	*5100*	*4500*	*4100*	*3800*	*3500*	*3300*	*4800*	*4300*	*3900*	*3700*	*3400*	*3200*
275x80	*40*	*6000*	*5500*	*5200*	*4900*	*4700*	*4500*	*5400*	*5100*	*4900*	*4600*	*4500*	*4300*
	90	*5500*	*4900*	*4500*	*4100*	*3900*	*3700*	*5100*	*4600*	*4300*	*4000*	*3800*	*3600*
300x80	*40*	*6400*	*5900*	*5600*	*5300*	*5000*	*4800*	*5800*	*5500*	*5200*	*5000*	*4800*	*4600*
	90	*5900*	*5300*	*4800*	*4500*	*4200*	*4000*	*5500*	*5000*	*4600*	*4300*	*4100*	*3900*
325x80	*40*	*6800*	*6300*	*6000*	*5700*	*5400*	*5200*	*6100*	*5800*	*5600*	*5300*	*5100*	*5000*
	90	*6300*	*5700*	*5200*	*4800*	*4600*	*4300*	*5800*	*5300*	*5000*	*4700*	*4400*	*4200*
350x80	*40*	*7100*	*6700*	*6300*	*6000*	*5800*	*5500*	*6500*	*6200*	*5900*	*5700*	*5500*	*5300*
	90	*6700*	*6000*	*5500*	*5200*	*4900*	*4600*	*6200*	*5700*	*5300*	*5000*	*4700*	*4500*
375x80	*40*	*7500*	*7000*	*6700*	*6400*	*6100*	*5900*	*6800*	*6500*	*6200*	*6000*	*5800*	*5600*
	90	*7000*	*6400*	*5900*	*5500*	*5200*	*5000*	*6500*	*6000*	*5600*	*5300*	*5100*	*4800*
400x80	*40*	*7800*	*7400*	*7000*	*6700*	*6500*	*6200*	*7100*	*6800*	*6600*	*6300*	*6100*	*5900*
	90	*7400*	*6700*	*6200*	*5800*	*5500*	*5300*	*6800*	*6300*	*5900*	*5600*	*5400*	*5100*
195x85	40	4800	4300	3900	3700	3400	2800	4300	4000	3700	3500	3300	2900
	90	4300	3700	3200	2800	2600	2300	4000	3500	3100	2700	2500	2300
230x85	40	5400	4900	4600	4300	4100	3900	4900	4600	4300	4100	3900	3700
	90	4900	4300	3900	3600	3200	3000	4600	4100	3700	3400	3200	2900
260x85	40	5900	5500	5100	4800	4500	4300	5400	5000	4800	4500	4300	4200
	90	5500	4800	4300	4000	3800	3600	5000	4500	4200	3900	3700	3500
295x85	40	6500	6000	5700	5400	5100	4900	5900	5600	5300	5100	4900	4700
	90	6100	5400	4900	4500	4300	4000	5600	5100	4700	4400	4100	4000
330x85	40	7100	6600	6200	5900	5600	5400	6400	6100	5800	5600	5400	5200
	90	6600	5900	5400	5000	4700	4500	6100	5600	5200	4900	4600	4400
360x85	40	7600	7100	6700	6400	6100	5800	6800	6500	6200	6000	5800	5600
	90	7100	6400	5800	5500	5100	4900	6500	6000	5600	5300	5000	4800
395x85	40	8100	7600	7200	6900	6600	6300	7300	7000	6700	6500	6200	6000
	90	7600	6900	6300	5900	5600	5300	7000	6400	6000	5700	5400	5200
425x85	40	8500	8000	7700	7300	7000	6800	7700	7400	7100	6900	6600	6400
	90	8000	7300	6800	6300	6000	5700	7400	6800	6400	6100	5800	5600

NOTES:

1. D = member depth, B = member breadth, NS = not suitable
2. Minimum bearing length = 70 mm at end supports
3. The above table was based on a maximum ceiling mass of 20 (kg/m^2)
4. Restraint value for slenderness calculations is 1500 mm
5. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Strutting/hanging beam
AS 4055 classification N1, N2, N3 & N4



