

SmartLam GLT15C

(Pre-cambered)

Design Guide



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Scope of this publication

This Design Guide and Load Tables assist in the selection of SmartLam GLT15C for some of the common structural arrangements met in domestic construction.

Other than the limited examples uniquely associated with GLT shown, 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 techsupport@tilling.com.au

Substitution of other products

All load tables in this document are designed using the unique characteristic properties of SmartLam GLT15C manufactured to AS/NZS 1328 by quality producers 3rd party audited by the GLTAA, 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 GLT15C 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 Timber structures Part 3: Design criteria for timber framed residential buildings
- 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 timber - performance requirements and minimum production requirements.

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 under-written product liability insurance.

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SmartLam® GLT15C

Introduction

SmartLam GLT15C beams are manufactured for Tilling Timber by 3rd party audited quality GLT manufacturers to AS/NZS 1328. SmartLam GLT15C 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 GLT15C

Cost Effectiveness - SmartLam GLT15C 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 GLT15C beams are manufactured 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 lose 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 GLT15C beams, installation is fast, easy and efficient.

Environmental responsibility - SmartLam GLT15C beams are made from timber from sustainable managed forests - PEFC/21-32-02-018

Low maintenance - In most applications, SmartLam GLT15C 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 GLT15C beams allow you to build timber's natural warmth and beauty into your designs.

Ordering SmartLam GLT15C

Stock SmartLam GLT15C GLT has a 600 m radius camber and Appearance Grade B.

AS/NZS 1328.2 defines 3 appearance grades:

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

SmartLam GLT15C B grade

"C" indicates pre-camber
"S" indicates no-pre-camber (straight)

Appearance 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. The "Deflection Limits" table on page 10 details deflection limits for various applications.

Verticality

SmartLam GLT15C 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. For this reason, where it is necessary to drill vertical holes through

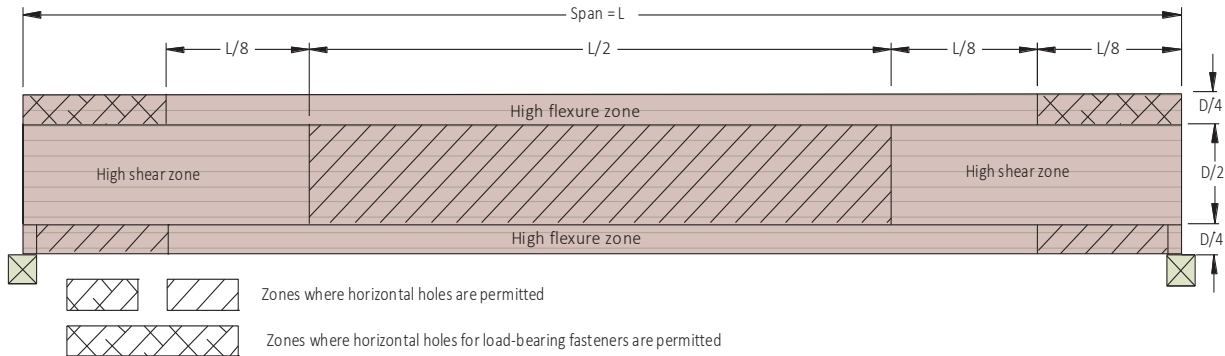
Installation (cont'd)

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



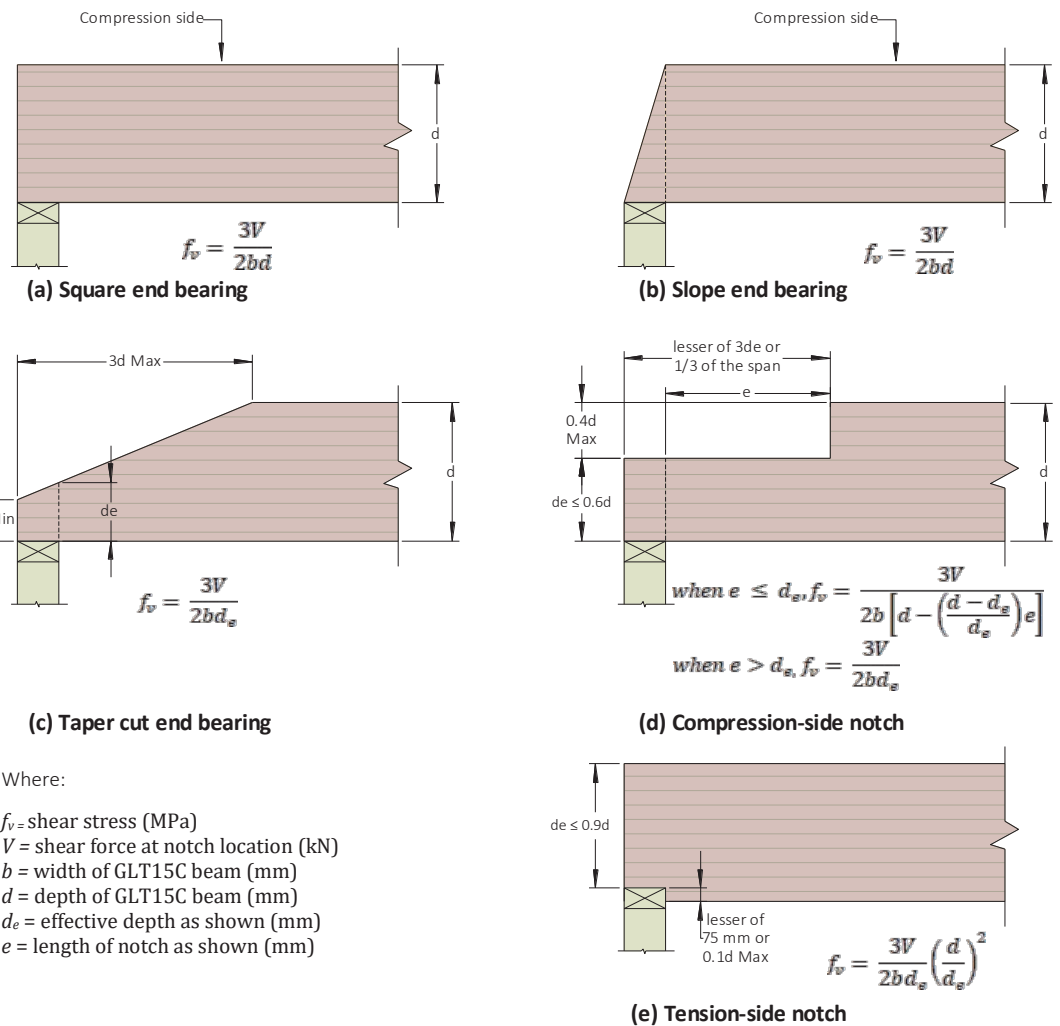
Notches

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.



Where:

- f_v = shear stress (MPa)
- V = shear force at notch location (kN)
- b = width of GLT15C beam (mm)
- d = depth of GLT15C 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 GLT beam (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.

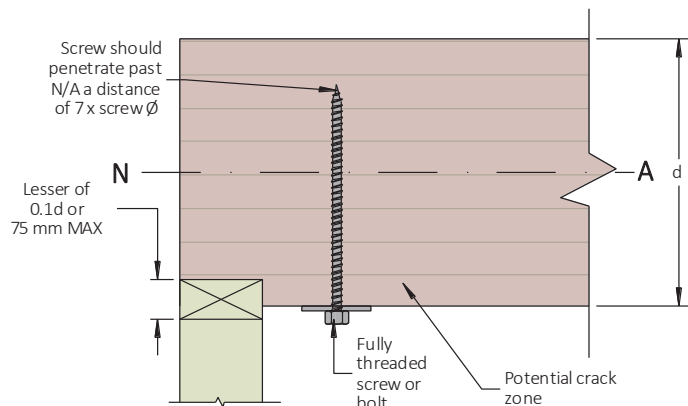
All field notches should be accurately cut. Avoid over-cutting at the root of the notch. Drilling a pilot hole in the member at the interior or corner location of a notch as a stop point for the saw blade provides both a rounded corner and minimizes over-cutting at the corner.

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.

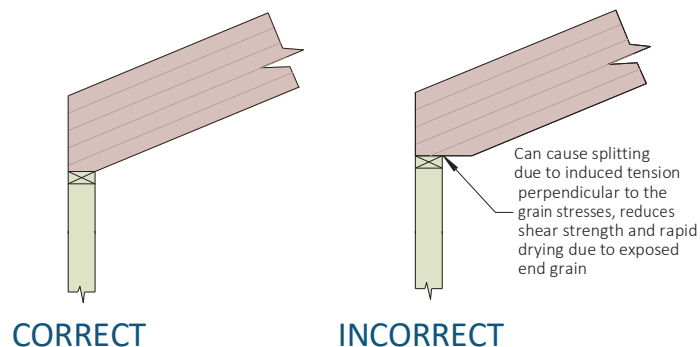
The design methodology selected and subsequent fabrication details are the responsibility of the project designer/engineer. If lag screws are used, lead holes shall be predrilled in accordance with accepted practice. This procedure can also be used as a field remedy to minimize further propagation of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



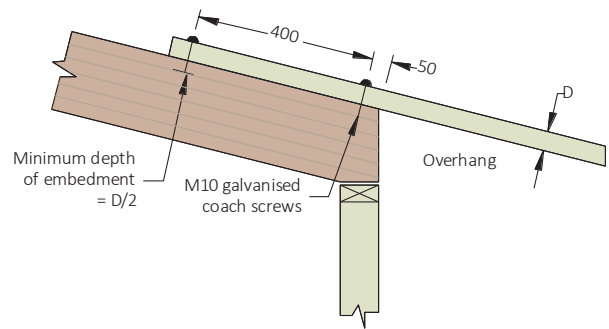
Birdsmouthing

Figure 3 - Birds mouting details for SmartLam GLT15C



Eaves overhang

Figure 4 - Eaves overhang details for SmartLam GLT15C



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:

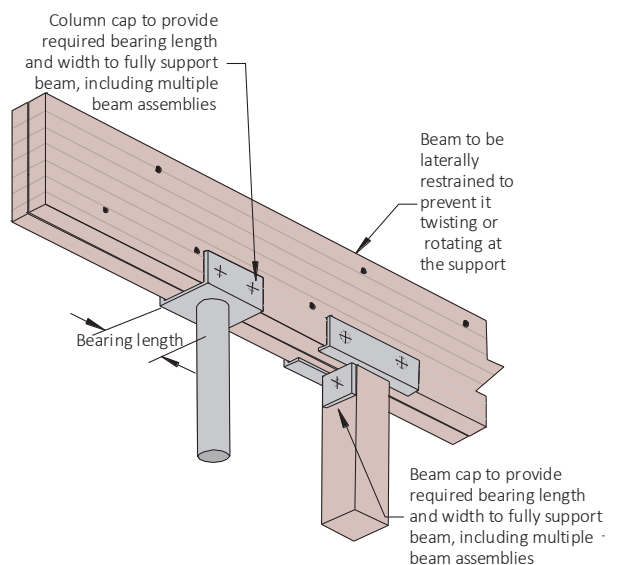
Non Birds mouthed:

- 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 GLT15C



Installation (cont'd)

Multiple SmartLam GLT15C 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 GLT15C, nails are NOT suitable for combining SmartLam GLT15C 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 GLT15C:

1. Type 17 screw lamination
2. Bolt lamination

are shown below.

1. Type 17 screws

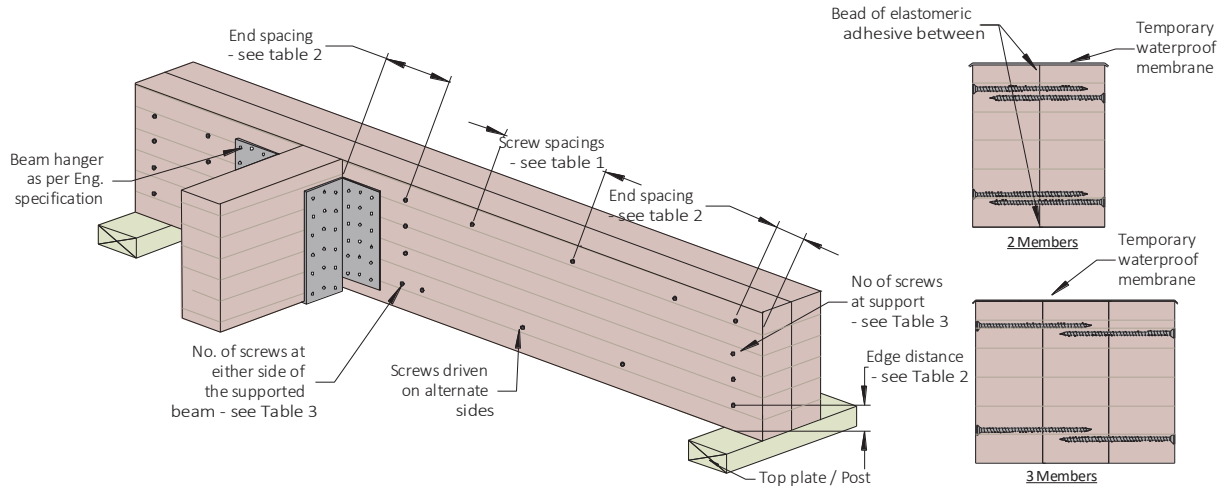


Table 1

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 100	2 or 3*	300	7700
2/60 & 3/60	14g x 125	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

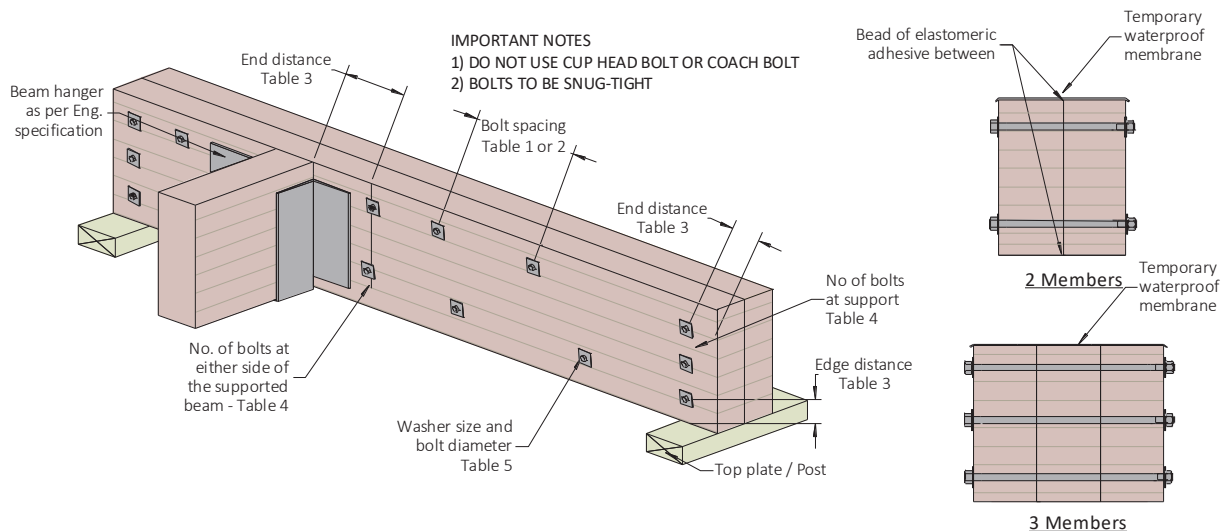
Table 2

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

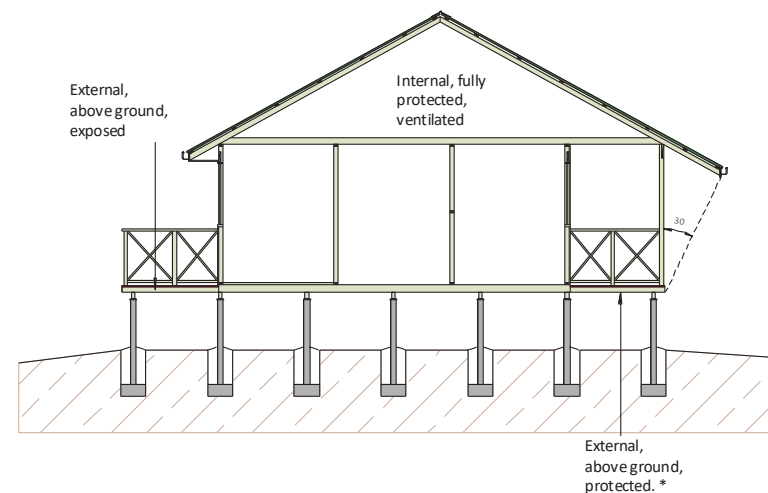
Table 4

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 GLT15C'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 GLT15C protection methods

During Construction (pre - water proof roof)

SmartLam GLT15C's are supplied WITHOUT any short term construction sealer. However if SmartLam GLT15C 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:

- If the SmartLam GLT15C is installed inside a building without direct exposure to air-conditioning such as in wall cavity, NO protection to the beam is required.
- If the SmartLam GLT15C is installed inside a building with direct exposure to air conditioning or dry heat then a sealer is required.
- If the SmartLam GLT15C 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).

Durability and exposure to moisture (Cont'd)

Moisture effects on SmartLam GLT15C

SmartLam GLT15C, like all wood products, is hygroscopic, which means it has an affinity for water, and being a GLT, should be considered as a composite of many pieces of wood, each with different potential swelling. Moisture exposure will ultimately lead to dimensional change.

While the products will withstand normal exposure, excessive exposure during distribution, storage or construction may lead to dimensional changes that affect serviceability. These changes include cupping, bowing or expansion to dimensions beyond the specified tolerance of the product in the “as-manufactured” condition.

Individual members of a vertically laminated multi member may exhibit some cupping if water becomes trapped between the laminates. This cupping produces more of a visual and possible fixity problem rather than being structurally significant. If not properly dried out, this moisture between laminated members may lead to decay. To prevent this effect, use construction details as shown on page 5

As an organic material, mould and mildew may grow on untreated wood products if moisture is present. Prolonged periods of high moisture may also support the growth of wood decay fungi.

In critical applications where dimensional change due to moisture exposure is to be absolutely minimised (e.g. truss applications in wet humid conditions) it is recommended that remedial water repellent be used to recoat any cut ends or notches etc.

The table below shows the moisture content of SmartLam GLT15C as a function of humidity.

Moisture content of wood products % ⁽¹⁾	
Relative Humidity %	GLT MC
10	1.2
20	2.8
30	4.6
40	5.8
50	7.0
60	8.4
70	11.1
80	15.3
90	19.4

1. Approx. moisture content at 21°C

Dimensional change

SmartLam GLT15C will shrink and swell in proportion to changes in moisture content between 0 and 28 % fibre saturation point.

The most significant moisture movement will occur across the grain (tangential and radial directions within a log). Longitudinal (movement in the grain direction) may be a factor depending upon the type of structure. Detailing of SmartLam GLT15C to be used where moisture contents will cycle should allow for dimensional instability.

The AVERAGE amount of dimensional change in a piece of GLT15C changes in moisture content can be APPROXIMATED by the following formula:

$$\Delta D = D_i S (MC_i - MC_f) / FSP$$

Where:

ΔD = change in dimension

D_i = Initial dimension

S = Shrinkage coefficient = approximately 6%

MC_i = Initial moisture content

MC_f = final moisture content

FSP = fibre saturation point approximately 28%

NOTE: these dimensional effects are quite variable.

Change in characteristic strengths

Changes in moisture content in wood results in changes in mechanical properties, with higher properties at lower moisture contents. Estimates of the effect of moisture differentials on the properties of clear wood may be obtained by the following equation:

$$P = P_{12} \left(\frac{P_{12}}{P_g} \right)^{\left(\frac{12-M}{M_p-12} \right)}$$

Where:

P = Characteristic property at moisture content

P_{12} = same Characteristic property at 12% moisture content

P_g = same Characteristic property for Green wood

M_p = Intersection moisture content ~ 25% for Eucalypts

The APPROXIMATE effect upon key Characteristic Properties of SmartLam GLT15C by changes in MC are outlined in the table below:

Characteristic Property		% Reduction in Characteristic strength at % MC					
		14	16	18	20	22	24
MOE (Stiffness)	E	3.3	6.5	9.7	12.7	15.6	18.4
MOR (Bending)	F'_b	8.4	16.1	23.1	29.6	35.5	40.9
Compression perpendicular to grain	f'_p	9.9	18.9	27.0	34.2	40.8	46.7
Compression parallel to grain	f'_c	11.0	20.7	29.4	37.2	44.1	50.2
Shear	f'_s	6.6	12.8	18.6	24.0	29.0	33.7

The design Characteristic properties of SmartLam GLT15C can therefore be considerably reduced by severe increase in MC of the GLT15C.

If the SmartLam GLT15C is being built into structures (such as Prefabricated trusses) that are:

1. Likely to experience large increase in MC due to weather exposure or stored on the ground
2. Likely to be loaded to at/or close to design loads while in the high MC state

then the reduced Characteristic Strengths as detailed above NEED to be used in the design or members may require temporary propping.

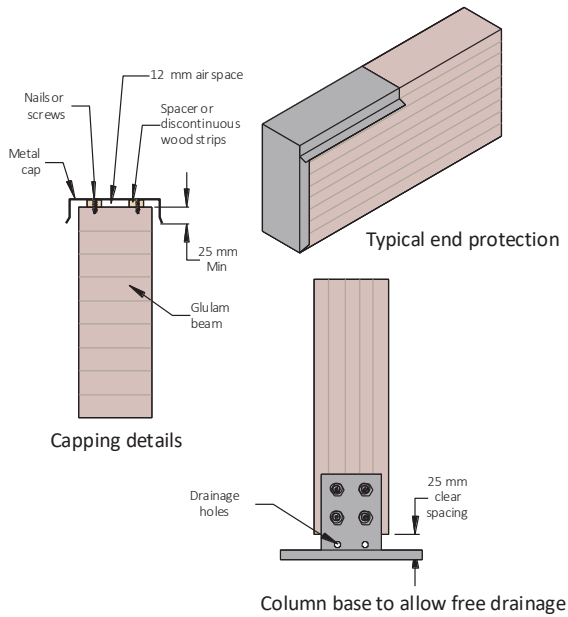
Once covered, the SmartLam GLT15C will ultimately dry and equilibrate to the ambient humidity conditions, but some expansion or swelling will remain after re-drying.

Design for durability

- i. The use of building overhangs and other structures which protect the beams from excessive moisture movement and sun exposure.
- ii. 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.
- iii. The use of arrised or round edges on beams to reduce the likelihood of coating failures on sharp edges.

Durability and exposure to moisture (Cont'd)

- iv. The use of drip edges or other devices which provide a path for free moisture flow away from the timber beam.
- v. Joint detailing should, wherever possible, comply with the following:
 1. Keep horizontal contact areas to a minimum, in favour of self draining vertical surfaces.
 2. Ventilate joint surfaces by using spacers, wherever possible
 3. 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
 4. Ensure any moisture entering a joint is not trapped but



can adequately drain away from the joint.

Allow for thermal expansion/contraction in the joint design.

Post-Production treatment

SmartLam GLT15C can be supplied Tru-Core® treated to either H2 or H3 hazard class levels, as per AS/NZS 1604.1 (Tru-Core® is a registered trade mark of Kop-Coat Australia PTY Limited). **To maintain effective treatment it is a requirement that any cuts, notches or penetrations made in post production treated SmartLam GLT15C be painted with a suitable "brush/spray on" preservative.**

Hazard class selection guide				
Hazard class	Exposure	Specific service conditions	Biological hazard	Typical uses
H1 [†]	Inside, above ground	Completely protected from the weather and well ventilated, and protected from termites	Lyctid borers	Interior beams, staircases, stringers
H2S [†]	Inside, above ground	Protected from wetting Nil leaching	Borers and termites	Interior beams, staircases, trusses, joists
H2	Inside, above ground	Protected from wetting Nil leaching	Borers and termites	Interior beams, staircases, trusses, joists
H3	External, above ground	Subject to periodic moderate wetting and leaching	Moderate decay, borers and termites	Exterior beams ⁽¹⁾

The hazard class number selected is based upon the specific exposure condition for the proposed end use of the SmartLam GLT15C, as shown in the table below.

A more comprehensive Hazard Class Table is available in AS/NZS 1604.1 but it is **NOT** recommended that SmartLam GLT15C be used in end uses with exposures requiring treatment in excess of H3.

(1) Experience is showing that post production treated GLT in the **external above ground, exposed** (H3 Hazard Class) may experience some leaching of the active ingredients of the treatment. To minimise the possibility of timber degradation in these situations, it is recommended that H3 treated SmartLam NOT be used where the surface is horizontally exposed AND unprotected from water entrapment OR where post-treatment protection cannot be maintained.

Post treatment protection may include:

- (i) Protectadeck™ high density water proof joist/ bearer cover or malthoid capping
- and**
- (ii) An impervious membrane such as regularly maintained painting or staining
 - (iii) Construction detailing to prevent water entrapment.

H3 treated SmartLam GLT15C is NOT recommended for fascia's, pergolas or other similar **external above ground, exposed** applications due to mechanical degradation of the wood fibre causing checking and cracking which is both aesthetically unacceptable and allows ingress of water to inner sections.

Fasteners for H3 SmartLam GLT15C

For any H3 SmartLam GLT15C to be used in exposed exterior applications, it is recommended that either hot dipped galvanised or stainless steel fasteners are used.

Specifically, If the Tru-Core® Copper Quat H3 treatment process is used, high grades (304, 305 and 316) of stainless steel materials perform the best.

Painting of treated SmartLam GLT15C

1. General

To provide the longest service life of the SmartLam GLT15C it is recommended the GLT is 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 paint's 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 allowed to fully dry.
2. At this time, a clear water repellent may be added to the project. If applied, allow 8 weeks prior to the application of a semi-transparent stain or paint
3. If no water repellent is added, an oil based stain can be

Durability and exposure to moisture (Cont'd)

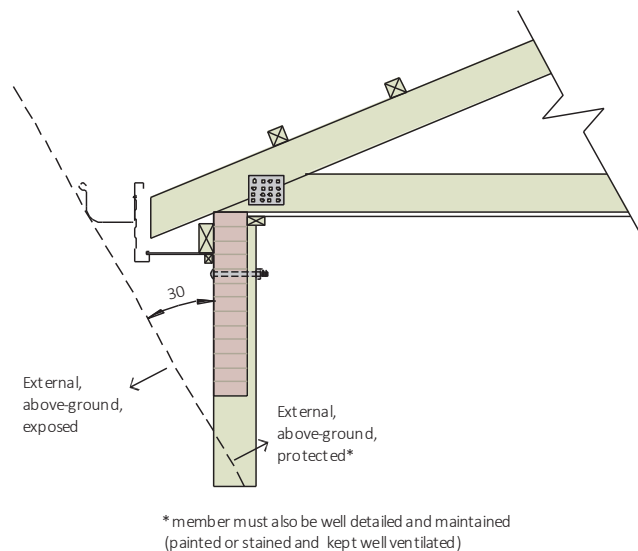
applied to the clean, dry wood in 30-60 days from treatment date

4. A water based stain can be applied to the clean, dry wood in 45-70 days from treatment date.
5. Depending on the treatment method used, if the wood is left uncoated and without UV protection:
 - i. The typical brown colour of the Copper Quat treated wood will naturally weather to a grey colour over long-term exposure to the sun
 - ii. The Azole treated wood has no colouration so it will naturally weather to a grey colour over long-term exposure to the sun.

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

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)



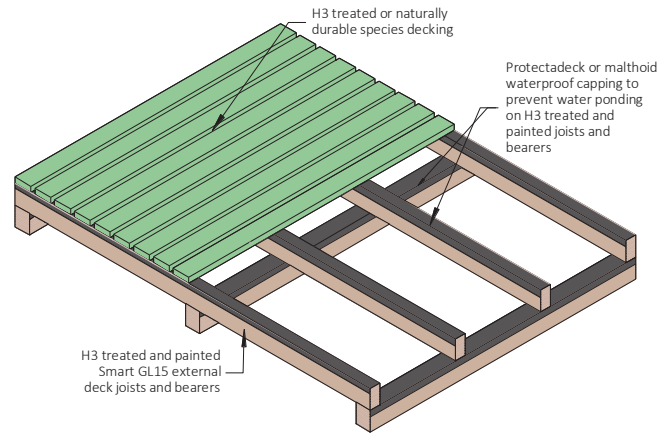
SmartLam GLT's used in protected exterior applications must be:

- 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.

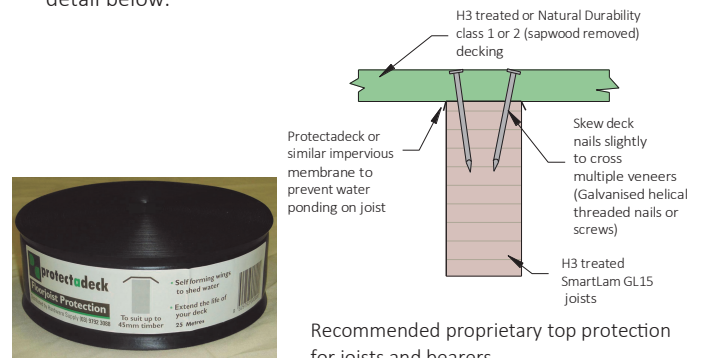
It is important that an inspection and maintenance programme, based on exposure level and the paint manufacturer's recommendations be prepared.

H3 Deck bearers and joists

H3 Treated Deck joists and bearers are a common application for treated SmartLam GLT15C. The diagram demonstrates the minimum construction detailing for H3 treated joists and bearers. Failure to follow these guidelines may render treatment warranties void.



It is recommended that deck nails be slightly skewed as per the detail below.



Recommended proprietary top protection for joists and bearers

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 GLT15C - ~650 kg/m³

The effective depth of charring (*d_e*) 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@tiling.com.au.

Designing with SmartLam GLT15C

The design information contained within this Design Guide is for the properties of SmartLam GLT15C only. Other manufacturers' GLT15C may have different properties and therefore cannot be designed using this information.

1. Product Specification

Lamella:	Thickness:	25-45 mm
	Species:	Tas Oak (E. delegatensis, E. obliqua & E. regnans)
	Strength Group	SD3
	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:	Un-treated and H3	

2. Limit State Design Characteristic Properties

Timber Strength Properties: ⁽¹⁾		
Bending	f_b	40 MPa
Tension Parallel to grain	f_t	24 MPa
Tension Perpendicular to grain	f_{tp}	0.6 MPa
Compression Parallel to grain	f_c	26 MPa
Compression Perpendicular to grain - Edge	f_p	17 MPa
Shear	f_s	4.1 MPa
Average Elastic Modulus	E	15,200 MPa
Average Modulus of Rigidity	G	1010 MPa
Average Density		650 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 GLT15C 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 ϕ *		
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:

- * 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.
- In general, the size of this beam can conservatively be obtained by the following method:
 - Obtain the beam size for service class 1 & 2
 - Obtain the EI_{xx} from the "Section Properties" table for this beam
 - Obtain from the "Section Properties" table a beam size with an $EI_{xx} \Rightarrow 2/1.5 \times EI_{xx}$ of the original beam
 - Follow the recommendations for SmartLam durability and weather exposure on page 6
- Service Classes 1,2 & 3 are defined in AS 1328

5. Partial seasoning factor

SmartLam GLT15C is a seasoned timber product, generally k_4 equals 1. Where the GLT 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:

- $k_4 = 1 - 0.3 \frac{EMC - 15}{10}$;
- $k_4 = 0.7$

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 GLT 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 GLT15C Beam 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
120 x 45	3.5	5.4	108	6	98	40.5	0.9
140 x 45	4.1	6.3	147	10	156	47.3	1.1
160 x 45	4.7	7.2	192	15	233	54.0	1.2
180 x 45	5.3	8.1	243	22	332	60.8	1.4
200 x 45	5.9	9.0	300	30	456	67.5	1.5
220 x 45	6.4	9.9	363	40	607	74.3	1.7
240 x 45	7.0	10.8	432	52	788	81.0	1.8
260 x 45	7.6	11.7	507	66	1002	87.8	2.0
280 x 45	8.2	12.6	588	82	1251	94.5	2.1
300 x 45	8.8	13.5	675	101	1539	101.3	2.3
320 x 45	9.4	14.4	768	123	1868	108.0	2.4
340 x 45	9.9	15.3	867	147	2240	114.8	2.6
360 x 45	10.5	16.2	972	175	2659	121.5	2.7
380 x 45	11.1	17.1	1083	206	3128	128.3	2.9
400 x 45	11.7	18.0	1200	240	3648	135.0	3.0
420 x 45	12.3	18.9	1323	278	4223	141.8	3.2

120 x 70	5.5	7.8	156	9	142	84.5	2.7
140 x 70	6.4	9.1	212	15	226	98.6	3.2
180 x 70	8.2	11.7	351	32	480	126.8	4.1
200 x 70	9.1	13.0	433	43	659	140.8	4.6
220 x 70	10.0	14.3	524	58	877	154.9	5.0
240 x 70	10.9	15.6	624	75	1138	169.0	5.5
260 x 70	11.8	16.9	732	95	1447	183.1	6.0
280 x 70	12.7	18.2	849	119	1807	197.2	6.4
300 x 70	13.7	19.5	975	146	2223	211.3	6.9
320 x 70	14.6	20.8	1109	177	2698	225.3	7.3
340 x 70	15.5	22.1	1252	213	3236	239.4	7.8
360 x 70	16.4	23.4	1404	253	3841	253.5	8.2
380 x 70	17.3	24.7	1564	297	4518	267.6	8.7
400 x 70	18.2	26.0	1733	347	5269	281.7	9.2
420 x 70	19.1	27.3	1911	401	6100	295.8	9.6
440 x 70	20.0	28.6	2097	461	7013	309.8	10.1
460 x 70	20.9	29.9	2292	527	8014	323.9	10.5
480 x 70	21.8	31.2	2496	599	9105	338.0	11.0
500 x 70	22.8	32.5	2708	677	10292	352.1	11.4
520 x 70	23.7	33.8	2929	762	11577	366.2	11.9
540 x 70	24.6	35.1	3159	853	12965	380.3	12.4
560 x 70	25.5	36.4	3397	951	14459	394.3	12.8
580 x 70	26.4	37.7	3644	1057	16064	408.4	13.3
600 x 70	27.3	39.0	3900	1170	17784	422.5	13.7
620 x 70	28.2	40.3	4164	1291	19622	436.6	14.2

120 x 90	7.0	10.2	204	12	186	144.5	6.1
140 x 90	8.2	11.9	278	19	295	168.6	7.2
180 x 90	10.5	15.3	459	41	628	216.8	9.2
200 x 90	11.7	17.0	567	57	861	240.8	10.2
220 x 90	12.9	18.7	686	75	1146	264.9	11.3
240 x 90	14.0	20.4	816	98	1488	289.0	12.3
260 x 90	15.2	22.1	958	124	1892	313.1	13.3
280 x 90	16.4	23.8	1111	155	2363	337.2	14.3
300 x 90	17.6	25.5	1275	191	2907	361.3	15.4
320 x 90	18.7	27.2	1451	232	3528	385.3	16.4
340 x 90	19.9	28.9	1638	278	4232	409.4	17.4
360 x 90	21.1	30.6	1836	330	5023	433.5	18.4
380 x 90	22.2	32.3	2046	389	5908	457.6	19.4
400 x 90	23.4	34.0	2267	453	6891	481.7	20.5
420 x 90	24.6	35.7	2499	525	7977	505.8	21.5

SmartLam GLT15C Beam Properties (Cont'd)

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	Elxx 10 ⁹ Nmm ²	Zyy 10 ³ mm ²	Iyy 10 ⁶ mm ⁴
440 x 90	25.7	37.4	2743	603	9171	529.8	22.5
460 x 90	26.9	39.1	2998	689	10480	553.9	23.5
480 x 90	28.1	40.8	3264	783	11907	578.0	24.6
500 x 90	29.3	42.5	3542	885	13458	602.1	25.6
520 x 90	30.4	44.2	3831	996	15139	626.2	26.6
540 x 90	31.6	45.9	4131	1115	16954	650.3	27.6
560 x 90	32.8	47.6	4443	1244	18908	674.3	28.7
580 x 90	33.9	49.3	4766	1382	21007	698.4	29.7
600 x 90	35.1	51.0	5100	1530	23256	722.5	30.7
620 x 90	36.3	52.7	5446	1688	25660	746.6	31.7

200 x 120	15.6	24.0	800	80	1216	480.0	28.8
220 x 120	17.2	26.4	968	106	1618	528.0	31.7
240 x 120	18.7	28.8	1152	138	2101	576.0	34.6
260 x 120	20.3	31.2	1352	176	2672	624.0	37.4
280 x 120	21.8	33.6	1568	220	3337	672.0	40.3
300 x 120	23.4	36.0	1800	270	4104	720.0	43.2
320 x 120	25.0	38.4	2048	328	4981	768.0	46.1
340 x 120	26.5	40.8	2312	393	5974	816.0	49.0
360 x 120	28.1	43.2	2592	467	7092	864.0	51.8
380 x 120	29.6	45.6	2888	549	8341	912.0	54.7
400 x 120	31.2	48.0	3200	640	9728	960.0	57.6
420 x 120	32.8	50.4	3528	741	11261	1008.0	60.5
440 x 120	34.3	52.8	3872	852	12948	1056.0	63.4
460 x 120	35.9	55.2	4232	973	14795	1104.0	66.2
480 x 120	37.4	57.6	4608	1106	16810	1152.0	69.1
500 x 120	39.0	60.0	5000	1250	19000	1200.0	72.0
520 x 120	40.6	62.4	5408	1406	21372	1248.0	74.9
540 x 120	42.1	64.8	5832	1575	23935	1296.0	77.8
560 x 120	43.7	67.2	6272	1756	26694	1344.0	80.6
580 x 120	45.2	69.6	6728	1951	29657	1392.0	83.5
600 x 120	46.8	72.0	7200	2160	32832	1440.0	86.4
620 x 120	48.4	74.4	7688	2383	36226	1488.0	89.3

200 x 140	18.2	28.0	933	93	1419	653.3	45.7
220 x 140	20.0	30.8	1129	124	1888	718.7	50.3
240 x 140	21.8	33.6	1344	161	2451	784.0	54.9
260 x 140	23.7	36.4	1577	205	3117	849.3	59.5
280 x 140	25.5	39.2	1829	256	3893	914.7	64.0
300 x 140	27.3	42.0	2100	315	4788	980.0	68.6
320 x 140	29.1	44.8	2389	382	5811	1045.3	73.2
340 x 140	30.9	47.6	2697	459	6970	1110.7	77.7
360 x 140	32.8	50.4	3024	544	8274	1176.0	82.3
380 x 140	34.6	53.2	3369	640	9731	1241.3	86.9
400 x 140	36.4	56.0	3733	747	11349	1306.7	91.5
420 x 140	38.2	58.8	4116	864	13138	1372.0	96.0
440 x 140	40.0	61.6	4517	994	15106	1437.3	100.6
460 x 140	41.9	64.4	4937	1136	17261	1502.7	105.2
480 x 140	43.7	67.2	5376	1290	19612	1568.0	109.8
500 x 140	45.5	70.0	5833	1458	22167	1633.3	114.3
520 x 140	47.3	72.8	6309	1640	24934	1698.7	118.9
540 x 140	49.1	75.6	6804	1837	27924	1764.0	123.5
560 x 140	51.0	78.4	7317	2049	31143	1829.3	128.1
580 x 140	52.8	81.2	7849	2276	34600	1894.7	132.6
600 x 140	54.6	84.0	8400	2520	38304	1960.0	137.2
620 x 140	56.4	86.8	8969	2780	42263	2025.3	141.8

Notes:

- Above table lists all available cross sections possible in this product, but the spans tables only reflect the more common profiles. All sizes are available for design in the SmartFrame software

SmartLam GLT15C Beam Properties (Cont'd)

- The values for the sizes in *Italics* (70 and 90 120 and 140 mm) allow for up to a 5 mm thickness (B) undersize. This is to accommodate the raw material purchase from multiple saw mills to reduce the likelihood of supply issues
- The above sizes are for SmartLam GLT15C beams only. See the SmartLam GL15S Design Guide for sizes of the product.

SmartLam GLT15C 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 spanning 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

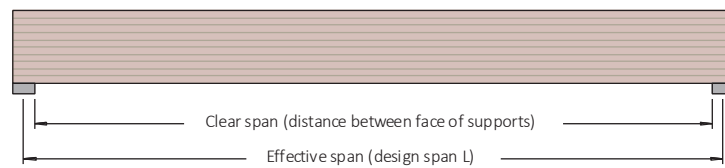
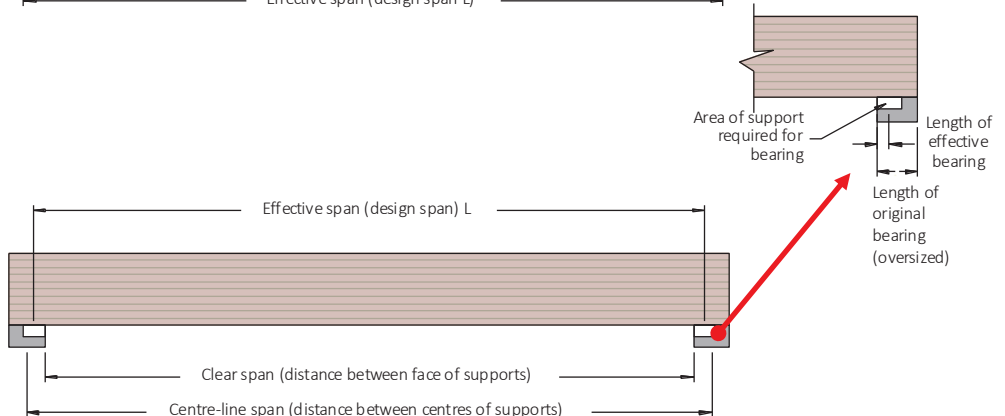


Diagram (b) shows beam where bearings at each end have been oversized. (This is frequently the case for beams that bear onto brickwork or concrete walls where the thickness of the wall is in excess of the area required to give the beam bearing capacity). To find the correct effective span:

- Calculate the minimum bearing required to carry the loads satisfactorily
- 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

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

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.)