Roof Area Supported =A/2 x B/2 Ceiling Load width = X/2

Ceiling mass - 20 kg/m^2

EXAMPLE:
wind speed = N3
sheet roof = 40 kg/m^2
A = 5000 mm, B = 4200 mm
roof area supported = (A/2) x (B/2)
= (5000/2) x (4200/2)
= 5250000 mm^2 **(convert to m^2)**
= 5250000/1000000 = 5.25 m^2
strutting/hanging beam span = 4200 mm
ceiling joist span ('X') = 4400 mm
ceiling load width = ['X' / 2) = 4400/2 = 2200 mm

Enter column at 3600 mm ceiling load width, 6 m^2 roof area supported and read down to a span greater than or equal to 4200 mm

ADOPT: SmartLam GL13C - 250 x 60

Ceiling load width (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting/Hanging beam span (mm)											
200x60	*20*	*4500*	*4200*	*3900*	*3700*	*3400*	*2900*	*3900*	*3700*	*3600*	*3400*	*3200*	*2800*
	60	*4100*	*3600*	*3200*	*2900*	*2600*	*2300*	*3700*	*3300*	*2900*	*2700*	*2500*	*2200*
225x60	*20*	*4900*	*4600*	*4400*	*4200*	*4000*	*3600*	*4300*	*4100*	*3900*	*3800*	*3700*	*3500*
	60	*4500*	*4000*	*3700*	*3400*	*3100*	*2800*	*4000*	*3700*	*3400*	*3100*	*2900*	*2700*
250x60	*20*	*5300*	*5000*	*4800*	*4500*	*4400*	*4200*	*4600*	*4400*	*4300*	*4100*	*4000*	*3900*
	60	*4900*	*4400*	*4100*	*3800*	*3600*	*3300*	*4400*	*4000*	*3800*	*3600*	*3300*	*3100*
275x60	*20*	*5700*	*5400*	*5200*	*4900*	*4700*	*4600*	*5000*	*4800*	*4600*	*4500*	*4300*	*4200*
	60	*5300*	*4800*	*4400*	*4100*	*3900*	*3700*	*4700*	*4400*	*4100*	*3900*	*3700*	*3600*
300x60	*20*	*6100*	*5800*	*5500*	*5300*	*5100*	*4900*	*5300*	*5100*	*5000*	*4800*	*4700*	*4600*
	60	*5700*	*5200*	*4800*	*4500*	*4200*	*4000*	*5100*	*4700*	*4400*	*4200*	*4000*	*3900*
325x60	*20*	*6500*	*6200*	*5900*	*5700*	*5500*	*5300*	*5600*	*5400*	*5300*	*5100*	*5000*	*4900*
	60	*6100*	*5500*	*5100*	*4800*	*4600*	*4300*	*5400*	*5000*	*4800*	*4500*	*4300*	*4200*
350x60	*20*	*6800*	*6500*	*6300*	*6000*	*5800*	*5600*	*5900*	*5800*	*5600*	*5500*	*5300*	*5200*
	60	*6400*	*5900*	*5500*	*5100*	*4900*	*4700*	*5700*	*5400*	*5100*	*4800*	*4600*	*4500*
375x60	*20*	*7200*	*6900*	*6600*	*6400*	*6200*	*6000*	*6300*	*6100*	*5900*	*5800*	*5600*	*5500*
	60	*6800*	*6200*	*5800*	*5500*	*5200*	*5000*	*6000*	*5700*	*5400*	*5100*	*4900*	*4700*
400x60	*20*	*7500*	*7200*	*7000*	*6700*	*6500*	*6300*	*6600*	*6400*	*6200*	*6100*	*5900*	*5800*
	60	*7100*	*6600*	*6200*	*5800*	*5500*	*5300*	*6300*	*6000*	*5700*	*5400*	*5200*	*5000*
195x65	20	4600	4200	4000	3800	3600	3400	3900	3700	3600	3400	3200	3100
	60	4100	3600	3200	2900	2600	2400	3700	3300	2900	2700	2500	2300
230x65	20	5200	4900	4600	4400	4200	4000	4400	4300	4100	4000	3800	3700
	60	4800	4200	3900	3600	3300	3100	4200	3900	3600	3400	3100	2900
260x65	20	5700	5400	5100	4900	4700	4500	4900	4700	4500	4400	4300	4100
	60	5300	4700	4300	4000	3800	3600	4600	4300	4000	3800	3600	3400
295x65	20	6300	5900	5700	5400	5200	5000	5400	5200	5000	4900	4700	4600
	60	5800	5300	4900	4500	4300	4100	5100	4800	4500	4300	4100	3900
330x65	20	6800	6500	6200	6000	5700	5600	5900	5700	5500	5400	5200	5100
	60	6400	5800	5400	5000	4800	4500	5600	5300	5000	4700	4500	4300
360x65	20	7300	7000	6700	6400	6200	6000	6300	6100	5900	5800	5600	5500
	60	6900	6300	5800	5500	5200	4900	6000	5700	5400	5100	4900	4700
395x65	20	7800	7500	7200	6900	6700	6500	6700	6500	6400	6200	6100	5900
	60	7400	6800	6300	5900	5600	5400	6500	6100	5800	5500	5300	5100
425x65	20	8200	7900	7600	7400	7100	6900	7100	6900	6700	6600	6400	6300
	60	7800	7200	6700	6300	6000	5800	6800	6500	6200	5900	5700	5500

Strutting/hanging beam
AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

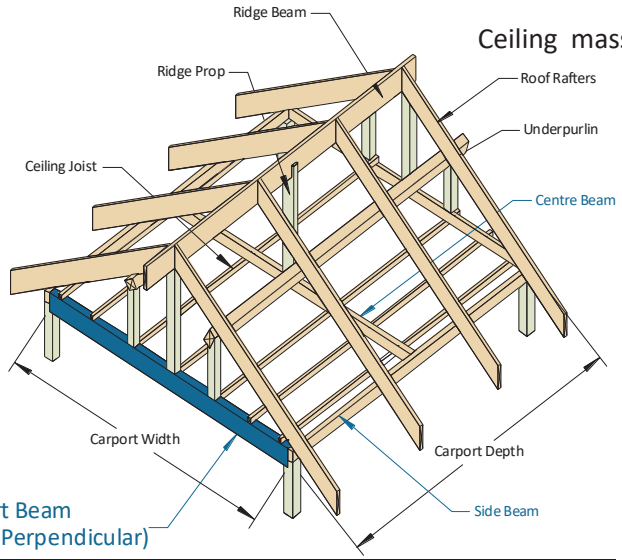
Ceiling mass - 20 kg/m^2

Ceiling load width (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting/Hanging beam span (mm)											
200x80	20	4800	4500	4300	4100	3900	3700	4200	4000	3800	3700	3600	3400
	60	4400	3900	3600	3200	3000	2700	3900	3600	3300	3000	2800	2600
225x80	20	5300	5000	4700	4500	4300	4100	4600	4400	4200	4100	4000	3800
	60	4900	4400	4000	3700	3500	3300	4300	4000	3700	3500	3300	3100
250x80	20	5700	5400	5100	4900	4700	4600	4900	4800	4600	4500	4300	4200
	60	5300	4800	4400	4100	3900	3700	4700	4400	4100	3900	3700	3600
275x80	20	6100	5800	5500	5300	5100	4900	5300	5100	5000	4800	4700	4600
	60	5700	5200	4800	4500	4300	4100	5100	4700	4500	4200	4000	3900
300x80	20	6500	6200	5900	5700	5500	5300	5600	5500	5300	5200	5000	4900
	60	6100	5600	5200	4900	4600	4400	5400	5100	4800	4600	4400	4200
325x80	20	6900	6600	6300	6100	5900	5700	6000	5800	5700	5500	5400	5300
	60	6500	6000	5500	5200	5000	4700	5800	5400	5100	4900	4700	4500
350x80	20	7200	7000	6700	6500	6300	6100	6300	6200	6000	5900	5700	5600
	60	6900	6300	5900	5600	5300	5100	6100	5800	5500	5200	5000	4800
375x80	20	7600	7300	7100	6800	6600	6400	6700	6500	6300	6200	6000	5900
	60	7200	6700	6300	5900	5600	5400	6400	6100	5800	5500	5300	5100
400x80	20	8000	7700	7400	7200	7000	6800	7000	6800	6600	6500	6400	6200
	60	7600	7000	6600	6300	6000	5700	6700	6400	6100	5900	5600	5500
195x85	20	4900	4500	4300	4100	3900	3700	4200	4000	3800	3700	3600	3400
	60	4500	3900	3600	3200	3000	2700	3900	3600	3300	3000	2800	2600