Checking in SmartLam GLT15C

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.

Checking in SmartLam GLT15C (Cont'd)

Identification of checking

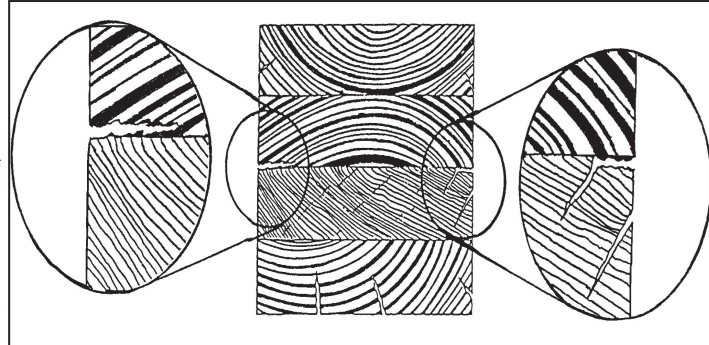
Checks occur as transverse separations or openings that are nearly parallel to the grain direction in glued laminated timber and generally follow the grain direction around knots and along sloping grain. Differences in the shrinkage rate of individual laminations used in glued laminated timber tend to 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

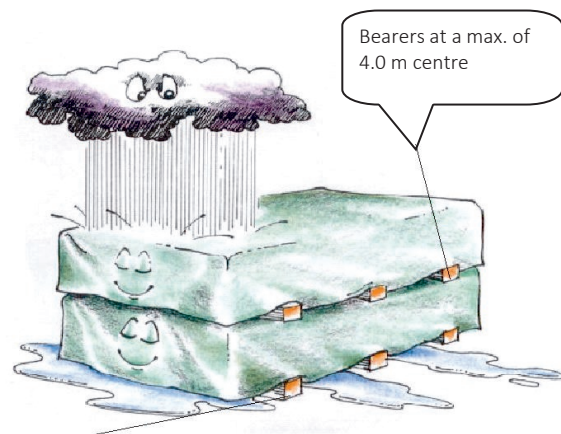
While checking is not considered to be of structural significance, the reason for the checking and the means by which further checking may be minimized should be determined.

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.

Storage and handling

1. Store SmartLam GLT15C'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 GLT15C to be in contact with the ground.



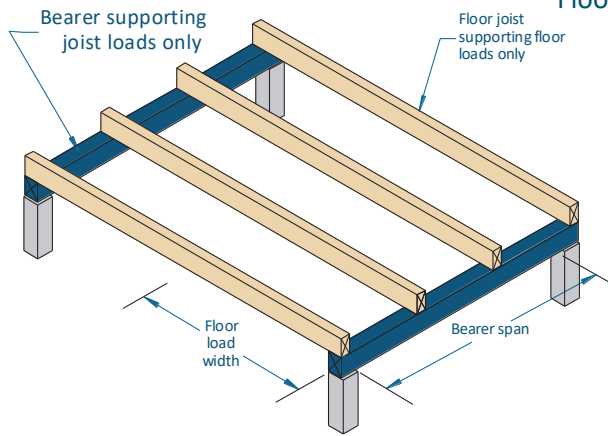
Use bearers to keep stacked material away from damp surfaces. Align bearer vertically

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- continuous span wind classification C1-C3	46
Hip or valley rafter	48

Floor bearers supporting floor loads only

Floor mass - 40 kg/m²



EXAMPLE:

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

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

ADOPT:

SmartLam GLT15C - 320 x 70
 - 300 x 90

Loadings: Permanent - self weight + 40 kg/m² + 0.6 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
Size DxB (mm)	Maximum recommended SINGLE span bearer span (mm)									
120x45	2200	2000	1800	1600	1500	1400	1300	1300	1200	1100
160x45	3000	2600	2400	2200	2100	1900	1800	1700	1600	1500
200x45	3600	3300	3000	2800	2600	2400	2300	2100	2000	1900
240x45	4200	3700	3500	3300	3100	2900	2700	2600	2400	2300
280x45	4700	4200	3900	3700	3500	3400	3200	3000	2800	2700
300x45	4900	4400	4100	3900	3700	3600	3400	3200	3100	2900
320x45	5200	4700	4300	4100	3900	3800	3600	3400	3300	3100
360x45	5600	5100	4700	4500	4300	4100	4000	3900	3700	3500
400x45	6100	5500	5100	4900	4600	4500	4300	4200	4100	3900
120x70	2500	2200	2000	1800	1700	1600	1500	1500	1400	1300
160x70	3300	2900	2700	2500	2300	2200	2100	2000	1900	1800
200x70	3900	3500	3300	3100	2900	2800	2600	2500	2400	2300
240x70	4500	4100	3800	3600	3400	3300	3200	3000	2900	2700
280x70	5100	4600	4300	4000	3800	3700	3600	3500	3400	3200
300x70	5300	4800	4500	4200	4000	3900	3800	3600	3600	3400
320x70	5600	5100	4700	4400	4200	4100	3900	3800	3700	3600
360x70	6100	5500	5100	4900	4600	4500	4300	4200	4100	4000
400x70	6600	6000	5600	5300	5000	4800	4700	4500	4400	4300
440x70	7100	6400	6000	5700	5400	5200	5000	4900	4800	4600
200x90	4200	3800	3500	3300	3200	3000	2900	2700	2600	2500
240x90	4800	4300	4000	3800	3600	3500	3400	3300	3200	3100
280x90	5400	4900	4500	4300	4100	3900	3800	3700	3600	3500
300x90	5700	5100	4800	4500	4300	4100	4000	3900	3800	3700
320x90	6000	5400	5000	4700	4500	4400	4200	4100	4000	3900
360x90	6500	5900	5500	5200	4900	4800	4600	4500	4300	4200
400x90	7000	6400	5900	5600	5400	5200	5000	4800	4700	4600
440x90	7600	6900	6400	6000	5800	5500	5400	5200	5100	4900
200x120	4500	4100	3800	3600	3400	3300	3200	3000	2900	2800
240x120	5200	4700	4300	4100	3900	3800	3600	3500	3400	3400
280x120	5800	5200	4900	4600	4400	4200	4100	4000	3900	3800
300x120	6100	5500	5100	4900	4600	4500	4300	4200	4100	4000
320x120	6400	5800	5400	5100	4900	4700	4500	4400	4300	4200
360x120	7000	6300	5900	5600	5300	5100	4900	4800	4700	4600
400x120	7600	6900	6400	6000	5800	5500	5400	5200	5100	4900
440x120	8100	7400	6900	6500	6200	6000	5800	5600	5400	5300
240x140	5400	4800	4500	4300	4100	3900	3800	3700	3600	3500
280x140	6000	5400	5100	4800	4600	4400	4300	4100	4000	3900
300x140	6300	5700	5300	5000	4800	4600	4500	4300	4200	4100
320x140	6700	6000	5600	5300	5100	4900	4700	4600	4400	4300
360x140	7300	6600	6100	5800	5500	5300	5100	5000	4900	4700
400x140	7900	7100	6600	6300	6000	5800	5600	5400	5300	5100
440x140	8500	7700	7100	6700	6400	6200	6000	5800	5700	5500

Floor bearers supporting floor loads only (Cont'd)

Floor mass - 40 kg/m²

Loadings: Permanent - self weight + 40 kg/m² + 0.6 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

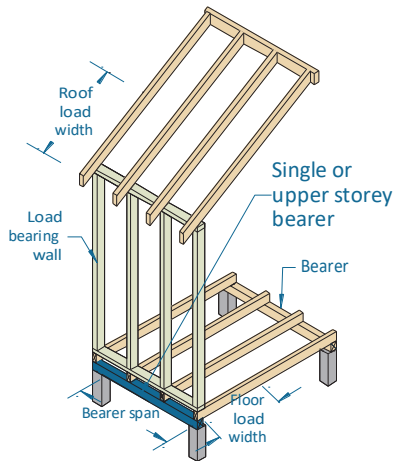
Floor load width (mm)	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600
Size Dx B (mm)	Maximum recommended CONTINUOUS span bearer span (mm)									
120x45	2700	2300	1900	1700	1600	1400	1300	1300	1200	1100
160x45	3500	3000	2600	2300	2100	1900	1800	1700	1600	1500
200x45	4200	3800	3300	2900	2700	2400	2300	2100	2000	1900
240x45	4800	4400	3900	3500	3200	2900	2700	2600	2400	2300
280x45	5400	4900	4600	4100	3700	3400	3200	3000	2800 ₁₀	2700 ₁₅
300x45	5700	5200	4800	4400	4000	3700	3400 ₅	3200 ₁₀	3100 ₁₅	2900 ₂₀
320x45	6000	5400	5000	4700	4300	3900 ₅	3700 ₁₀	3400 ₁₅	3300 ₂₅	3100 ₃₀
360x45	6500	5900	5500	5200	4800 ₅	4400 ₁₅	4100 ₂₅	3900 ₃₀	3700 ₄₀	3500 ₅₅
400x45	7100	6400	6000	5600 ₅	5300 ₂₀	4900 ₃₀	4600 ₄₀	4300 ₅₅	4100 ₇₀	3900 ₇₅
120x70	3000	2700	2300	2000	1900	1700	1600	1500	1400	1300
160x70	3900	3500	3100	2700	2500	2300	2100	2000	1900	1800
200x70	4600	4100	3800	3400	3100	2900	2700	2500	2400	2300
240x70	5200	4700	4400	4100	3700	3500	3200	3000	2900	2700
280x70	5900	5300	4900	4700	4400	4000	3800	3500	3400	3200
300x70	6200	5600	5200	4900	4700	4300	4000	3800	3600	3400
320x70	6500	5900	5500	5200	4900	4600	4300	4000	3800	3600
360x70	7100	6400	6000	5700	5400	5200	4800	4500	4300 ₅	4100 ₁₀
400x70	7700	7000	6500	6100	5800	5600	5400 ₅	5100 ₁₀	4800 ₁₅	4500 ₂₅
440x70	8200	7500	7000	6600	6300	6000 ₅	5800 ₁₅	5600 ₂₅	5300 ₃₀	5000 ₃₅
200x90	4900	4400	4100	3900	3500	3300	3000	2900	2700	2600
240x90	5600	5000	4700	4400	4200	3900	3700	3400	3300	3100
280x90	6200	5700	5300	5000	4800	4600	4300	4000	3800	3600
300x90	6600	6000	5600	5200	5000	4800	4600	4300	4100	3900
320x90	6900	6300	5800	5500	5300	5100	4900	4600	4300	4100
360x90	7500	6900	6400	6000	5800	5500	5400	5100	4900	4600
400x90	8200	7400	6900	6500	6200	6000	5800	5600	5400 ₅	5100 ₁₀
440x90	8800	8000	7400	7000	6700	6400	6200	6000 ₅	5900 ₁₅	5700 ₂₀
240x120	6000	5400	5000	4800	4600	4400	4200	4000	3800	3600
280x120	6700	6100	5700	5400	5100	4900	4800	4600	4400	4200
300x120	7100	6400	6000	5600	5400	5200	5000	4900	4700	4500
320x120	7400	6700	6300	5900	5700	5400	5300	5100	5000	4800
360x120	8100	7400	6900	6500	6200	6000	5800	5600	5400	5300
400x120	8800	8000	7400	7000	6700	6400	6200	6000	5900	5800
440x120	9400	8600	8000	7500	7200	6900	6700	6500	6300	6200
240x140	6200	5600	5200	5000	4700	4600	4400	4300	4100	3900
280x140	7000	6300	5900	5600	5300	5100	4900	4800	4700	4500
300x140	7400	6700	6200	5900	5600	5400	5200	5100	4900	4800
320x140	7700	7000	6500	6200	5900	5700	5500	5300	5200	5000
360x140	8400	7700	7100	6700	6400	6200	6000	5800	5700	5500
400x140	9100	8300	7700	7300	7000	6700	6500	6300	6100	6000
440x140	9800	8900	8300	7800	7500	7200	7000	6800	6600	6400

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. 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.
3. Restraint value for slenderness calculations is 600 mm. (floor joist centres at 600 mm max)
4. Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
5. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

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

Single span



Floor mass - 40 kg/m²

EXAMPLE:

Sheet roof - 40 kg/m²
 floor load width = 2000 mm
 roof load width = 1950 mm
 bearer span = 3000 mm (single span)

Enter single span table at 2400 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/m² row

ADOPT:

SmartLam GLT15C - 240 x 70

Floor load width (mm)		1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Size DxB (mm)	Roof Mass (kg/m ²)	Maximum SINGLE span bearer span (mm)								
120x45	40	1700	1400	1300	1500	1300	1200	1200	1100	1100
	90	1500	1200	1100	1400	1200	1000	1200	1100	1000
	160x45	40	2300	1900	1700	2000	1800	1600	1700	1600
200x45	90	2100	1700	1400	1900	1600	1400	1600	1400	1300
	40	2900	2500	2200	2500	2300	2000	2100	2000	1800
240x45	90	2600	2100	1800	2400	2000	1800	2000	1800	1600
	40	3500	3000	2600	3100	2700	2500	2600	2400	2200
280x45	90	3200	2600	2200	2900	2400	2100	2500	2200	2000
	40	4000	3500	3100	3600	3200	2900	3000	2800	2600
300x45	90	3700	3000	2600	3400	2900	2500	2900	2600	2300
	40	4200	3700	3300	3800	3500	3100	3200	3000	2800
320x45	90	4000	3300	2800	3700	3100	2700	3100	2800	2500
	40	4500	3900	3600	4000	3700	3400	3400	3200	3000
360x45	90	4200	3500	3000	3900	3300	2900	3300	3000	2700
	40	5000	4400	3900	4500	4100	3700	3900	3600	3400
400x45	90	4600	3900	3400	4300	3700	3300	3800	3400	3100
	40	5400	4800	4300	4900	4500	4100	4200	4000	3800
	90	5100	4200	3800	4700	4000	3700	4100	3700	3400
	120x70	40	1900	1600	1400	1700	1500	1300	1400	1300
160x70	90	1700	1400	1200	1600	1300	1100	1300	1200	1100
	40	2500	2200	1900	2200	2000	1800	1900	1700	1600
200x70	90	2300	1900	1600	2100	1800	1600	1800	1600	1400
	40	3200	2800	2400	2800	2500	2300	2400	2200	2100
240x70	90	3000	2400	2100	2700	2200	2000	2300	2000	1800
	40	3800	3300	2900	3500	3100	2800	2900	2700	2500
280x70	90	3600	2900	2500	3200	2700	2400	2800	2500	2200
	40	4400	3900	3500	3900	3600	3300	3400	3200	2900
300x70	90	4100	3400	2900	3800	3200	2800	3300	2900	2600
	40	4600	4100	3700	4200	3800	3500	3600	3400	3200
320x70	90	4300	3600	3200	4000	3500	3000	3500	3100	2800
	40	4900	4300	3900	4400	4000	3700	3800	3600	3400
360x70	90	4600	3800	3400	4200	3700	3300	3700	3300	3000
	40	5400	4800	4300	4900	4500	4100	4200	4000	3800
400x70	90	5100	4200	3800	4700	4100	3700	4100	3700	3400
	40	6000	5200	4700	5400	4900	4500	4700	4400	4100
440x70	90	5600	4600	4100	5100	4400	4000	4500	4100	3800
	40	6500	5700	5100	5900	5300	4900	5000	4800	4500
200x90	90	6100	5100	4500	5600	4800	4300	4900	4400	4100
	40	3500	3000	2600	3100	2800	2500	2600	2400	2200
	90	3200	2600	2200	2900	2500	2200	2500	2200	2000

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

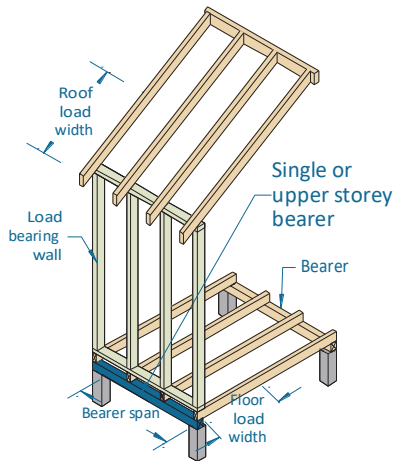
Floor mass - 40 kg/m²

Floor load width (mm)		1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Size DxB (mm)	Roof Mass (kg/m ²)	Maximum SINGLE span bearer span (mm)								
240x90	40	4100	3600	3200	3700	3400	3000	3200	2900	2700
	90	3800	3200	2700	3500	3000	2600	3000	2700	2400
280x90	40	4700	4100	3700	4200	3900	3600	3700	3500	3200
	90	4400	3700	3200	4000	3500	3100	3600	3200	2900
300x90	40	5000	4400	4000	4500	4100	3800	3900	3700	3500
	90	4600	3900	3500	4300	3700	3300	3800	3400	3100
320x90	40	5200	4600	4200	4700	4300	4000	4100	3900	3700
	90	4900	4100	3700	4500	3900	3600	4000	3600	3300
360x90	40	5800	5100	4600	5300	4800	4400	4600	4300	4000
	90	5400	4600	4000	5000	4300	3900	4400	4000	3700
400x90	40	6400	5600	5100	5800	5300	4800	5000	4700	4400
	90	6000	5000	4400	5500	4800	4300	4800	4400	4000
440x90	40	7000	6100	5500	6300	5700	5200	5400	5100	4800
	90	6500	5400	4800	6000	5200	4700	5300	4800	4400
240x120	40	4400	3900	3600	4000	3700	3300	3500	3200	3000
	90	4100	3500	3000	3800	3300	2900	3400	3000	2700
280x120	40	5100	4500	4000	4600	4200	3900	4000	3800	3500
	90	4700	4000	3600	4400	3800	3400	3900	3500	3200
300x120	40	5400	4700	4300	4900	4400	4100	4200	4000	3800
	90	5000	4200	3800	4600	4000	3600	4100	3700	3400
320x120	40	5700	5000	4500	5100	4700	4300	4500	4200	4000
	90	5300	4500	4000	4900	4300	3800	4300	3900	3600
360x120	40	6300	5600	5000	5700	5200	4800	4900	4700	4400
	90	5900	4900	4400	5400	4700	4300	4800	4300	4000
400x120	40	7000	6100	5500	6300	5700	5200	5400	5100	4800
	90	6500	5400	4800	6000	5200	4700	5300	4800	4400
440x120	40	7600	6700	6000	6900	6200	5700	5800	5600	5200
	90	7100	5900	5200	6500	5600	5100	5700	5200	4800
240x140	40	4600	4100	3700	4200	3800	3500	3700	3400	3200
	90	4300	3700	3200	4000	3500	3100	3500	3100	2800
280x140	40	5300	4700	4200	4800	4400	4000	4200	3900	3700
	90	4900	4200	3700	4600	4000	3600	4000	3700	3300
300x140	40	5600	5000	4500	5100	4600	4300	4400	4200	3900
	90	5200	4400	3900	4800	4200	3800	4300	3900	3600
320x140	40	5900	5200	4700	5400	4900	4500	4700	4400	4100
	90	5600	4700	4100	5100	4400	4000	4500	4100	3800
360x140	40	6600	5800	5200	6000	5400	5000	5100	4900	4600
	90	6200	5200	4600	5700	4900	4400	5000	4500	4200
400x140	40	7300	6400	5800	6600	6000	5500	5600	5300	5000
	90	6800	5700	5000	6300	5400	4900	5500	5000	4600
440x140	40	8000	7000	6300	7100	6500	6000	6000	5800	5500
	90	7500	6200	5500	6800	5900	5300	6000	5400	5000

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum DL of 40 kg/m², total ground floor mass of 40 kg/m², total wall mass of 37 kg/m², 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 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. Restraint value for slenderness calculations is 600 mm
6. Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering.
7. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

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



Floor mass - 40 kg/m²

EXAMPLE:

Sheet roof - 40 kg/m²
 floor load width = 2000 mm
 roof load width = 1950 mm
 bearer span = 3000 mm (Continuous span)

Enter single span table at 2400 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/m² row

ADOPT:

SmartLam GLT15C - 240 x 70
 - 200 x 90

Floor load width (mm)		1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Size DxB (mm)	Roof Mass (kg/m ²)	Maximum CONTINUOUS span bearer span (mm)								
120x45	40	2200	1800	1500	1700	1500	1400	1300	1200	1100
	90	2000	1500	1200	1600	1400	1100	1200	1100	1000
160x45	40	2900	2500	2100	2300	2100	1900	1700	1600	1500
	90	2700	2000	1600	2200	1800	1500	1600	1500	1400
200x45	40	3700	3100	2600	2900	2600	2300	2100	2000	1900
	90	3400	2500	2000	2700	2300	1900	2100	1900	1700
240x45	40	4200	3700	3100	3500	3100	2800	2600	2400	2300
	90	4000	3000	2500	3300	2800	2300	2500	2300	2100 ₁₀
280x45	40	4700	4200	3600	4000	3700	3300	3000 ₅	2800 ₁₀	2700 ₁₅
	90	4500	3500	2900 ₁₀	3800	3200	2700 ₁₅	2900 ₅	2600 ₁₅	2400 ₂₅
300x45	40	5000	4500	3900	4300	3900	3500	3200 ₁₀	3000 ₁₅	2900 ₂₅
	90	4700	3800	3100 ₁₅	4100	3500 ₅	2900 ₂₀	3100 ₁₅	2800 ₂₅	2600 ₃₅
320x45	40	5200	4700	4100	4600	4200	3800 ₁₀	3400 ₁₅	3200 ₂₅	3000 ₃₅
	90	4900	4000	3300	4400	3700 ₁₀	3100 ₃₀	3300 ₂₀	3000 ₃₅	2700 ₅₅
360x45	40	5700	5100	4600 ₁₀	5200	4700 ₁₀	4200 ₂₀	3900 ₃₅	3600 ₄₀	3400 ₆₀
	90	5400	4500 ₁₀	3700 ₃₅	4900 ₅	4100 ₂₀	3500 ₅₅	3800 ₃₅	3400 ₆₀	3100 ₇₅
400x45	40	6200	5500	5100 ₂₀	5600 ₅	5200 ₂₀	4700 ₃₅	4300 ₅₅	4100 ₇₀	3800 ₇₅
	90	5800	5000 ₂₅	4100 ₆₅	5400 ₁₅	4600 ₃₅	3900 ₇₅	4200 ₆₅	3800 ₈₀	3400 ₉₅
120x70	40	2500	2100	1800	2000	1800	1600	1500	1400	1300
	90	2300	1800	1400	1900	1600	1300	1400	1300	1200
160x70	40	3300	2800	2400	2700	2400	2200	2000	1900	1800
	90	3000	2400	1900	2600	2200	1800	1900	1800	1600
200x70	40	4000	3600	3000	3400	3100	2800	2500	2400	2200
	90	3700	3000	2400	3200	2700	2300	2400	2200	2000
240x70	40	4600	4100	3600	4100	3700	3300	3000	2900	2700
	90	4300	3600	2900	3900	3200	2700	2900	2700	2400
280x70	40	5100	4600	4200	4700	4300	3900	3500	3300	3100
	90	4800	4100	3400	4500	3800	3200	3400	3100	2800
300x70	40	5400	4800	4400	4900	4500	4100	3800	3600	3400
	90	5100	4400	3600	4700	4100	3400	3700	3300	3000 ₅
320x70	40	5600	5100	4600	5200	4800	4400	4000	3800	3600
	90	5300	4600	3900	5000	4300	3600	3900	3600	3200 ₁₀
360x70	40	6100	5500	5100	5600	5200	4800	4500	4300 ₅	4000 ₁₀
	90	5800	5000	4300 ₅	5400	4800	4100 ₁₀	4400 ₅	4000 ₁₅	3600 ₂₅
400x70	40	6600	6000	5500	6100	5600	5200	5000 ₁₀	4800 ₂₀	4500 ₂₅
	90	6300	5400	4800 ₁₅	5900	5200	4500 ₂₅	4900 ₁₅	4400 ₂₅	4000 ₄₀
440x70	40	7100	6400	5900	6500	6100	5600 ₅	5500 ₂₅	5200 ₃₀	4900 ₃₅
	90	6700	5800	5200 ₂₅	6300	5600 ₁₀	5000 ₃₅	5400 ₂₅	4900 ₄₀	4400 ₆₅
200x90	40	4200	3800	3400	3800	3500	3100	2800	2700	2500
	90	4000	3400	2700	3700	3100	2600	2800	2500	2300

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

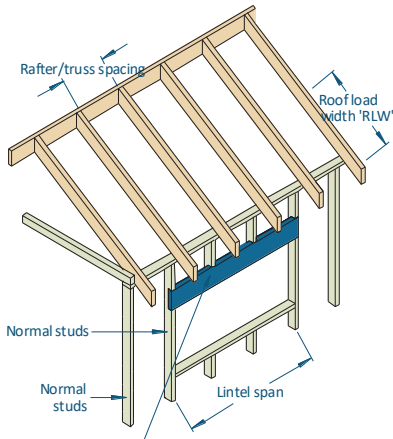
Floor mass - 40 kg/m²

Floor load width (mm)		1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Size DxB (mm)	Roof Mass (kg/m ²)	Maximum CONTINUOUS span bearer span (mm)								
240x90	40	4800	4300	4000	4400	4100	3800	3400	3200	3000
	90	4600	3900	3300	4300	3700	3100	3300	3000	2700
280x90	40	5400	4900	4500	5000	4600	4300	4000	3800	3600
	90	5100	4400	3800	4800	4200	3600	3900	3500	3200
300x90	40	5700	5100	4700	5200	4800	4500	4300	4000	3800
	90	5400	4600	4100	5000	4400	3900	4200	3800	3400
320x90	40	6000	5400	4900	5500	5100	4700	4600	4300	4100
	90	5600	4900	4400	5300	4700	4100	4400	4000	3700
360x90	40	6500	5900	5400	6000	5500	5200	5100	4800	4600
	90	6200	5300	4800	5800	5100	4600	5000	4500	4100 ₁₀
400x90	40	7000	6400	5800	6500	6000	5600	5700	5400 ₅	5100 ₁₀
	90	6700	5700	5200	6200	5500	5000 ₁₀	5500	5000 ₁₀	4600 ₂₀
440x90	40	7500	6800	6300	6900	6400	6000	6200 ₅	5900 ₁₅	5600 ₂₀
	90	7100	6200	5600 ₁₀	6700	5900	5400 ₁₅	6000 ₁₀	5500 ₂₀	5000 ₃₅
240x120	40	5200	4700	4300	4800	4400	4100	3900	3700	3500
	90	4900	4200	3800	4600	4000	3600	3800	3500	3200
280x120	40	5800	5200	4800	5300	4900	4600	4600	4400	4100
	90	5500	4700	4300	5100	4500	4100	4500	4100	3700
300x120	40	6100	5500	5000	5600	5200	4800	4900	4700	4400
	90	5800	5000	4500	5400	4800	4400	4800	4300	4000
320x120	40	6400	5800	5300	5900	5400	5100	5200	5000	4700
	90	6000	5200	4700	5700	5000	4600	5100	4600	4200
360x120	40	7000	6300	5800	6400	5900	5500	5700	5400	5100
	90	6600	5700	5100	6200	5500	5000	5500	5100	4800
400x120	40	7500	6800	6200	6900	6400	6000	6200	5900	5600
	90	7100	6200	5600	6700	5900	5400	6000	5500	5100 ₅
440x120	40	8100	7300	6700	7400	6900	6400	6600	6300	6000
	90	7600	6600	6000	7200	6400	5800	6400	5900	5500 ₁₀
240x140	40	5400	4800	4400	4900	4600	4200	4300	4000	3800
	90	5100	4400	3900	4700	4200	3800	4100	3800	3400
280x140	40	6000	5400	5000	5500	5100	4800	4900	4700	4400
	90	5700	4900	4400	5300	4700	4300	4800	4400	4000
300x140	40	6300	5700	5200	5800	5400	5000	5200	4900	4700
	90	6000	5200	4700	5600	5000	4500	5000	4600	4300
320x140	40	6600	6000	5500	6100	5700	5300	5400	5100	4900
	90	6300	5400	4900	5900	5200	4800	5300	4800	4500
360x140	40	7200	6500	6000	6600	6200	5700	5900	5600	5300
	90	6800	5900	5300	6400	5700	5200	5800	5300	4900
400x140	40	7800	7100	6500	7200	6700	6200	6400	6100	5800
	90	7400	6400	5800	6900	6100	5600	6200	5700	5300
440x140	40	8300	7600	6900	7700	7200	6700	6800	6500	6200
	90	7900	6900	6200	7400	6600	6000	6700	6200	5700

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum DL of 40 kg/m², total ground floor mass of 40 kg/m², total wall mass of 37 kg/m², 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 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. Restraint value for slenderness calculations is 600 mm
6. Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering.
7. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

Single span lintels in single/upper storey walls AS 4055 classification N1, N2 and N3



Single/Upper storey lintel

EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m²
roof load width = 3900 mm
rafter/truss spacing = 900 mm
lintel span = 3500 mm

Enter span table at 4500 roof load width column, rafter/truss spacing 900 mm, and read down to a span equal to or greater than 3500 mm in the 40 kg/m² row

ADOPT:

SmartLam GLT15C - 240 x 45
- 200 x 90

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		900	1200	900	1200	900	1200	900	1200	900	1200
Size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended lintel span (mm)									
120x45	40	2700	2800	2100	2100	1800	1800	1600	1500	1400	1200
	90	2100	2100	1600	1600	1400	1200	1200	1000	1000	NS
160x45	40	3500	3500	2900	2900	2400	2500	2200	2200	2000	1900
	90	2800	2900	2200	2200	2000	1900	1700	1700	1500	1400
200x45	40	4300	4300	3500	3500	3100	3100	2700	2800	2500	2500
	90	3500	3400	2800	2800	2400	2400	2200	2100	2000	1900
240x45	40	5000	5000	4100	4100	3600	3500	3200	3200	3000	3000
	90	4100	4000	3300	3300	2900	2900	2600	2600 ₅	2400 ₅	2400 ₁₀
280x45	40	5800	5700	4600	4600	4100	4100	3700	3700	3400	3400
	90	4600	4600	3800	3700	3300	3300	3100 ₁₀	3100 ₅	2800 ₅	2800 ₁₅
300x45	40	6100	6100	4900	4900	4300	4300	3900	3900	3600 ₅	3600
	90	4900	4900	4000	4000	3500	3500	3300 ₅	3200 ₅	3000 ₅	3000 ₁₅
320x45	40	6500	6500	5200	5200	4600	4600	4100	4100	3800 ₅	3800
	90	5200	5200	4200	4200	3700	3700	3400 ₅	3400 ₅	3200 ₂₀	3200 ₁₅
360x45	40	7300	7300	5800	5800	5100	5100	4600	4600	4200 ₁₀	4200 ₁₀
	90	5800	5800	4700	4700	4100 ₅	4100 ₅	3800 ₁₀	3800 ₅	3500 ₂₅	3500 ₁₅
400x45	40	8100	8100	6400	6400	5600	5600	5100	5000 ₅	4600 ₅	4600 ₁₀
	90	6400	6400	5200	5200	4500	4500 ₅	4100 ₁₅	4200 ₁₀	3900 ₂₅	3800 ₂₀
120x70	40	3000	3000	2400	2400	2000	2000	1800	1800	1600	1600
	90	2300	2400	1900	1800	1600	1500	1400	1300	1300	1100
160x70	40	3900	3800	3200	3100	2700	2800	2400	2400	2200	2200
	90	3100	3100	2500	2500	2100	2100	2000	1900	1800	1700
200x70	40	4600	4600	3800	3800	3300	3300	3000	3000	2800	2800
	90	3800	3800	3100	3100	2700	2700	2400	2400	2200	2200
240x70	40	5400	5400	4400	4400	3900	3900	3500	3500	3300	3300
	90	4400	4400	3600	3600	3200	3200	2900	2900	2700	2700
280x70	40	6300	6300	5100	5100	4400	4400	4000	4000	3700	3700
	90	5100	5100	4100	4100	3600	3600	3300	3300	3100	3100
300x70	40	6700	6700	5400	5400	4700	4700	4300	4300	4000	4000
	90	5400	5400	4400	4400	3900	3900	3500	3500	3300	3300
320x70	40	7100	7100	5700	5700	5000	5000	4500	4500	4200	4200
	90	5700	5700	4600	4600	4100	4100	3700	3700	3500	3500
360x70	40	8000	7900	6400	6400	5600	5600	5100	5000	4600	4600
	90	6400	6400	5200	5200	4500	4500	4100	4200	3900 ₅	3800
400x70	40	8800	8800	7100	7100	6100	6100	5500	5500	5100	5100
	90	7100	7000	5700	5700	5000	5000	4500	4500	4200 ₁₀	4200 ₁₀
440x70	40	9700	9700	7800	7800	6700	6700	6100	6100	5600	5600
	90	7700	7700	6200	6200	5400	5400	5000	4900 ₅	4600 ₁₀	4600 ₁₀

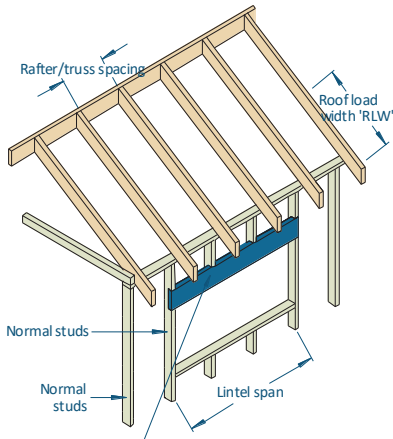
Single span lintels in single/upper storey walls AS 4055 classification N1, N2 and N3 (Cont'd)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		900	1200	900	1200	900	1200	900	1200	900	1200
Size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended lintel span (mm)									
200x90	40	5000	5000	4100	4100	3600	3600	3300	3200	3000	3000
	90	4000	4000	3300	3300	3000	3000	2600	2700	2400	2400
240x90	40	5800	5800	4700	4700	4200	4200	3800	3800	3500	3500
	90	4700	4700	3900	3900	3400	3400	3200	3100	2900	2900
280x90	40	6700	6700	5400	5400	4800	4800	4300	4300	4000	4000
	90	5400	5400	4400	4400	3900	3900	3600	3600	3300	3300
300x90	40	7100	7100	5800	5800	5100	5100	4600	4600	4300	4300
	90	5800	5800	4700	4700	4200	4200	3800	3800	3500	3500
320x90	40	7600	7600	6200	6100	5400	5400	4900	4900	4500	4500
	90	6100	6100	5000	5000	4400	4400	4000	4000	3700	3700
360x90	40	8500	8500	6900	6900	6000	6000	5400	5400	5000	5000
	90	6900	6800	5500	5500	4900	4900	4500	4400	4100	4200
400x90	40	9500	9500	7600	7600	6600	6600	6000	6000	5500	5500
	90	7600	7600	6100	6100	5400	5400	4900	4900	4500	4500
440x90	40	10500	10400	8400	8400	7300	7300	6500	6500	6000	6000
	90	8300	8300	6700	6700	5900	5900	5300	5300	5000	4900 _s
200x120	40	5300	5300	4400	4400	3900	3800	3500	3500	3300	3200
	90	4400	4400	3600	3600	3200	3200	2900	2900	2700	2700
240x120	40	6300	6300	5100	5200	4500	4500	4100	4100	3800	3800
	90	5100	5100	4200	4200	3700	3700	3400	3400	3200	3200
280x120	40	7200	7200	5900	5900	5200	5200	4700	4700	4300	4300
	90	5900	5900	4800	4800	4200	4200	3900	3900	3600	3600
300x120	40	7700	7700	6300	6300	5500	5500	5000	5000	4600	4600
	90	6300	6300	5100	5100	4500	4500	4100	4100	3900	3800
320x120	40	8200	8200	6700	6700	5800	5800	5300	5300	4900	4900
	90	6700	6700	5400	5400	4800	4800	4400	4400	4100	4100
360x120	40	9200	9200	7500	7500	6500	6500	5900	5900	5400	5400
	90	7500	7400	6000	6000	5300	5300	4800	4800	4500	4500
400x120	40	10300	10200	8300	8300	7200	7200	6500	6500	6000	6000
	90	8200	8300	6700	6700	5900	5800	5300	5300	5000	4900
440x120	40	11300	11300	9100	9100	7900	7900	7100	7100	6600	6600
	90	9100	9100	7300	7300	6400	6400	5800	5800	5400	5400
240x140	40	6500	6500	5300	5400	4700	4700	4300	4300	4000	4000
	90	5300	5300	4400	4400	3900	3900	3600	3500	3300	3300
280x140	40	7500	7500	6100	6100	5400	5400	4900	4900	4500	4500
	90	6100	6100	5000	5000	4400	4400	4100	4100	3800	3800
300x140	40	8000	8000	6600	6600	5800	5700	5200	5200	4800	4800
	90	6500	6500	5300	5300	4700	4700	4300	4300	4000	4000
320x140	40	8500	8500	7000	7000	6100	6100	5500	5500	5100	5100
	90	6900	6900	5700	5600	5000	5000	4600	4500	4200	4200
360x140	40	9600	9500	7800	7800	6800	6800	6200	6200	5700	5700
	90	7800	7800	6300	6300	5600	5500	5100	5100	4700	4700
400x140	40	10600	10600	8700	8700	7600	7600	6800	6800	6300	6300
	90	8700	8600	7000	7000	6100	6100	5600	5600	5200	5200
440x140	40	11800	11700	9500	9500	8300	8300	7500	7500	6900	6900
	90	9500	9500	7700	7700	6700	6700	6100	6100	5700	5600

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 35 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm
3. Restraint value for slenderness calculations is 600 mm
4. Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
5. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

Single span lintels in single/upper storey walls AS 4055 classification C1, C2 and C3



Single/Upper storey lintel

EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m²
roof load width = 3900 mm
rafter/truss spacing = 900 mm
lintel span = 3500 mm

Enter span table at 4500 roof load width column, rafter/truss spacing 900 mm, and read down to a span equal to or greater than 3500 mm in the 40 kg/m² row

ADOPT:

SmartLam GLT15C - 360 x 45
- 280 x 70

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		900	1200	900	1200	900	1200	900	1200	900	1200
Size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended lintel span (mm)									
120x45	40	2100	2100	1400	1000	NS	NS	NS	NS	NS	NS
	90	2100	2100	1400	1100	NS	NS	NS	NS	NS	NS
160x45	40	2900	2800	2000	1900	1600	1200	1100	NS	NS	NS
	90	2800	2900	2000	1900	1600	1300	1100 ₅	NS	NS	NS
200x45	40	3700	3600	2500	2500	2100	2000	1800 ₁₀	1200	1200 ₁₀	NS
	90	3500	3400	2500	2500	2000 ₅	2000 ₅	1800 ₁₅	1300	1200 ₁₅	NS
240x45	40	4400	4400	3100	3000	2400	2500 ₁₀	2100 ₁₀	1700 ₁₀	1500 ₅	1300
	90	4100	4000	3100 ₅	3000	2400 ₅	2500 ₁₅	2100 ₁₅	1700 ₁₅	1700 ₁₀	1300 ₅
280x45	40	5200	5200	3700	3500	2900	2900 ₁₅	2500 ₁₀	2500 ₂₅	2200 ₃₀	1800 ₂₀
	90	4600	4600	3700 ₅	3500	2900 ₅	2900 ₂₀	2500 ₂₀	2500 ₃₀	2200 ₃₀	1800 ₃₀
300x45	40	5600	5500	3900	3800	3200 ₁₅	3100 ₁₀	2700 ₁₀	2700 ₂₅	2400 ₂₅	1900 ₂₀
	90	4900	4900	3900 ₅	3800 ₅	3200 ₂₀	3100 ₂₀	2700 ₁₅	2700 ₃₀	2300 ₃₅	1900 ₂₅
320x45	40	6000	5900	4200 ₅	4100 ₅	3400 ₁₀	3300 ₁₀	2900 ₁₀	2900 ₃₀	2600 ₂₅	2100 ₁₅
	90	5200	5200	4200 ₁₀	4100 ₁₅	3400 ₂₀	3300 ₁₅	2900 ₂₀	2800 ₃₀	2500 ₃₅	2500 ₅₀
360x45	40	6600	6600	4700 ₅	4800 ₁₅	3900 ₂₀	3700 ₁₀	3300 ₃₀	3200 ₃₀	2900 ₂₀	2900 ₃₅
	90	5800	5800	4700 ₁₀	4700 ₁₀	3800 ₃₀	3700 ₂₀	3300 ₄₀	3200 ₄₀	2800 ₃₀	2800 ₅₀
400x45	40	7200	7200	5300 ₁₀	5200 ₁₅	4300 ₂₅	4200 ₃₀	3700 ₃₅	3600 ₂₅	3300 ₅₀	3200 ₄₅
	90	6400	6400	5200 ₂₀	5200 ₂₀	4200 ₃₅	4200 ₂₅	3700 ₅₀	3500 ₃₅	3300 ₃₅	3100 ₆₀
120x70	40	2500	2600	1700	1500	1300	1000	NS	NS	NS	NS
	90	2300	2400	1800	1500	1300	1000	NS	NS	NS	NS
160x70	40	3500	3300	2300	2300	1900	1700	1600	1300	1400	1000
	90	3100	3100	2300	2400	1900	1700	1600	1300	1300	1000
200x70	40	4300	4300	3000	3000	2400	2400	2100	2100	1900	1600
	90	3800	3800	3000	3000	2400	2400	2100	2000	1800 ₅	1600 ₅
240x70	40	5300	5200	3700	3600	3000	2900	2500	2500 ₅	2200 ₅	2200
	90	4400	4400	3600	3600	2900	2900	2500	2500 ₁₀	2200 ₁₀	2200 ₅
280x70	40	6000	5900	4300	4300	3600	3400	3000	2900 ₅	2600	2700 ₁₀
	90	5100	5100	4100	4100	3500	3400	3000 ₅	2900 ₁₅	2600 ₅	2600 ₂₀
300x70	40	6300	6300	4600	4700	3800	3700	3300 ₅	3100 ₅	2900 ₅	2800 ₁₀
	90	5400	5400	4400	4400	3800 ₅	3600	3200 ₁₅	3100 ₁₀	2800 ₁₀	2800 ₂₀
320x70	40	6600	6600	5000	5000	4000	3900	3500 ₅	3400 ₅	3100 ₅	3000 ₂₀
	90	5700	5700	4600	4600	4000 ₅	3900 ₅	3500 ₁₀	3300 ₁₀	3000 ₁₀	3000 ₂₅
360x70	40	7200	7200	5600	5500	4500	4500 ₅	3900 ₁₀	3800 ₅	3600 ₂₅	3400 ₁₅
	90	6400	6400	5200	5200	4500 ₁₀	4500 ₁₀	3900 ₂₀	3800 ₁₅	3500 ₂₅	3300 ₂₀
400x70	40	7800	7800	6200	6200	5100 ₅	5100 ₁₀	4400 ₁₅	4400 ₂₀	3900 ₂₅	3800 ₁₅
	90	7100	7000	5700 ₅	5700 ₅	5000 ₁₀	5000 ₂₀	4300 ₂₅	4300 ₃₀	3900 ₃₅	3700 ₂₀
440x70	40	8400	8400	6900	6900 ₅	5600 ₁₅	5500 ₁₅	4800 ₁₅	4900 ₂₅	4300 ₃₀	4300 ₃₅
	90	7700	7700	6200 ₅	6200 ₅	5400 ₂₀	5400 ₂₅	4700 ₂₀	4800 ₃₅	4200 ₃₅	4200 ₂₅

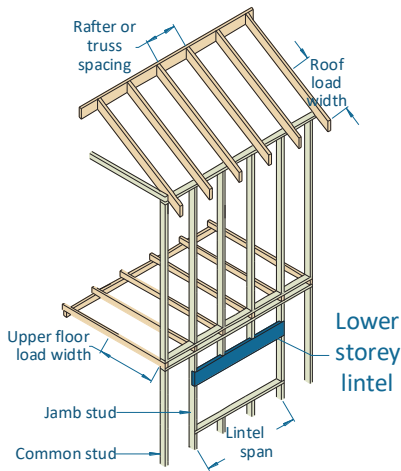
Single span lintels in single/upper storey walls AS 4055 classification C1, C2 and C3 (Cont'd)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		900	1200	900	1200	900	1200	900	1200	900	1200
Size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended lintel span (mm)									
200x90	40	4900	4900	3500	3400	2800	2800	2400	2400	2100	2100
	90	4000	4000	3300	3300	2700	2700	2300	2300	2100	2100
240x90	40	5600	5600	4200	4100	3400	3300	2900	2900	2600	2600
	90	4700	4700	3900	3900	3400	3300	2900	2800 ₅	2500	2500 ₁₀
280x90	40	6300	6300	4900	4900	4000	3900	3500	3300	3100	3000 ₅
	90	5400	5400	4400	4400	3900	3900	3400	3300	3000	2900 ₁₀
300x90	40	6700	6700	5300	5300	4300	4300	3800	3600	3400 ₅	3200 ₅
	90	5800	5800	4700	4700	4200	4200	3700 ₁₀	3500	3300 ₁₀	3100 ₁₀
320x90	40	7000	7000	5700	5600	4600	4600	4000	3900	3600 ₅	3400 ₅
	90	6100	6100	5000	5000	4400	4400	3900 ₁₀	3800 ₅	3500 ₁₀	3400 ₁₀
360x90	40	7700	7700	6400	6300	5200	5200	4500 ₅	4500 ₅	4000 ₁₀	3900 ₅
	90	6900	6800	5500	5500	4900	4900 ₁₀	4400 ₁₀	4400 ₁₅	3900 ₂₀	3800 ₁₅
400x90	40	8300	8300	7000	7000	5800 ₅	5700 ₅	5000 ₅	5000 ₁₅	4400 ₁₅	4400 ₂₀
	90	7600	7600	6100	6100	5400 ₁₀	5400 ₁₀	4900 ₁₀	4900 ₂₀	4300 ₂₅	4300 ₃₀
440x90	40	8900	8900	7500	7500	6400 ₅	6300 ₅	5500 ₁₅	5500 ₂₀	4900 ₁₀	5000 ₂₅
	90	8300	8300	6700	6700 ₅	5900 ₁₀	5900 ₁₀	5300 ₂₅	5300 ₂₀	4800 ₂₀	4800 ₃₅
200x120	40	5300	5300	4000	4000	3300	3200	2800	2800	2500	2500
	90	4400	4400	3600	3600	3200	3100	2700	2700	2400	2400
240x120	40	6100	6100	4900	4900	4000	3900	3500	3300	3000	3000
	90	5100	5100	4200	4200	3700	3700	3400	3300	3000	2900
280x120	40	6800	6800	5700	5600	4600	4700	4000	3900	3600	3500
	90	5900	5900	4800	4800	4200	4200	3900	3900	3600 ₅	3400
300x120	40	7200	7200	6000	6000	5000	5000	4300	4300	3900	3700
	90	6300	6300	5100	5100	4500	4500	4100	4100 ₅	3800 ₅	3700
320x120	40	7500	7500	6300	6300	5400	5300	4600	4600	4100 ₅	4000 ₅
	90	6700	6700	5400	5400	4800	4800	4400	4400	4000 ₅	3900 ₅
360x120	40	8200	8200	6900	6900	6000	5900	5200	5200 ₅	4600	4700 ₅
	90	7400	7400	6000	6000	5300	5300	4800	4800 ₁₀	4500 ₅	4500 ₁₀
400x120	40	8900	8900	7500	7500	6700	6700	5800 ₅	5700 ₅	5200 ₁₀	5200 ₁₀
	90	8300	8300	6700	6700	5900	5800	5300 ₁₀	5300 ₁₀	5000 ₁₀	4900 ₂₀
440x120	40	9600	9600	8100	8100	7300 ₅	7300 ₅	6400 ₅	6300 ₅	5700 ₁₅	5600 ₁₅
	90	9100	9100	7300	7300	6400	6400	5800 ₁₀	5800 ₁₀	5400 ₂₀	5400 ₂₀
240x140	40	6300	6300	5300	5200	4300	4300	3700	3600	3300	3200
	90	5300	5300	4400	4400	3900	3900	3600	3500	3200	3100
280x140	40	7100	7100	6000	5900	5000	5000	4300	4300	3900	3800
	90	6100	6100	5000	5000	4400	4400	4100	4100	3800	3700
300x140	40	7500	7500	6300	6300	5500	5400	4700	4700	4200	4100
	90	6500	6500	5300	5300	4700	4700	4300	4300	4000 ₅	4000
320x140	40	7800	7800	6600	6600	5800	5700	5000	5000	4400	4400
	90	6900	6900	5700	5600	5000	5000	4600	4500	4200	4200 ₅
360x140	40	8600	8600	7200	7200	6500	6500	5700	5600	5000 ₅	5000 ₅
	90	7800	7800	6300	6300	5600	5500	5100	5100	4700	4700 ₅
400x140	40	9300	9300	7800	7800	7100	7000	6300	6200	5600 ₅	5600 ₁₀
	90	8700	8600	7000	7000	6100	6100	5600 ₅	5600 ₅	5200 ₁₀	5200 ₁₀
440x140	40	10000	10000	8400	8400	7600	7600	6900	6900 ₅	6200 ₁₀	6100 ₅
	90	9500	9500	7700	7700	6700	6700	6100 ₁₀	6100 ₅	5700 ₁₅	5600 ₁₅

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 35 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm
3. Restraint value for slenderness calculations is 600 mm
4. Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
5. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

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



EXAMPLE:

wind speed = N3
 sheet roof - 40 kg/m²
 rafter/truss spacing = 600 mm
 lintel span = 3500 mm
 roof load width = 3900 mm
 floor load width = 2400 mm
 Enter span table at 4500 roof load width column, floor load width 2400 mm, and read down to a span equal to or greater than 3500 mm in 40 kg/m² row

ADOPT:

SmartLam GLT15C - 320 x 45
 - 280 x 70

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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Lintel span (mm)											
		Single span											
120x45	40	1700	1500	1400	1600	1400	1300	1500	1400	1300	1400	1300	1200
	90	1600	1400	1300	1400	1300	1200	1300	1200	1200	1200	1100	1100
160x45	40	2300	2100	1900	2200	2000	1800	2000	1900	1700	1900	1800	1700
	90	2200	2000	1800	1900	1800	1700	1700	1600	1600	1600	1500	1500
200x45	40	3000	2600	2400	2700	2500	2300	2500	2300	2200	2400	2200	2100
	90	2700	2500	2300	2400	2300	2100	2200	2100	2000	2000	1900	1900
240x45	40	3400	3100	2900	3200	3000	2800	3100	2800	2700	2900	2700	2500
	90	3200	3000	2800	2900	2700	2600	2700	2500	2400 ₅	2500	2400	2300 ₅
280x45	40	3900	3600	3300 ₅	3700	3400	3200 ₅	3500	3300	3100 ₅	3300	3100	3000 ₅
	90	3700	3400	3200 ₅	3300	3200	3000 ₅	3100	3000 ₅	2800 ₁₀	2900 ₅	2800 ₁₀	2700 ₁₀
300x45	40	4200	3800	3500 ₅	3900	3600	3400 ₅	3700	3400	3300 ₁₀	3500	3300	3200 ₁₀
	90	3900	3600	3400 ₅	3500	3300	3200 ₁₀	3300	3100 ₅	3000 ₁₅	3100 ₅	3000 ₁₀	2900 ₁₅
320x45	40	4400	4000	3700 ₁₀	4100	3800	3600 ₁₀	3900	3600	3400 ₁₀	3700	3500 ₅	3300 ₁₅
	90	4100	3800	3600 ₁₀	3700	3500 ₅	3400 ₁₀	3500 ₅	3300 ₁₀	3200 ₁₅	3300 ₁₀	3100 ₁₅	3000 ₂₀
360x45	40	4900	4400	4100 ₁₀	4600	4200 ₅	3900 ₁₅	4300	4000 ₅	3800 ₁₅	4100	3900 ₁₀	3700 ₁₅
	90	4600	4200 ₅	3900 ₁₅	4100	3900 ₅	3700 ₁₅	3800 ₅	3700 ₁₀	3500 ₂₀	3600 ₁₅	3500 ₂₀	3400 ₂₅
400x45	40	5300	4800 ₅	4500 ₁₅	5000	4600 ₅	4300 ₁₅	4700	4400 ₁₀	4200 ₂₀	4500 ₅	4200 ₁₀	4000 ₂₀
	90	5000	4600 ₅	4300 ₁₅	4500 ₅	4300 ₁₀	4000 ₂₀	4200 ₁₀	4000 ₁₅	3800 ₂₅	3900 ₂₀	3800 ₂₅	3700 ₃₀
120x70	40	1900	1700	1600	1800	1600	1500	1700	1500	1400	1600	1500	1400
	90	1800	1600	1500	1600	1500	1400	1400	1400	1300	1300	1300	1200
160x70	40	2600	2300	2100	2400	2200	2000	2300	2100	1900	2100	2000	1900
	90	2400	2200	2000	2100	2000	1900	2000	1800	1800	1800	1700	1700
200x70	40	3200	2900	2700	3000	2800	2600	2900	2600	2400	2700	2500	2300
	90	3000	2800	2600	2700	2500	2400	2500	2300	2200	2300	2200	2100
240x70	40	3800	3400	3200	3500	3300	3100	3300	3100	3000	3200	3000	2800
	90	3500	3300	3100	3200	3000	2900	3000	2800	2700	2800	2600	2500
280x70	40	4300	3900	3600	4000	3700	3500	3800	3600	3400	3600	3400	3300
	90	4000	3700	3500	3700	3400	3300	3400	3200	3100	3200	3100	3000
300x70	40	4500	4100	3800	4300	3900	3700	4000	3800	3600	3800	3600	3400
	90	4300	3900	3700	3900	3700	3500	3600	3400	3300	3400	3300	3200
320x70	40	4800	4400	4000	4500	4200	3900	4300	4000	3800	4000	3800	3600
	90	4500	4200	3900	4100	3900	3700	3800	3600	3500	3600	3400	3300 ₅
360x70	40	5300	4800	4500	5000	4600	4300	4700	4400	4200	4500	4200	4000
	90	5000	4600	4300	4500	4300	4000	4200	4000	3800 ₅	3900	3800 ₅	3700 ₅
400x70	40	5900	5300	4900	5500	5100	4700 ₅	5200	4800	4600 ₅	4900	4600	4400 ₅
	90	5500	5000	4700 ₅	5000	4700	4400 ₅	4600	4400	4200 ₁₀	4300 ₅	4200 ₅	4000 ₁₀
440x70	40	6400	5800	5300 ₅	6000	5500	5100 ₅	5600	5300	5000 ₅	5300	5000	4800 ₁₀
	90	6000	5500	5100 ₅	5400	5100	4800 ₁₀	5000	4800 ₅	4600 ₁₀	4700 ₅	4500 ₁₀	4400 ₁₅
200x90	40	3500	3100	2900	3200	3000	2800	3100	2900	2700	2900	2700	2600
	90	3200	3000	2800	3000	2800	2600	2700	2500	2400	2500	2400	2300
240x90	40	4000	3700	3400	3800	3500	3300	3600	3400	3200	3400	3200	3100
	90	3800	3500	3300	3400	3200	3100	3200	3100	2900	3000	2900	2800
280x90	40	4600	4200	3900	4300	4000	3700	4100	3800	3600	3900	3700	3500
	90	4300	4000	3700	3900	3700	3500	3600	3500	3300	3400	3300	3200
300x90	40	4900	4400	4100	4600	4200	4000	4300	4000	3800	4100	3900	3700
	90	4600	4200	4000	4100	3900	3700	3900	3700	3500	3600	3500	3400

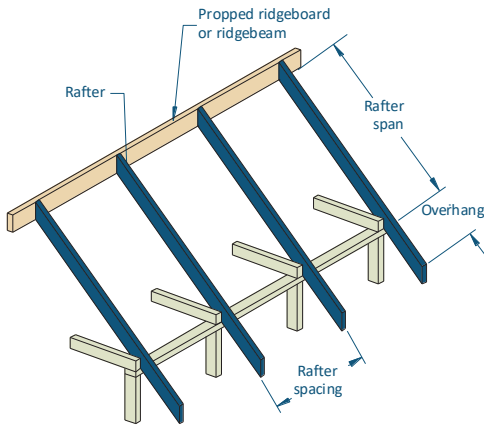
Single span lintels in lower storey walls AS 4055 classification N1, N2, N3 & C1

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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Lintel span (mm)											
		Single span											
320x90	40	5200	4700	4300	4800	4500	4200	4600	4300	4000	4300	4100	3900
	90	4800	4500	4200	4400	4100	3900	4100	3900	3700	3800	3700	3600
360x90	40	5700	5200	4800	5400	4900	4600	5100	4700	4500	4800	4500	4300
	90	5400	4900	4600	4900	4600	4300	4500	4300	4100	4200	4100	3900
400x90	40	6300	5700	5300	5900	5400	5100	5600	5200	4900	5300	5000	4700
	90	5900	5400	5100	5300	5000	4800	4900	4700	4500	4600	4500	4300 ₅
440x90	40	6900	6200	5700	6500	5900	5500	6100	5700	5300	5700	5400	5100
	90	6400	5900	5500	5800	5500	5200	5400	5100	4900 ₅	5000	4800 ₅	4700 ₅
200x120	40	3700	3400	3200	3500	3300	3100	3300	3100	3000	3200	3000	2800
	90	3500	3200	3100	3200	3000	2900	3000	2800	2700	2800	2600	2500
240x120	40	4300	4000	3700	4100	3800	3600	3900	3600	3400	3700	3500	3300
	90	4100	3800	3500	3700	3500	3300	3500	3300	3200	3300	3100	3000
280x120	40	5000	4500	4200	4700	4300	4000	4400	4100	3900	4200	4000	3800
	90	4700	4300	4000	4200	4000	3800	3900	3800	3600	3700	3600	3400
300x120	40	5300	4800	4400	5000	4600	4300	4700	4400	4100	4400	4200	4000
	90	4900	4600	4300	4500	4200	4000	4200	4000	3800	3900	3800	3700
320x120	40	5600	5100	4700	5200	4800	4500	4900	4600	4400	4700	4400	4200
	90	5200	4800	4500	4800	4500	4300	4400	4200	4000	4100	4000	3900
360x120	40	6200	5600	5200	5800	5400	5000	5500	5100	4800	5200	4900	4700
	90	5800	5400	5000	5300	5000	4700	4900	4700	4500	4600	4400	4300
400x120	40	6900	6200	5700	6400	5900	5500	6000	5600	5300	5700	5400	5100
	90	6400	5900	5500	5800	5500	5200	5400	5100	4900	5000	4800	4700
440x120	40	7500	6800	6300	7000	6500	6000	6600	6200	5800	6300	5900	5600
	90	7000	6500	6000	6300	6000	5600	5900	5600	5300	5500	5300	5100
240x140	40	4500	4100	3800	4300	3900	3700	4000	3800	3600	3800	3600	3500
	90	4300	3900	3700	3900	3700	3500	3600	3400	3300	3400	3300	3200
280x140	40	5200	4700	4400	4900	4500	4200	4600	4300	4100	4400	4100	3900
	90	4900	4500	4200	4400	4200	4000	4100	3900	3800	3900	3700	3600
300x140	40	5500	5000	4600	5200	4800	4500	4900	4600	4300	4600	4400	4200
	90	5200	4800	4500	4700	4400	4200	4400	4200	4000	4100	3900	3800
320x140	40	5800	5300	4900	5500	5100	4700	5200	4800	4600	4900	4600	4400
	90	5500	5000	4700	5000	4700	4400	4600	4400	4200	4300	4200	4000
360x140	40	6500	5900	5400	6100	5600	5300	5700	5400	5100	5400	5100	4900
	90	6100	5600	5200	5500	5200	4900	5100	4900	4700	4800	4600	4500
400x140	40	7200	6500	6000	6700	6200	5800	6300	5900	5600	6000	5600	5400
	90	6700	6200	5800	6100	5700	5400	5600	5300	5100	5300	5100	4900
440x140	40	7900	7100	6600	7400	6800	6300	6900	6500	6100	6500	6200	5900
	90	7400	6800	6300	6600	6200	5900	6100	5800	5600	5700	5500	5300

NOTES:

- D = member depth, B = member breadth, NS = not suitable.
- Total Upper floor mass of 40 kg/m², floor live load of 1.5 kPa, floor point load of 1.8 kN
- Minimum bearing length = 35 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm.
- Restraint value for slenderness calculations is 600 mm.
- Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
- Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

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



EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m²
rafter/truss spacing = 600 mm
rafter span = 5000 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5000 mm in 40 kg/m² row

ADOPT:

SmartLam GLT15C - 165 x 60

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Rafter span (mm)							
		Single span				Continuous span			
120x45	30	3800	3800	3700	3400	4800	4800	4700	4300
	40	3900	3800	3400	3100	4800	4800	4300	3900
	75	3400	3100	2700	2500	4400	4000	3500	3200
	90	3200	2900	2600	2300	4100	3800	3300	3000
160x45	30	5500	5500	5000	4500	6500	6500	6100	5700
	40	5600	5200	4500	4100	6500	6300	5700	5200
	75	4600	4200	3700	3300	5800	5300	4700	4300
	90	4400	4000	3500	3100	5500	5000	4400	4000
200x45	30	6800	6800	6200	5700	8100	7800	7200	6800
	40	6800	6400	5700	5200	7800	7400	6800	6300
	75	5900	5300	4700	4200	6800	6400	5800	5300
	90	5500	5000	4400	4000	6600	6200	5500	5000
240x45	30	8100	7900	7200	6700	9200	8800	8200	7700
	40	7900	7400	6700	6300	8800	8400	7700	7200
	75	6800	6400	5700	5200	7800	7300	6700	6300
	90	6500	6100	5300	4800	7500	7100	6400	6000
280x45	30	9300	9100	8300	7700	10200	9800	9100	8600
	40	9100	8500	7700	7100	9700	9300	8600	8100
	75	7800	7300	6500	6100	8700	8200	7500	7000
	90	7500	6900	6200	5700	8300	7900	7200	6700
300x45	30	10000	9600	8800	8200	10700	10300	9500	9000
	40	9600	9000	8200	7600	10200	9700	9000	8500
	75	8300	7700	6900	6400	9100	8600	7900	7400
	90	7900	7400	6600	6100	8800	8300	7600	7100
320x45	30	10600	10200	9300	8600	11100	10700	10000	9400
	40	10200	9600	8600	8000	10700	10200	9400	8900
	75	8800	8200	7300	6800	9500	9000	8300	7800
	90	8400	7800	7000	6500	9200	8700	7900	7400
360x45	30	11800	11300	10200	9500	12000	11600	10800	10200
	40	11400	10600	9600	8900	11500	11000	10200	9700
	75	9800	9100	8100	7500	10300	9800	9000	8500
	90	9300	8700	7800	7200	10000	9400	8700	8100
400x45	30	12000	12000	11100	10300	12000	12000	11600	11000
	40	12000	11700	10600	9800	12000	11900	11000	10400
	75	10800	10000	9000	8300	11100	10600	9700	9100
	90	10300	9500	8500	7900	10700	10200	9300	8800
120x70	30	4400	4400	4100	3700	5400	5500	5100	4700
	40	4500	4200	3700	3400	5400	5300	4700	4300
	75	3800	3500	3000	2800	4800	4400	3900	3600
	90	3600	3300	2900	2600	4500	4200	3700	3400
160x70	30	6100	6000	5400	5000	7200	7000	6500	6100
	40	6000	5600	5000	4600	7000	6700	6100	5700
	75	5100	4700	4100	3700	6200	5800	5200	4700
	90	4800	4400	3900	3500	6000	5500	4900	4500
200x70	30	7500	7200	6600	6200	8500	8200	7600	7200
	40	7200	6800	6200	5800	8100	7800	7200	6800
	75	6300	5900	5200	4700	7300	6900	6300	5900
	90	6000	5600	4900	4400	7000	6600	6000	5600

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

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Rafter span (mm)							
		Single span				Continuous span			
240x70	30	8900	8400	7700	7200	9600	9200	8600	8200
	40	8400	7900	7200	6800	9200	8800	8200	7700
	75	7300	6900	6200	5700	8200	7800	7200	6700
	90	7000	6600	5900	5400	7900	7500	6900	6500
300x70	30	10700	10200	9300	8800	11000	10700	10000	9500
	40	10200	9600	8800	8200	10600	10200	9500	9000
	75	8900	8300	7500	7000	9600	9100	8400	7900
	90	8500	7900	7200	6600	9300	8800	8100	7600
320x70	30	11300	10700	9900	9300	11500	11100	10500	10000
	40	10700	10100	9300	8700	11100	10600	10000	9400
	75	9400	8800	7900	7400	10000	9600	8800	8300
	90	9000	8400	7600	7000	9700	9200	8500	8000
360x70	30	12000	11900	11000	10300	12000	12000	11300	10800
	40	11900	11300	10300	9600	11900	11500	10800	10200
	75	10400	9800	8800	8200	10900	10400	9600	9000
	90	10000	9300	8400	7800	10500	10000	9200	8700
400x70	30	12000	12000	12000	11200	12000	12000	12000	11600
	40	12000	12000	11300	10600	12000	12000	11600	11000
	75	11500	10800	9700	9000	11600	11100	10300	9700
	90	11000	10300	9300	8600	11300	10800	10000	9400
440x70	30	12000	12000	12000	12000	12000	12000	12000	12000
	40	12000	12000	12000	11600	12000	12000	12000	11800
	75	12000	11800	10600	9800	12000	11900	11000	10400
	90	12000	11200	10100	9400	12000	11500	10600	10000
200x90	30	8000	7600	7000	6600	8800	8500	8000	7600
	40	7600	7200	6600	6200	8500	8100	7600	7100
	75	6700	6300	5600	5100	7600	7200	6700	6200
	90	6400	6000	5300	4800	7400	7000	6400	6000
240x90	30	9200	8800	8100	7700	9900	9600	9000	8600
	40	8800	8300	7700	7200	9500	9200	8600	8100
	75	7800	7300	6600	6100	8600	8200	7600	7100
	90	7500	7000	6300	5800	8300	7900	7300	6900
280x90	30	10500	10000	9300	8700	10900	10500	10000	9500
	40	10000	9500	8700	8200	10500	10100	9500	9000
	75	8800	8300	7500	7000	9600	9100	8500	8000
	90	8500	8000	7200	6700	9300	8800	8100	7700
300x90	30	11100	10600	9900	9300	11400	11000	10400	10000
	40	10600	10100	9300	8700	11000	10600	10000	9500
	75	9400	8800	8000	7400	10000	9600	8900	8400
	90	9000	8400	7600	7100	9700	9300	8600	8000
320x90	30	11800	11200	10400	9800	11800	11500	10900	10400
	40	11200	10700	9800	9200	11400	11000	10400	9900
	75	10000	9300	8500	7900	10500	10000	9300	8800
	90	9600	8900	8100	7500	10100	9700	9000	8400
360x90	30	12000	12000	11600	10900	12000	12000	11700	11200
	40	12000	11800	10900	10200	12000	11900	11200	10700
	75	11000	10400	9400	8700	11300	10800	10100	9500
	90	10600	9900	9000	8300	11000	10500	9700	9200
400x90	30	12000	12000	12000	11900	12000	12000	12000	12000
	40	12000	12000	12000	11200	12000	12000	12000	11500
	75	12000	11400	10400	9600	12000	11600	10800	10300
	90	11700	10900	9900	9200	11800	11300	10500	9900
440x90	30	12000	12000	12000	12000	12000	12000	12000	12000
	40	12000	12000	12000	12000	12000	12000	12000	12000
	75	12000	12000	11300	10500	12000	12000	11600	11000
	90	12000	12000	10800	10000	12000	12000	11200	10600

Single/continuous span roof rafter AS 4055 classification C1, C2 and C3 - with ceiling attached

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous span			
120x45	30	3800	3800	3000	2500	4500	3800	3000	2500
	40	3800	3800	3100	2500	4500	3900	3100	2500
	75	3400	3100	2700	2500	4400	4000	3200	2600
	90	3200	2900	2600	2300	4100	3800	3100	2600
160x45	30	5400	5000	4100	3400	6000	5200	4100	3400
	40	5400	5000	4200	3500	6100	5200	4200	3500
	75	4600	4200	3700	3300	5800	5300	4300	3600
	90	4400	4000	3500	3100	5500	5000	4200	3500
200x45	30	6400	6000	5200	4400	7600	6500	5200	4400
	40	6400	6000	5300	4400	7700	6600	5300	4400
	75	5800	5300	4700	4200	6800	6400	5400	4600
	90	5500	5000	4400	4000	6600	6200	5300	4500
240x45	30	7300	6900	6200	5300	9100	7800	6300	5300
	40	7300	6900	6200	5400	8800	7900	6400	5400
	75	6800	6400	5700	5200	7800	7300	6500	5500
	90	6500	6100	5300	4800	7500	7100	6400	5400
280x45	30	8200	7700	6900	6300	10200	9200	7400	6300
	40	8200	7700	6900	6300	9700	9300	7500	6300
	75	7800	7300	6500	6100	8700	8200	7500	6500
	90	7500	6900	6200	5700	8300	7900	7200	6400 ₅
300x45	30	8700	8100	7300	6700	10700	9900	7900	6700
	40	8700	8100	7300	6800	10200	9700	8000	6800
	75	8300	7700	6900	6400	9100	8600	7900	7000 ₅
	90	7900	7400	6600	6100	8800	8300	7600	6800 ₅
320x45	30	9100	8500	7700	7200	11100	10500	8500	7200
	40	9100	8500	7700	7200	10600	10200	8600	7300
	75	8800	8200	7300	6800	9500	9000	8300	7500 ₁₀
	90	8400	7800	7000	6500	9200	8700	7900	7300 ₁₀
360x45	30	9900	9300	8400	7800	12000	11600	9600	8200 ₅
	40	10000	9300	8400	7800	11500	11000	9700	8300 ₁₀
	75	9800	9100	8100	7500	10300	9800	9000 ₅	8400 ₂₀
	90	9300	8700	7800	7200	10000	9400	8700 ₅	8100 ₂₀
400x45	30	10800	10100	9100	8500	12000	12000	10700 ₅	9100 ₁₅
	40	10800	10100	9100	8500	12000	11900	10800 ₁₀	9200 ₁₅
	75	10800	10000	9000	8300	11100	10600	9700 ₁₀	9100 ₂₅
	90	10300	9500	8500	7900	10700	10200	9300 ₁₀	8800 ₂₅
120x70	30	4400	4400	3600	3000	5300	4500	3600	3000
	40	4400	4200	3600	3000	5400	4600	3600	3000
	75	3800	3500	3000	2800	4800	4400	3700	3100
	90	3600	3300	2900	2600	4500	4200	3700	3100
160x70	30	5900	5500	4900	4100	7200	6100	4900	4100
	40	5900	5500	4900	4200	7000	6200	4900	4200
	75	5100	4700	4100	3700	6200	5800	5000	4300
	90	4800	4400	3900	3500	6000	5500	4900	4200
200x70	30	7000	6500	5800	5200	8500	7700	6200	5200
	40	6900	6500	5800	5300	8100	7800	6200	5300
	75	6300	5900	5200	4700	7300	6900	6300	5400
	90	6000	5600	4900	4400	7000	6600	6000	5300
240x70	30	8000	7400	6700	6200	9600	9200	7500	6300
	40	8000	7400	6700	6200	9200	8800	7500	6400
	75	7300	6900	6200	5700	8200	7800	7200	6500
	90	7000	6600	5900	5400	7900	7500	6900	6400
280x70	30	8900	8400	7500	7000	10500	10200	8800	7500
	40	9000	8400	7500	7000	10100	9800	8900	7500
	75	8400	7800	7100	6600	9200	8700	8000	7500
	90	8000	7500	6800	6300	8900	8400	7700	7200

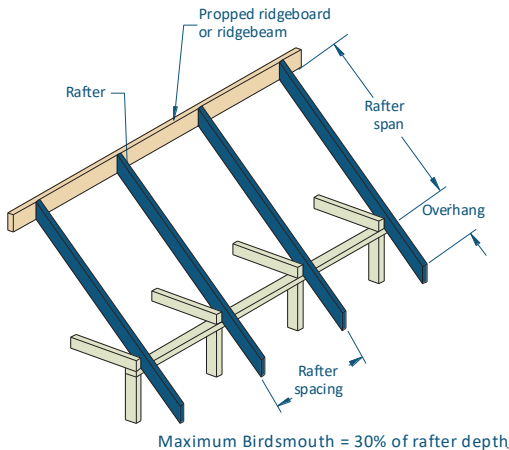
Single/continuous span roof rafter AS 4055 classification C1, C2 and C3 - with ceiling attached (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Size Dx _B (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous span			
300x70	30	9400	8800	7900	7400	11000	10700	9400	8000
	40	9400	8800	7900	7400	10600	10200	9500	8100
	75	8900	8300	7500	7000	9600	9100	8400	7900
	90	8500	7900	7200	6600	9300	8800	8100	7600
320x70	30	9900	9200	8300	7800	11500	11100	10100	8600
	40	9900	9200	8300	7800	11100	10600	10000	8700
	75	9400	8800	7900	7400	10000	9600	8800	8300
	90	9000	8400	7600	7000	9700	9200	8500	8000
360x70	30	10800	10100	9100	8500	12000	12000	11300	9700
	40	10800	10100	9100	8500	11900	11500	10800	9800
	75	10400	9800	8800	8200	10900	10400	9600	9000
	90	10000	9300	8400	7800	10500	10000	9200	8700
400x70	30	11700	10900	9900	9200	12000	12000	12000	10800
	40	11700	10900	9900	9200	12000	12000	11600	10900
	75	11500	10800	9700	9000	11600	11100	10300	9700
	90	11100	10300	9300	8600	11300	10800	10000	9400
440x70	30	12000	11700	10600	9900	12000	12000	12000	12000 ₅
	40	12000	11700	10600	9900	12000	12000	12000	11800 ₅
	75	12000	11700	10600	9800	12000	11900	11000	10400 ₅
	90	12000	11200	10100	9400	12000	11500	10600	10000 ₅
200x90	30	7400	6900	6200	5800	8800	8500	7000	6000
	40	7400	6900	6200	5800	8500	8100	7100	6100
	75	6700	6300	5600	5100	7600	7200	6700	6200
	90	6400	6000	5300	4800	7400	7000	6400	6000
240x90	30	8500	7900	7200	6700	9900	9600	8500	7300
	40	8500	7900	7200	6700	9500	9200	8600	7300
	75	7800	7300	6600	6100	8600	8200	7600	7100
	90	7500	7000	6300	5800	8300	7900	7300	6900
280x90	30	9500	8900	8000	7500	10900	10500	10000	8500
	40	9500	8900	8000	7500	10500	10100	9500	8600
	75	8900	8300	7500	7000	9600	9100	8500	8000
	90	8500	8000	7200	6700	9300	8800	8100	7700
300x90	30	10000	9400	8500	7900	11300	11000	10400	9200
	40	10000	9400	8500	7900	11000	10600	10000	9300
	75	9400	8800	8000	7400	10000	9600	8900	8400
	90	9000	8400	7600	7100	9700	9300	8600	8000
320x90	30	10500	9800	8900	8300	11800	11500	10900	9800
	40	10500	9800	8900	8300	11400	11000	10400	9900
	75	10000	9300	8500	7900	10500	10000	9300	8800
	90	9600	8900	8100	7500	10100	9700	9000	8400
360x90	30	11500	10800	9700	9000	12000	12000	11700	11100
	40	11500	10800	9700	9000	12000	11900	11200	10700
	75	11000	10400	9400	8700	11300	10800	10100	9500
	90	10600	9900	9000	8300	11000	10500	9700	9200
400x90	30	12000	11600	10500	9800	12000	12000	12000	12000
	40	12000	11600	10500	9800	12000	12000	12000	11500
	75	12000	11400	10400	9600	12000	11600	10800	10300
	90	11700	10900	9900	9200	11800	11300	10500	9900
440x90	30	12000	12000	11300	10500	12000	12000	12000	12000
	40	12000	12000	11300	10500	12000	12000	12000	12000
	75	12000	12000	11200	10500	12000	12000	11600	11000
	90	12000	12000	10800	10000	12000	12000	11200	10600

NOTES:

- D = member depth, B = member breadth, NS = not suitable.
- The above table was based on a batten spacing of 900 mm
- Maximum birds mouth depth = 30 % of rafter depth
- End bearing lengths = 45 mm at end supports and 45 mm at internal supports for continuous members. Subscript values Indicate the minimum additional bearing length where required to be greater than 45 mm at end supports and 45 mm at internal supports
- 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
- Rafter spacing up to 1200 mm
- Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
- Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

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



Maximum Birdsmouth = 30% of rafter depth

EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m²
rafter/truss spacing = 600 mm
rafter span = 5000 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5000 mm in 40 kg/m² row

ADOPT:

SmartLam GLT15C - 165 x 45

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Rafter span (mm)							
		Single span				Continuous span			
120x45	10	3800	3800	3700	3600	4800	4800	4800	4800
	20	3900	3800	3700	3600	4800	4800	4800	4800
	40	3900	3800	3400	3100	4800	4800	4300	3900
	60	3700	3400	2900	2700	4700	4300	3800	3500
160x45	10	5500	5500	5300	5200	6500	6500	6500	6500
	20	5600	5500	5300	5200	6500	6500	6500	6300
	40	5600	5200	4500	4100	6500	6300	5700	5200
	60	5000	4500	4000	3600	6100	5700	5000	4600
200x45	10	6800	6800	6500	6100	8100	8200	8200	7700
	20	6900	6800	6500	6100	8100	8200	7800	7400
	40	6800	6400	5700	5200	7800	7400	6800	6300
	60	6200	5700	5000	4600	7200	6800	6200	5700
240x45	10	8100	8000	7500	7000	9800	9800	9500	8800
	20	8200	8000	7500	7000	9800	9400	8800	8400
	40	7900	7400	6700	6300	8800	8400	7700	7200
	60	7200	6700	6100	5600	8100	7700	7100	6600
280x45	10	9300	9200	8500	7900	11400	11400	10700	9900
	20	9400	9200	8500	7900	10800	10400	9800	9300
	40	9100	8500	7700	7100	9700	9300	8600	8100
	60	8300	7700	6900	6400	9100	8600	7900	7400
300x45	10	9900	9800	8900	8300	12000	11900	11200	10400
	20	10100	9800	8900	8300	11300	10900	10300	9800
	40	9600	9000	8200	7600	10200	9700	9000	8500
	60	8800	8200	7400	6800	9500	9000	8300	7800
320x45	10	10600	10400	9400	8700	12000	12000	11800	11000
	20	10700	10400	9400	8700	11800	11400	10700	10200
	40	10200	9600	8600	8000	10700	10200	9400	8900
	60	9300	8600	7800	7200	9900	9400	8700	8200
360x45	10	11800	11300	10200	9500	12000	12000	12000	12000
	20	11900	11300	10200	9500	12000	12000	11600	11000
	40	11300	10600	9600	8900	11500	11000	10200	9700
	60	10300	9600	8700	8000	10800	10200	9400	8900
400x45	10	12000	12000	11100	10300	12000	12000	12000	12000
	20	12000	12000	11100	10300	12000	12000	12000	11900
	40	12000	11700	10600	9800	12000	11900	11000	10400
	60	11400	10600	9500	8800	11600	11000	10200	9600
120x70	10	4500	4500	4300	4200	5400	5500	5500	5500
	20	4600	4500	4300	4200	5400	5500	5500	5300
	40	4500	4200	3700	3400	5400	5300	4700	4300
	60	4100	3700	3300	3000	5100	4700	4200	3800
160x70	10	6100	6100	5900	5600	7300	7300	7300	7100
	20	6200	6100	5900	5600	7300	7300	7000	6700
	40	6000	5600	5000	4600	7000	6700	6100	5700
	60	5400	5000	4400	4000	6500	6100	5500	5100
200x70	10	7600	7500	7100	6600	9100	9100	9000	8300
	20	7600	7500	7100	6600	9000	8700	8200	7800
	40	7200	6800	6200	5800	8100	7800	7200	6800
	60	6600	6200	5600	5100	7600	7200	6600	6200
240x70	10	9000	8900	8200	7600	10700	10500	10100	9600
	20	9000	8900	8200	7600	10100	9800	9200	8800
	40	8400	7900	7200	6800	9200	8800	8200	7700
	60	7700	7200	6600	6100	8600	8200	7500	7100

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

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Rafter span (mm)							
		Single span				Continuous span			
280x70	10	10300	10200	9200	8500	11700	11500	11100	10700
	20	10500	10200	9200	8500	11100	10800	10200	9800
	40	9600	9000	8200	7700	10200	9800	9100	8600
	60	8800	8200	7500	7000	9500	9100	8400	7900
300x70	10	11000	10700	9700	9000	12000	12000	11600	11200
	20	11100	10700	9700	9000	11500	11200	10700	10200
	40	10100	9600	8800	8200	10600	10200	9500	9000
	60	9300	8800	7900	7400	10000	9500	8800	8300
320x70	10	11700	11200	10200	9500	12000	12000	12000	11700
	20	11700	11200	10200	9500	12000	11700	11100	10600
	40	10700	10100	9300	8700	11100	10600	10000	9400
	60	9900	9300	8400	7800	10400	10000	9200	8700
360x70	10	12000	12000	11100	10300	12000	12000	12000	12000
	20	12000	12000	11100	10300	12000	12000	12000	11500
	40	11900	11300	10300	9600	11900	11500	10800	10200
	60	11000	10300	9300	8700	11300	10800	10000	9500
400x70	10	12000	12000	12000	11200	12000	12000	12000	12000
	20	12000	12000	12000	11200	12000	12000	12000	12000
	40	12000	12000	11300	10600	12000	12000	11600	11000
	60	12000	11300	10300	9600	12000	11600	10800	10200
440x70	10	12000	12000	12000	12000	12000	12000	12000	12000
	20	12000	12000	12000	12000	12000	12000	12000	12000
	40	12000	12000	12000	11600	12000	12000	12000	11800
	60	12000	12000	11200	10500	12000	12000	11500	10900
200x90	10	8200	8100	7600	7100	9800	9700	9300	8900
	20	8300	8100	7600	7100	9300	9000	8500	8100
	40	7600	7200	6600	6200	8500	8100	7600	7100
	60	7000	6600	6000	5500	7900	7600	7000	6600
240x90	10	9700	9600	8700	8100	10900	10800	10400	10100
	20	9700	9400	8700	8100	10300	10100	9600	9200
	40	8800	8300	7700	7200	9500	9200	8600	8100
	60	8100	7700	7000	6500	9000	8600	7900	7500
280x90	10	11200	10800	9800	9100	11900	11800	11400	11100
	20	11100	10700	9800	9100	11300	11100	10600	10100
	40	10000	9500	8700	8200	10500	10100	9500	9000
	60	9300	8700	8000	7400	9900	9500	8800	8300
300x90	10	11900	11400	10300	9600	12000	12000	11900	11500
	20	11700	11300	10300	9600	11800	11600	11000	10600
	40	10600	10100	9300	8700	11000	10600	10000	9500
	60	9800	9300	8400	7900	10400	10000	9300	8800
320x90	10	12000	12000	10800	10100	12000	12000	12000	12000
	20	12000	11900	10800	10100	12000	12000	11500	11000
	40	11200	10700	9800	9200	11400	11000	10400	9900
	60	10400	9800	8900	8300	10800	10400	9700	9200
360x90	10	12000	12000	11800	11000	12000	12000	12000	12000
	20	12000	12000	11800	11000	12000	12000	12000	11900
	40	12000	11800	10900	10200	12000	11900	11200	10700
	60	11600	10900	9900	9300	11700	11200	10500	10000
400x90	10	12000	12000	12000	11900	12000	12000	12000	12000
	20	12000	12000	12000	11900	12000	12000	12000	12000
	40	12000	12000	12000	11200	12000	12000	12000	11500
	60	12000	12000	10900	10200	12000	12000	11300	10700
440x90	10	12000	12000	12000	12000	12000	12000	12000	12000
	20	12000	12000	12000	12000	12000	12000	12000	12000
	40	12000	12000	12000	12000	12000	12000	12000	12000
	60	12000	12000	12000	11100	12000	12000	12000	11400