230x85	20	5500	5200	4900	4700	4500	4300	4700	4600	4400	4300	4100	4000
	60	5100	4600	4200	3900	3700	3500	4500	4200	3900	3700	3500	3300
260x85	20	6100	5700	5500	5200	5000	4800	5200	5000	4900	4700	4600	4500
	60	5600	5100	4700	4400	4100	3900	5000	4600	4400	4100	3900	3800
295x85	20	6700	6300	6100	5800	5600	5400	5700	5600	5400	5200	5100	5000
	60	6200	5700	5200	4900	4700	4400	5500	5100	4900	4600	4400	4200
330x85	20	7200	6900	6600	6400	6200	6000	6200	6100	5900	5700	5600	5500
	60	6800	6200	5800	5400	5200	4900	6000	5600	5300	5100	4900	4700
360x85	20	7700	7400	7100	6900	6600	6400	6700	6500	6300	6200	6000	5900
	60	7300	6700	6300	5900	5600	5400	6400	6100	5800	5500	5300	5100
395x85	20	8200	7900	7600	7400	7200	7000	7100	7000	6800	6600	6500	6400
	60	7800	7200	6800	6400	6100	5800	6900	6500	6200	6000	5700	5500
425x85	20	8700	8400	8100	7800	7600	7400	7500	7300	7200	7000	6900	6700
	60	8300	7700	7200	6800	6500	6200	7300	6900	6600	6300	6100	5900

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum ceiling mass of 20 kg/m^2
3. Minimum bearing length = 70 mm at end supports
4. Restraint value for slenderness calculations is 1500 mm
5. Not all sizes of SmartLam GL13C in this table are stocked in each state. Please check with your supplier before ordering

Carport beam—Ridge perpendicular
AS 4055 classification N1, N2, N3 and N4



Ceiling mass - 20 kg/m^2

EXAMPLE:

wind speed = N3
sheet roof - 20 kg/m^2
Carport side depth 5300 mm
Carport beam span 4800 mm

Enter span table at carport depth of 5400 mm, and read down to a span equal to or greater than 4800 mm for a 20 kg/m^2 roof

ADOPT:

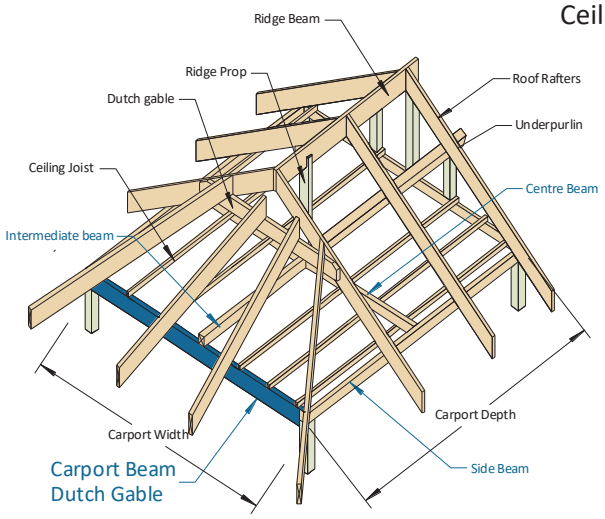
SmartLam GL13C - 225 x 60

Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
200x60	20	4500	4500	4500	4400	4400
	70	3800	3800	3700	3700	3700
225x60	20	4900	4900	4900	4800	4800
	70	4200	4100	4100	4100	4000
250x60	20	5300	5300	5200	5200	5200
	70	4500	4400	4400	4400	4300
275x60	20	5700	5600	5600	5600	5500
	70	4800	4800	4700	4700	4700
300x60	20	6000	6000	5900	5900	5900
	70	5100	5100	5000	5000	5000
325x60	20	6400	6300	6300	6200	6200
	70	5400	5400	5300	5300	5300
350x60	20	6700	6700	6600	6600	6500
	70	5700	5700	5600	5600	5600
375x60	20	7000	7000	6900	6900	6800
	70	6000	6000	5900	5900	5800
400x60	20	7300	7300	7200	7200	7100
	70	6300	6200	6200	6200	6100
195x65	20	4600	4600	4500	4500	4500
	70	3800	3800	3800	3700	3700
230x65	20	5200	5100	5100	5100	5000
	70	4300	4300	4300	4200	4200
260x65	20	5700	5600	5600	5500	5500
	70	4800	4700	4700	4600	4600
295x65	20	6200	6100	6100	6000	6000
	70	5200	5200	5100	5100	5000
330x65	20	6700	6600	6600	6500	6500
	70	5700	5600	5600	5500	5500
360x65	20	7100	7100	7000	7000	6900
	70	6000	6000	5900	5900	5800
395x65	20	7600	7500	7500	7400	7400
	70	6500	6400	6300	6300	6200
200x80	20	4800	4800	4700	4700	4700
	70	4100	4000	4000	4000	3900
225x80	20	5200	5200	5100	5100	5100
	70	4400	4400	4400	4300	4300
250x80	20	5600	5600	5500	5500	5500
	70	4800	4700	4700	4700	4600
275x80	20	6000	5900	5900	5900	5800
	70	5100	5100	5000	5000	5000

Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
300x80	20	6400	6300	6300	6200	6200
	70	5500	5400	5400	5300	5300
325x80	20	6700	6700	6600	6600	6500
	70	5800	5700	5700	5600	5600
350x80	20	7000	7000	7000	6900	6900
	70	6100	6000	6000	5900	5900
375x80	20	7400	7300	7300	7200	7200
	70	6400	6300	6300	6200	6200
400x80	20	7700	7700	7600	7600	7500
	70	6700	6600	6600	6500	6500
195x85	20	4900	4800	4800	4800	4700
	70	4100	4100	4000	4000	4000
230x85	20	5500	5400	5400	5400	5300
	70	4600	4600	4500	4500	4500
260x85	20	6000	5900	5900	5800	5800
	70	5100	5000	5000	4900	4900
295x85	20	6500	6500	6400	6400	6300
	70	5500	5500	5400	5400	5400
330x85	20	7100	7000	7000	6900	6900
	70	6000	6000	5900	5900	5800
360x85	20	7500	7400	7400	7300	7300
	70	6400	6300	6300	6200	6200
395x85	20	8000	7900	7900	7800	7800
	70	6800	6800	6700	6700	6600
195x115	20	5200	5200	5100	5100	5000
	70	4400	4300	4300	4300	4200
230x115	20	5800	5800	5700	5700	5700
	70	4900	4900	4900	4800	4800
260x115	20	6300	6300	6300	6200	6200
	70	5400	5400	5300	5300	5200
295x115	20	6900	6900	6800	6800	6700
	70	5900	5900	5800	5800	5700
330x115	20	7500	7400	7400	7300	7300
	70	6400	6400	6300	6300	6200
360x115	20	7900	7900	7800	7800	7700
	70	6800	6800	6700	6700	6600
395x115	20	8400	8400	8300	8300	8200
	70	7300	7200	7200	7100	7100

Carport beam - Hip and Dutch Gable over opening
AS 4055 classification N1, N2, N3 and N4

Ceiling mass - 20 kg/m^2



EXAMPLE:

wind speed = N3
sheet roof - 20 kg/m^2
Carport side depth 5300 mm
Carport beam span 4800 mm

Enter span table at carport depth of 5400 mm, and read down to a span equal to or greater than 4800 mm for a 20 kg/m^2 roof

ADOPT:

SmartLam GL13C - 225 x 60

Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
200x60	20	4700	4700	4700	4600	4600
	70	4100	4100	4100	4000	4000
225x60	20	5100	5100	5100	5000	5000
	70	4500	4500	4400	4400	4400
250x60	20	5500	5500	5500	5400	5400
	70	4900	4800	4800	4800	4700
275x60	20	5900	5900	5800	5800	5800
	70	5200	5200	5100	5100	5100
300x60	20	6300	6200	6200	6100	6100
	70	5600	5500	5500	5400	5400
325x60	20	6600	6600	6500	6500	6500
	70	5900	5800	5800	5700	5700
350x60	20	7000	6900	6900	6800	6800
	70	6200	6100	6100	6100	6000
375x60	20	7300	7200	7200	7200	7100
	70	6500	6500	6400	6400	6300
400x60	20	7600	7600	7500	7500	7400
	70	6800	6700	6700	6700	6600
195x65	20	4800	4800	4700	4700	4700
	70	4200	4200	4100	4100	4100
230x65	20	5400	5400	5300	5300	5300
	70	4700	4700	4700	4600	4600
260x65	20	5900	5900	5800	5800	5700
	70	5200	5100	5100	5100	5000
295x65	20	6500	6400	6400	6300	6300
	70	5700	5600	5600	5500	5500
330x65	20	7000	6900	6900	6800	6800
	70	6200	6100	6100	6000	6000
360x65	20	7400	7400	7300	7300	7200
	70	6600	6500	6400	6400	6300
395x65	20	7900	7900	7800	7800	7700
	70	7000	6900	6900	6800	6800
200x80	20	5000	5000	4900	4900	4900
	70	4400	4400	4300	4300	4300
225x80	20	5400	5400	5400	5300	5300
	70	4800	4800	4700	4700	4700
250x80	20	5800	5800	5800	5700	5700
	70	5200	5100	5100	5100	5000
275x80	20	6200	6200	6100	6100	6100
	70	5500	5500	5500	5400	5400

Member size (GL13C) DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
300x80	20	6600	6600	6500	6500	6400
	70	5900	5800	5800	5800	5700
325x80	20	6900	6900	6900	6800	6800
	70	6200	6200	6100	6100	6100
350x80	20	7300	7300	7200	7200	7100
	70	6600	6500	6500	6400	6400
375x80	20	7600	7600	7600	7500	7500
	70	6900	6800	6800	6700	6700
400x80	20	8000	7900	7900	7800	7800
	70	7200	7100	7100	7000	7000
195x85	20	5100	5100	5000	5000	5000
	70	4500	4400	4400	4400	4300
230x85	20	5700	5700	5600	5600	5600
	70	5000	5000	4900	4900	4900
260x85	20	6200	6200	6200	6100	6100
	70	5500	5400	5400	5400	5300
295x85	20	6800	6800	6700	6700	6600
	70	6000	6000	5900	5900	5800
330x85	20	7300	7300	7300	7200	7200
	70	6500	6500	6400	6400	6300
360x85	20	7800	7700	7700	7600	7600
	70	6900	6900	6800	6800	6700
395x85	20	8300	8200	8200	8100	8100
	70	7400	7300	7300	7200	7200
195x115	20	5400	5400	5300	5300	5300
	70	4800	4700	4700	4700	4600
230x115	20	6100	6000	6000	5900	5900
	70	5400	5300	5300	5200	5200
260x115	20	6600	6600	6500	6500	6400
	70	5900	5800	5800	5700	5700
295x115	20	7200	7100	7100	7000	7000
	70	6400	6300	6300	6300	6200
330x115	20	7700	7700	7600	7600	7600
	70	6900	6900	6800	6800	6700
360x115	20	8200	8100	8100	8100	8000
	70	7400	7300	7200	7200	7100
395x115	20	8700	8700	8600	8600	8500
	70	7900	7800	7700	7700	7600

SmartFrame Warranty

All SmartFrame Engineered Wood Products (EWP) are covered by our SmartFrame warranty against material and workmanship defects and are guaranteed to perform as specified when stored, installed, and finished in accordance with SmartFrame installation instructions.

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