Single/continuous span roof rafter AS 4055 classification C1, C2 and C3 - without ceiling attached

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Rafter span (mm)							
		Single span				Continuous span			
120x45	10	3800	3800	3000	2400	4400	3800	3000	2400
	20	3800	3800	3000	2500	4400	3800	3000	2500
	40	3800	3800	3100	2500	4500	3900	3100	2500
	60	3700	3400	2900	2600	4600	4000	3100	2600
160x45	10	5400	5000	4000	3400	5900	5100	4000	3400
	20	5400	5000	4100	3400	6000	5100	4100	3400
	40	5400	5000	4200	3500	6100	5200	4200	3500
	60	5000	4500	4000	3600	6100	5300	4200	3600
200x45	10	6400	6000	5100	4300	7400	6400	5100	4300
	20	6400	6000	5100	4300	7500	6400	5100	4300
	40	6400	6000	5300	4400	7700	6600	5300	4400
	60	6200	5700	5000	4500	7200	6700	5400	4500
240x45	10	7400	6900	6200	5200	9000	7700	6200	5200
	20	7300	6900	6200	5300	9000	7800	6200	5300
	40	7300	6900	6200	5400	8800	7900	6400	5400
	60	7200	6700	6100	5500	8100	7700	6500	5500
280x45	10	8200	7700	6900	6100	10400	9000	7200	6100
	20	8200	7700	6900	6200	10400	9100	7300	6200
	40	8200	7700	6900	6300	9700	9300	7500	6300
	60	8200	7700	6900	6400	9100	8600	7600	6500
300x45	10	8700	8100	7300	6600	10900	9700	7800	6600
	20	8700	8100	7300	6700	10900	9800	7800	6700
	40	8700	8100	7300	6800	10200	9700	8000	6800
	60	8700	8100	7300	6800	9500	9000	8200	7000 ₅
320x45	10	9100	8500	7700	7100	11400	10300	8300	7100
	20	9100	8500	7700	7100	11400	10400	8400	7100
	40	9100	8500	7700	7200	10600	10200	8600	7300
	60	9100	8500	7700	7200	9900	9400	8700	7500 ₁₀
360x45	10	9900	9300	8400	7800	12000	11700	9400	8000
	20	10000	9300	8400	7800	12000	11700	9500	8100 ₅
	40	10000	9300	8400	7800	11500	11000	9700	8300 ₁₀
	60	10000	9300	8400	7800	10800	10200	9400 ₅	8400 ₁₅
400x45	10	10800	10100	9100	8500	12000	12000	10400	8900 ₁₀
	20	10800	10100	9100	8500	12000	12000	10600 ₅	9000 ₁₀
	40	10800	10100	9100	8500	12000	11900	10800 ₁₀	9200 ₁₅
	60	10800	10100	9100	8500	11600	11000	10200 ₁₀	9400 ₂₀
120x70	10	4400	4400	3500	2900	5200	4500	3500	2900
	20	4500	4400	3600	3000	5300	4500	3600	3000
	40	4400	4200	3600	3000	5400	4600	3600	3000
	60	4100	3700	3300	3000	5100	4700	3700	3100
160x70	10	5900	5500	4800	4000	7000	6000	4800	4000
	20	5900	5500	4800	4100	7100	6100	4800	4100
	40	5900	5500	4900	4200	7000	6200	4900	4200
	60	5400	5000	4400	4000	6500	6100	5100	4300
200x70	10	7000	6500	5800	5100	8700	7600	6000	5100
	20	6900	6500	5800	5200	8700	7600	6100	5200
	40	6900	6500	5800	5300	8100	7800	6200	5300
	60	6600	6200	5600	5100	7600	7200	6400	5400
240x70	10	8000	7400	6700	6200	10000	9100	7300	6200
	20	8000	7400	6700	6200	10000	9200	7400	6300
	40	8000	7400	6700	6200	9200	8800	7500	6400
	60	7700	7200	6600	6100	8600	8200	7500	6600
280x70	10	8900	8400	7500	7000	11200	10500	8600	7300
	20	8900	8400	7500	7000	11000	10500	8700	7400
	40	8900	8400	7500	7000	10100	9800	8900	7500
	60	8800	8200	7500	7000	9500	9100	8400	7700
300x70	10	9400	8800	7900	7400	11800	11100	9200	7900
	20	9400	8800	7900	7400	11500	11100	9300	7900
	40	9400	8800	7900	7400	10600	10200	9500	8100
	60	9300	8800	7900	7400	10000	9500	8800	8300
320x70	10	9900	9200	8300	7800	12000	11600	9900	8400
	20	9900	9200	8300	7800	12000	11600	10000	8500
	40	9900	9200	8300	7800	11100	10600	10000	8700
	60	9900	9200	8300	7800	10400	10000	9200	8700
360x70	10	10800	10100	9100	8500	12000	12000	11100	9500
	20	10800	10100	9100	8500	12000	12000	11200	9600
	40	10800	10100	9100	8500	11900	11500	10800	9800
	60	10800	10100	9100	8500	11300	10800	10000	9500

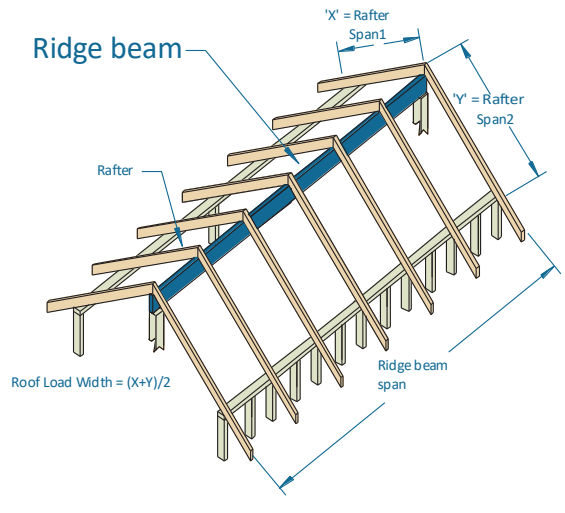
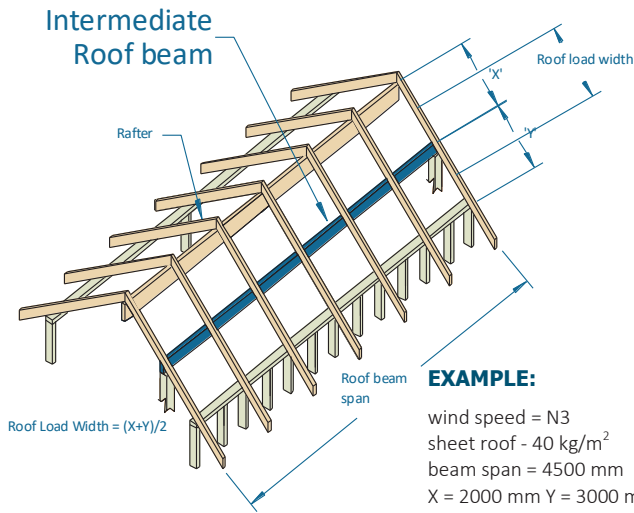
Single/continuous span roof rafter AS 4055 classification C1, C2 and C3 - without ceiling attached (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Rafter span (mm)							
		Single span				Continuous span			
400x70	10	11700	10900	9900	9200	12000	12000	12000	10600
	20	11700	10900	9900	9200	12000	12000	12000	10700
	40	11700	10900	9900	9200	12000	12000	11600	10900
	60	11700	10900	9900	9200	12000	11600	10800	10200
440x70	10	12000	11700	10600	9900	12000	12000	12000	11700
	20	12000	11700	10600	9900	12000	12000	12000	11800
	40	12000	11700	10600	9900	12000	12000	12000	11800 ₅
	60	12000	11700	10600	9900	12000	12000	11500	10900 ₅
200x90	10	7400	6900	6200	5800	9300	8600	6900	5900
	20	7400	6900	6200	5800	9300	8700	7000	5900
	40	7400	6900	6200	5800	8500	8100	7100	6100
	60	7000	6600	6000	5500	7900	7600	7000	6200
240x90	10	8500	7900	7200	6700	10600	10000	8300	7100
	20	8500	7900	7200	6700	10300	10000	8400	7200
	40	8500	7900	7200	6700	9500	9200	8600	7300
	60	8100	7700	7000	6500	9000	8600	7900	7500
280x90	10	9500	8900	8000	7500	11900	11200	9800	8400
	20	9500	8900	8000	7500	11300	11100	9900	8400
	40	9500	8900	8000	7500	10500	10100	9500	8600
	60	9300	8700	8000	7400	9900	9500	8800	8300
300x90	10	10000	9400	8500	7900	12000	11800	10500	9000
	20	10000	9400	8500	7900	11800	11600	10600	9100
	40	10000	9400	8500	7900	11000	10600	10000	9300
	60	9800	9300	8400	7900	10400	10000	9300	8800
320x90	10	10500	9800	8900	8300	12000	12000	11200	9600
	20	10500	9800	8900	8300	12000	12000	11200	9700
	40	10500	9800	8900	8300	11400	11000	10400	9900
	60	10400	9800	8900	8300	10800	10400	9700	9200
360x90	10	11500	10800	9700	9000	12000	12000	12000	10900
	20	11500	10800	9700	9000	12000	12000	12000	11000
	40	11500	10800	9700	9000	12000	11900	11200	10700
	60	11500	10700	9700	9000	11700	11200	10500	10000
400x90	10	12000	11600	10500	9800	12000	12000	12000	12000
	20	12000	11600	10500	9800	12000	12000	12000	12000
	40	12000	11600	10500	9800	12000	12000	12000	11500
	60	12000	11600	10500	9800	12000	12000	11300	10700
440x90	10	12000	12000	11300	10500	12000	12000	12000	12000
	20	12000	12000	11300	10500	12000	12000	12000	12000
	40	12000	12000	11300	10500	12000	12000	12000	12000
	60	12000	12000	11300	10500	12000	12000	12000	11400

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 birds mouth depth = 30 % of rafter depth
4. End bearing lengths = 45 mm at end supports and 45 mm at internal supports for continuous members. Subscript values Indicate the minimum additional bearing length where required to be greater than 45 mm at end supports and 45 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 GLT15C in this table are stocked in each state. Please check with your supplier before ordering
8. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

Ridge/intermediate roof beam AS 4055 classification N1, N2 and N3



EXAMPLE:

wind speed = N3
 sheet roof - 40 kg/m²
 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 in 40 kg/m² row

ADOPT: SmartLam GLT15C - 240 x 70
 - 280 x 45

Roof load width (mm)		1500	3000	4500	6000	7500	1500	3000	4500	6000	7500
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge /Intermediate beam span (mm)									
		Single span					Continuous span				
120x45	40	2800	2100	1800	1600	1500	3600	2700	2200	1800	1600
	90	2100	1700	1400	1300	1200	2800	2200	1700	1500	1300
160x45	40	3700	2900	2500	2200	2000	4700	3600	2900	2500	2200
	90	2900	2200	1900	1700	1600	3700	2900	2300	2000	1700
200x45	40	4700	3700	3100	2800	2500	5900	4500	3600	3100	2700
	90	3600	2800	2400	2200	2000	4600	3600	2900	2500	2200
240x45	40	5700	4400	3800	3300	3000	6800	5400	4300	3700	3300
	90	4400	3400	3000	2600	2400	5500	4300	3500	3000	2600
280x45	40	6600	5300	4500	3900	3600	7600	6300	5100	4300	3800
	90	5200	4100	3500	3100	2800	6300	5000	4100	3500	3100
300x45	40	7000	5700	4800	4300	3900	7900	6700	5400	4600	4100
	90	5600	4400	3800	3400	3100	6700	5400	4400	3700	3300
320x45	40	7400	6000	5200	4600	4100	8300	7000	5800	5000	4400
	90	6000	4700	4000	3600	3300	7000	5800	4700	4000	3500
360x45	40	8200	6700	5900	5200	4700	9100	7700	6500	5600	4900
	90	6700	5300	4600	4100	3700	7600	6400	5200	4500	4000
400x45	40	9100	7300	6400	5800	5300	9800	8300	7200	6200	5500
	90	7300	6000	5100	4600	4200	8200	7000	5800	5000	4400 ₂₅
120x70	40	3100	2400	2000	1800	1600	3900	3100	2500	2200	1900
	90	2400	1800	1600	1400	1300	3100	2400	2000	1700	1500
160x70	40	4100	3200	2700	2400	2200	5200	4100	3400	2900	2600
	90	3200	2500	2200	1900	1800	4100	3300	2700	2300	2100
200x70	40	5200	4100	3500	3100	2800	6400	5200	4200	3600	3200
	90	4100	3200	2700	2400	2200	5100	4100	3400	2900	2600
240x70	40	6300	5000	4200	3700	3400	7200	6100	5100	4400	3900
	90	4900	3900	3300	3000	2700	6100	4900	4100	3500	3100
280x70	40	7200	5900	5000	4400	4000	8100	6900	5900	5100	4500
	90	5800	4500	3900	3500	3200	6800	5700	4800	4100	3600
300x70	40	7600	6200	5400	4800	4300	8500	7200	6300	5400	4800
	90	6200	4900	4200	3800	3400	7200	6100	5100	4400	3900
320x70	40	8000	6600	5800	5100	4600	8900	7600	6800	5800	5100
	90	6600	5200	4500	4000	3700	7500	6400	5400	4700	4100
360x70	40	8900	7300	6400	5800	5300	9600	8200	7400	6500	5800
	90	7300	6000	5100	4600	4200	8200	6900	6100	5200	4600
400x70	40	9800	8000	7000	6400	5900	10300	8900	8000	7200	6400
	90	8000	6500	5700	5100	4700	8800	7500	6800	5800	5100
440x70	40	10700	8700	7700	6900	6400	11100	9500	8600	7900	7100
	90	8700	7100	6300	5700	5200	9500	8100	7300	6400	5700

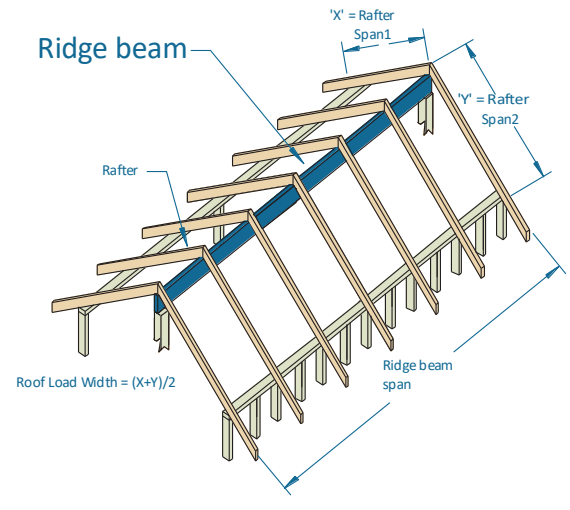
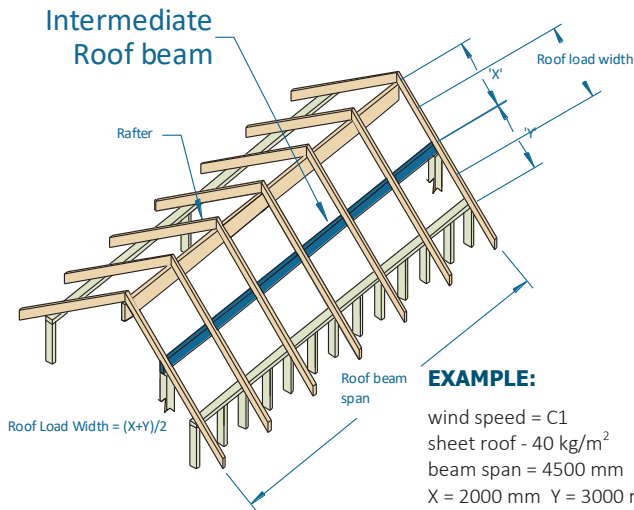
Ridge/intermediate roof beam AS 4055 classification N1, N2 & N3 (Cont'd)

Roof load width (mm)		1500	3000	4500	6000	7500	1500	3000	4500	6000	7500
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge /Intermediate beam span (mm)									
		Single span					Continuous span				
200x90	40	5700	4400	3800	3400	3100	6700	5600	4800	4100	3700
	90	4400	3500	3000	2700	2400	5500	4400	3800	3300	2900
240x90	40	6700	5400	4600	4100	3700	7600	6500	5800	4900	4400
	90	5400	4200	3600	3200	3000	6500	5300	4600	4000	3500
280x90	40	7600	6300	5400	4800	4400	8500	7300	6500	5800	5100
	90	6300	5000	4300	3800	3500	7200	6100	5400	4600	4100
300x90	40	8100	6700	5900	5200	4700	8900	7600	6900	6200	5500
	90	6600	5300	4600	4100	3800	7600	6400	5700	4900	4400
320x90	40	8600	7000	6200	5600	5100	9300	8000	7200	6600	5800
	90	7000	5700	4900	4400	4000	8000	6800	6100	5300	4700
360x90	40	9500	7800	6900	6200	5700	10100	8700	7800	7200	6500
	90	7800	6400	5600	5000	4600	8700	7400	6600	5900	5200
400x90	40	10500	8600	7500	6800	6300	10900	9400	8500	7800	7300
	90	8600	7000	6200	5600	5100	9300	8000	7200	6600	5800
440x90	40	11400	9400	8200	7500	6900	11600	10000	9100	8400	7900
	90	9400	7600	6700	6200	5700	10000	8500	7700	7100	6400
200x120	40	6200	4900	4200	3700	3400	7100	6100	5300	4700	4200
	90	4900	3800	3300	2900	2700	6000	4800	4200	3800	3400
240x120	40	7200	5900	5100	4500	4100	8100	6900	6200	5700	5000
	90	5900	4600	4000	3600	3300	6900	5800	5100	4600	4000
280x120	40	8200	6800	6000	5300	4800	9000	7700	7000	6400	5900
	90	6700	5500	4700	4200	3900	7700	6500	5900	5300	4700
300x120	40	8700	7200	6300	5700	5200	9400	8100	7300	6800	6300
	90	7200	5900	5100	4500	4200	8100	6900	6200	5700	5000
320x120	40	9200	7600	6700	6100	5600	9900	8500	7700	7100	6600
	90	7600	6200	5400	4900	4500	8500	7200	6500	6000	5400
360x120	40	10200	8400	7400	6800	6300	10600	9200	8400	7700	7200
	90	8400	6900	6100	5500	5100	9200	7900	7100	6600	6000
400x120	40	11200	9300	8200	7400	6900	11400	10000	9000	8400	7800
	90	9300	7600	6700	6100	5700	9900	8500	7700	7100	6700
440x120	40	12000	10100	8900	8100	7500	12000	10700	9700	9000	8400
	90	10100	8300	7300	6700	6200	10600	9100	8200	7700	7200
240x140	40	7400	6200	5300	4800	4300	8300	7200	6400	5900	5400
	90	6200	4900	4200	3800	3500	7100	6100	5300	4800	4400
280x140	40	8500	7000	6200	5600	5100	9200	8000	7200	6700	6200
	90	7000	5800	5000	4500	4100	7900	6800	6100	5600	5100
300x140	40	9000	7500	6600	6000	5500	9700	8400	7600	7000	6600
	90	7400	6200	5400	4800	4400	8300	7100	6400	6000	5400
320x140	40	9500	7900	7000	6400	5900	10100	8800	7900	7300	6900
	90	7900	6500	5700	5100	4700	8700	7500	6800	6300	5800
360x140	40	10600	8800	7800	7100	6500	10900	9500	8700	8000	7500
	90	8800	7200	6400	5800	5300	9500	8200	7400	6800	6400
400x140	40	11600	9700	8500	7700	7200	11700	10300	9300	8600	8100
	90	9600	7900	7000	6400	6000	10200	8800	8000	7400	7000
440x140	40	12000	10600	9300	8400	7800	12000	11000	10000	9300	8700
	90	10500	8600	7600	7000	6500	10900	9400	8500	7900	7500

NOTES:

1. D = member depth, B = member breadth, NS = not suitable
2. 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
3. Rafter spacing up to 1200 mm
4. Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
5. Table does not list all available SmartLam GLT15C sizes. See page 10 for full list of sizes

Ridge/intermediate roof beam AS 4055 classification C1, C2 and C3



EXAMPLE:

wind speed = C1
 sheet roof - 40 kg/m²
 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 in 40 kg/m² row

ADOPT: SmartLam GLT15C - 360 x 45
 - 300 x 70

Roof load width (mm)		1500	3000	4500	6000	7500	1500	3000	4500	6000	7500
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge /Intermediate beam span (mm)									
		Single span					Continuous span				
120x45	40	2200	1600	1300	1100	1000	2200	1600	1300	1100	1000
	90	2100	1600	1300	1100	1000	2200	1600	1300	1100	1000
160x45	40	3000	2100	1700	1500	1300	3000	2100	1700	1500	1300
	90	2900	2100	1700	1500	1300	3000	2100	1700	1500	1300
200x45	40	3900	2600	2200	1900	1700	3900	2600	2200	1900	1700
	90	3600	2600	2100	1800	1600	3900	2600	2100	1800	1600
240x45	40	4700	3200	2600	2300	2000	4700	3200	2600	2300	2000
	90	4400	3200	2600	2200	2000	4700	3200	2600	2200	2000
280x45	40	5600	3700	3000	2600	2400	5600	3700	3000	2600	2400
	90	5200	3700	3000	2600	2300	5600	3700	3000	2600	2300 ₁₀
300x45	40	6000	4000	3300	2800	2500	6000	4000	3300	2800	2500 ₅
	90	5600	4000	3200	2800	2500	6000	4000	3200	2800 ₅	2500 ₂₀
320x45	40	6400	4300	3500	3000	2700	6400	4300	3500	3000	2700 ₁₀
	90	6000	4200	3500	3000	2700	6400	4200	3500	3000 ₁₅	2700 ₃₀
360x45	40	7300	4800	3900	3400	3000	7300	4800	3900	3400 ₁₀	3000 ₂₅
	90	6700	4800	3900	3400	3000	7300	4800	3900 ₁₀	3400 ₃₀	3000 ₅₀
400x45	40	8000	5300	4400	3800	3400	8100	5300	4400 ₅	3800 ₂₅	3400 ₄₅
	90	7300	5300	4300 ₃₀	3700 ₆₅	3300 ₈₀	8100	5300	4300 ₂₀	3700 ₄₅	3300 ₇₀
120x70	40	2600	1900	1500	1300	1200	2600	1900	1500	1300	1200
	90	2400	1800	1500	1300	1100	2600	1900	1500	1300	1100
160x70	40	3600	2500	2000	1800	1600	3600	2500	2000	1800	1600
	90	3200	2500	2000	1700	1500	3600	2500	2000	1700	1500
200x70	40	4600	3100	2600	2200	2000	4600	3100	2600	2200	2000
	90	4100	3100	2500	2200	1900	4600	3100	2500	2200	1900
240x70	40	5600	3800	3100	2700	2400	5600	3800	3100	2700	2400
	90	4900	3700	3000	2600	2300	5600	3700	3000	2600	2300
280x70	40	6600	4400	3600	3100	2800	6600	4400	3600	3100	2800
	90	5800	4400	3600	3100	2700	6600	4400	3600	3100	2700
300x70	40	7000	4700	3800	3300	3000	7200	4700	3800	3300	3000
	90	6200	4700	3800	3300	2900	7100	4700	3800	3300	2900
320x70	40	7300	5000	4100	3600	3200	7700	5000	4100	3600	3200
	90	6600	5000	4100	3500	3100	7500	5000	4100	3500	3100
360x70	40	8000	5700	4600	4000	3600	8700	5700	4600	4000	3600
	90	7300	5600	4600	3900	3500	8200	5600	4600	3900	3500 ₅
400x70	40	8700	6300	5100	4500	4000	9700	6300	5100	4500	4000 ₅
	90	8000	6300	5100	4400	3900	8800	6300	5100	4400 ₅	3900 ₂₀
440x70	40	9300	7100	5700	4900	4400	10700	7100	5700	4900 ₅	4400 ₂₀
	90	8700	7000	5600	4800	4300	9500	7000	5600 ₅	4800 ₂₀	4300 ₃₅

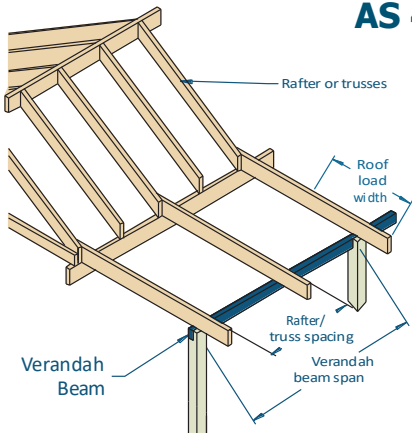
Ridge/intermediate roof beam AS 4055 classification C1, C2 & C3 (Cont'd)

Roof load width (mm)		1500	3000	4500	6000	7500	1500	3000	4500	6000	7500
Member size DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge /Intermediate beam span (mm)									
		Single span					Continuous span				
200x90	40	5300	3600	2900	2500	2200	5300	3600	2900	2500	2200
	90	4400	3500	2900	2500	2200	5300	3500	2900	2500	2200
240x90	40	6300	4300	3500	3000	2700	6500	4300	3500	3000	2700
	90	5400	4200	3500	3000	2600	6400	4200	3500	3000	2600
280x90	40	7000	5000	4100	3500	3200	7600	5000	4100	3500	3200
	90	6300	4900	4000	3500	3100	7200	4900	4000	3500	3100
300x90	40	7400	5300	4400	3800	3400	8200	5300	4400	3800	3400
	90	6600	5300	4300	3700	3300	7600	5300	4300	3700	3300
320x90	40	7800	5700	4700	4000	3600	8800	5700	4700	4000	3600
	90	7000	5600	4600	4000	3500	7900	5600	4600	4000	3500
360x90	40	8500	6500	5200	4600	4100	9900	6500	5200	4600	4100
	90	7800	6400	5200	4500	4000	8700	6400	5200	4500	4000
400x90	40	9200	7300	5800	5100	4500	10900	7300	5800	5100	4500
	90	8600	7000	5700	5000	4400	9300	7200	5700	5000	4400 _s
440x90	40	9900	8100	6400	5600	5000	11600	8100	6400	5600	5000 _s
	90	9300	7600	6300	5500	4900	10000	8000	6300	5500	4900 ₂₀
200x120	40	5900	4100	3400	2900	2600	6200	4100	3400	2900	2600
	90	4900	3800	3300	2900	2500	6000	4100	3300	2900	2500
240x120	40	6700	4900	4000	3500	3100	7500	4900	4000	3500	3100
	90	5900	4600	4000	3400	3100	6900	4900	4000	3400	3100
280x120	40	7600	5800	4700	4100	3700	8900	5800	4700	4100	3700
	90	6700	5500	4600	4000	3600	7700	5700	4600	4000	3600
300x120	40	8000	6200	5100	4400	3900	9400	6200	5100	4400	3900
	90	7200	5900	5000	4300	3800	8100	6100	5000	4300	3800
320x120	40	8400	6700	5400	4700	4200	9800	6700	5400	4700	4200
	90	7600	6200	5300	4600	4100	8500	6600	5300	4600	4100
360x120	40	9100	7700	6100	5300	4700	10700	7600	6100	5300	4700
	90	8400	6900	6000	5200	4600	9200	7500	6000	5200	4600
400x120	40	9900	8400	6700	5900	5200	11400	8600	6700	5900	5200
	90	9300	7600	6600	5700	5100	9900	8400	6600	5700	5100
440x120	40	10600	9000	7400	6400	5800	12000	9500	7400	6400	5800
	90	10100	8300	7300	6300	5600	10600	9100	7300	6300	5600 _s
240x140	40	7000	5300	4400	3800	3400	8200	5300	4400	3800	3400
	90	6200	4900	4200	3700	3300	7100	5300	4300	3700	3300
280x140	40	7900	6300	5100	4400	4000	9200	6300	5100	4400	4000
	90	7000	5800	5000	4300	3900	7900	6200	5000	4300	3900
300x140	40	8300	6800	5500	4700	4200	9700	6800	5500	4700	4200
	90	7400	6200	5400	4600	4100	8300	6700	5400	4600	4100
320x140	40	8700	7300	5800	5100	4500	10100	7300	5800	5100	4500
	90	7900	6500	5700	4900	4400	8700	7200	5700	4900	4400
360x140	40	9500	8000	6600	5700	5100	10900	8300	6600	5700	5100
	90	8800	7200	6400	5600	5000	9500	8100	6400	5600	5000
400x140	40	10300	8700	7300	6300	5700	11700	9400	7300	6300	5700
	90	9600	7900	7000	6200	5500	10200	8800	7100	6200	5500
440x140	40	11100	9300	8000	7000	6200	12000	10400	8000	7000	6200
	90	10500	8600	7600	6800	6100	10900	9400	7800	6800	6100

NOTES:

1. D = member depth, B = member breadth, NS = not suitable
2. 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
3. Rafter spacing up to 1200 mm
4. Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
5. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

Verandah beam (single span) AS 4055 classification N1, N2 and N3



EXAMPLE:

wind speed = N3
 sheet roof - 40 kg/m²
 rafter/truss spacing = 600 mm
 verandah span = 3500 mm (single span)
 roof load width = 3900 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 in 40 kg/m² row

ADOPT:

SmartLam GLT15C - 240 x 45
 - 200 x 90

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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah beam span (mm)									
		Single span									
120x45	10	3000	3000	2300	2200	1800	1500	1500	1100	1400	NS
	20	3000	3000	2300	2200	1900	1600	1600	1200	1400	1000
	40	2500	2600	1900	1900	1600	1500	1500	1100	1300	NS
	60	2200	2200	1700	1600	1500	1300	1300	1000	1200	NS
	90	1900	1900	1500	1300	1300	1100	1100	NS	1000	NS
160x45	10	4000	4000	3100	2900	2500	2400	2200	2100	1900	1700
	20	4000	4000	3100	3000	2600	2500	2200	2100	2000	1800
	40	3400	3400	2600	2700	2200	2200	2000	1900	1800	1500
	60	3000	3000	2300	2300	2000	2000	1700	1700	1600	1400
	90	2600	2700	2000	2000	1700	1700	1500	1400	1400	1100
200x45	10	5000	5000	3900	3700	3100	3000	2700	2700	2500	2400
	20	5000	5000	4000	3800	3200	3100	2800	2700	2500	2400
	40	4300	4300	3400	3300	2800	2900	2500	2500	2300	2200
	60	3800	3800	3000	2900	2500	2500	2200	2200	2000	2000
	90	3400	3300	2600	2600	2200	2200	2000	1900	1800	1700
240x45	10	6000	6000	4700	4600	3800	3700	3300	3200	3000	2800
	20	5900	5900	4800	4700	3900	3800	3400	3200	3000	2900
	40	5000	5000	4100	4100	3500	3400	3100	3000	2800	2700
	60	4500	4500	3600	3600	3100	3000	2700	2800	2500	2500
	90	4100	4000	3200	3100	2700	2700	2400	2400	2200	2100
280x45	10	6800	6800	5400	5400	4500	4400	3900	3700	3500	3300
	20	6700	6800	5500	5500	4600	4500	4000	3800	3600	3400
	40	5800	5700	4700	4600	4100	4100	3600	3600	3300	3200
	60	5200	5200	4200	4200	3600	3600	3200	3200	2900	2900
	90	4600	4600	3700	3700	3200	3200	2800	2900	2600	2600
300x45	10	7100	7100	5900	5700	4800	4800	4100	4000	3800	3600
	20	7100	7100	5800	5800	4900	4900	4200	4200	3800	3600
	40	6100	6100	4900	4900	4300	4300	3900	3900	3500	3400
	60	5500	5500	4500	4400	3900	3900	3500	3400	3200	3100
	90	4900	4900	4000	4000	3500	3400	3100	3000	2800	2800
120x70	10	3300	3300	2600	2600	2200	2100	1900	1600	1600	1300
	20	3300	3300	2600	2700	2200	2100	1900	1700	1700	1400
	40	2800	2800	2200	2200	1800	1800	1600	1500	1500	1200
	60	2500	2600	1900	1900	1600	1500	1500	1300	1300	1100
	90	2200	2200	1700	1600	1400	1300	1300	1100	1200	NS
160x70	10	4400	4400	3500	3500	3000	2900	2600	2500	2300	2200
	20	4500	4500	3500	3500	3000	2900	2600	2600	2400	2200
	40	3800	3800	2900	2900	2500	2600	2200	2200	2000	2000
	60	3400	3300	2600	2700	2200	2200	2000	1900	1800	1800
	90	2900	2900	2300	2300	1900	1900	1700	1700	1600	1500
200x70	10	5500	5600	4500	4400	3800	3600	3200	3100	2900	2800
	20	5500	5400	4400	4400	3800	3700	3300	3200	2900	2800
	40	4600	4600	3800	3700	3200	3200	2800	2800	2600	2600
	60	4200	4200	3300	3300	2800	2800	2500	2500	2300	2300
	90	3700	3700	2900	2900	2500	2500	2200	2200	2000	2000
240x70	10	6500	6500	5400	5300	4500	4500	3900	3800	3500	3400
	20	6400	6400	5200	5200	4500	4500	4000	3900	3600	3400
	40	5500	5400	4400	4400	3900	3900	3400	3400	3100	3100
	60	4900	4900	4000	4000	3400	3400	3100	3000	2800	2800
	90	4400	4400	3500	3500	3000	3000	2700	2700	2500	2500
280x70	10	7300	7300	6200	6200	5300	5200	4600	4600	4100	4000
	20	7300	7300	6000	5900	5200	5200	4600	4600	4200	4100
	40	6300	6300	5100	5100	4500	4400	4000	4000	3700	3600
	60	5600	5600	4600	4600	4000	4000	3600	3600	3300	3300
	90	5100	5100	4100	4100	3600	3500	3200	3200	2900	2900

Verandah beam (single span) AS 4055 classification N1, N2 and N3 (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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah beam span (mm)									
		Single span									
300x70	10	7700	7700	6500	6500	5600	5600	4900	4900	4400	4400
	20	7700	7700	6300	6300	5500	5500	4900	4900	4500	4400
	40	6700	6700	5400	5400	4700	4700	4300	4300	4000	3900
	60	6000	6000	4900	4900	4300	4300	3900	3900	3600	3500
	90	5400	5400	4400	4400	3900	3800	3500	3400	3200	3100
200x90	10	6000	6000	4900	4800	4200	4200	3700	3500	3300	3200
	20	5800	5800	4700	4700	4100	4100	3700	3600	3300	3200
	40	5000	5000	4100	4000	3500	3400	3100	3100	2800	2800
	60	4500	4500	3600	3600	3100	3100	2700	2800	2500	2500
	90	4000	4000	3200	3100	2700	2800	2400	2400	2200	2200
240x90	10	7000	7000	5800	5800	5100	5100	4400	4400	4000	3900
	20	6800	6800	5500	5500	4800	4800	4300	4300	4000	3900
	40	5800	5800	4800	4700	4200	4200	3800	3700	3400	3400
	60	5300	5300	4300	4300	3800	3700	3400	3300	3000	3000
	90	4700	4700	3900	3800	3300	3300	3000	3000	2700	2700
280x90	10	7800	7800	6600	6600	5900	5900	5200	5200	4700	4700
	20	7800	7800	6400	6400	5500	5500	5000	5000	4600	4500
	40	6700	6700	5400	5400	4800	4800	4300	4300	4000	4000
	60	6100	6000	4900	4900	4300	4300	4000	3900	3600	3600
	90	5400	5400	4400	4400	3900	3900	3500	3500	3200	3200
300x90	10	8200	8200	6900	6900	6300	6200	5600	5500	5000	5000
	20	8200	8200	6800	6800	5900	5900	5300	5300	4800	4800
	40	7200	7100	5800	5800	5100	5100	4600	4600	4300	4300
	60	6400	6400	5200	5200	4600	4600	4200	4200	3900	3900
	90	5800	5800	4700	4700	4200	4200	3800	3700	3500	3400
200x120	10	6500	6500	5300	5300	4600	4600	4200	4200	3900	3700
	20	6200	6200	5100	5100	4500	4400	4000	4000	3600	3600
	40	5300	5300	4400	4400	3900	3800	3400	3400	3100	3100
	60	4800	4800	4000	4000	3400	3400	3000	3000	2800	2800
	90	4400	4400	3500	3500	3000	3000	2700	2700	2500	2500
240x120	10	7500	7500	6300	6300	5600	5600	5100	5100	4600	4600
	20	7300	7300	6000	6000	5200	5200	4700	4700	4300	4300
	40	6300	6300	5100	5200	4500	4500	4100	4100	3800	3700
	60	5700	5700	4700	4600	4100	4100	3700	3700	3400	3300
	90	5100	5100	4200	4200	3700	3600	3300	3200	3000	3000
280x120	10	8400	8400	7100	7100	6400	6400	5900	5900	5400	5300
	20	8400	8400	6900	6900	6000	6000	5400	5400	4900	4900
	40	7200	7200	5900	5900	5200	5200	4700	4700	4300	4300
	60	6500	6500	5300	5300	4700	4700	4300	4300	4000	4000
	90	5900	5900	4800	4800	4300	4200	3900	3800	3500	3500
300x120	10	8800	8800	7400	7400	6700	6700	6300	6200	5800	5700
	20	8800	8800	7300	7300	6400	6400	5700	5700	5200	5300
	40	7700	7700	6300	6300	5500	5500	5000	5000	4600	4600
	60	7000	7000	5700	5700	5000	5000	4600	4500	4200	4200
	90	6300	6300	5100	5100	4500	4500	4100	4100	3800	3800
240x140	10	7700	7800	6500	6500	5900	5900	5300	5300	4900	4900
	20	7500	7500	6200	6200	5400	5400	4900	4900	4500	4500
	40	6500	6500	5400	5400	4700	4700	4300	4300	4000	4000
	60	5900	5900	4900	4900	4300	4300	3900	3900	3600	3500
	90	5300	5300	4400	4400	3900	3800	3500	3400	3200	3100
280x140	10	8700	8700	7300	7300	6600	6600	6200	6200	5700	5600
	20	8700	8600	7200	7100	6300	6200	5600	5600	5200	5200
	40	7500	7500	6200	6100	5400	5400	4900	4900	4500	4500
	60	6800	6800	5600	5600	4900	4900	4500	4500	4200	4200
	90	6100	6100	5000	5000	4400	4400	4100	4100	3700	3700
300x140	10	9200	9200	7700	7700	7000	7000	6500	6500	6000	6000
	20	9200	9200	7600	7600	6700	6700	6000	6000	5500	5500
	40	8000	8000	6600	6600	5800	5700	5200	5200	4800	4800
	60	7300	7300	5900	5900	5200	5200	4800	4700	4400	4400
	90	6500	6500	5300	5300	4700	4700	4300	4300	4000	4000

Verandah beam (Continuous span) AS 4055 classification N1, N2 and N3

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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah beam span (mm)									
		Continuous span									
120x45	10	3300	3200	2300	2300	1900	1900	1600	1500	1500	1200
	20	3400	3300	2400	2500	1900	1900	1600	1500	1500	1300
	40	3200	3100	2300	2300	1800	1800	1600	1400	1400	1100
	60	2800	2800	2200	2100	1700	1700	1500	1300	1300	NS
	90	2500	2500	1900	1900	1600	1500	1400	NS	NS	NS
160x45	10	4400	4400	3100	3100	2600	2600	2200	2100	2000	1900
	20	4500	4400	3200	3100	2600	2700	2200	2200	2000	1900
	40	4200	4200	3100	3100	2500	2600	2100	2000	1900	1600
	60	3700	3700	2900	2900	2300	2300	2000	1900	1600	1500
	90	3300	3300	2600	2600	2200	2100	1900	1600	1600	1300
200x45	10	5500	5500	3900	3800	3200	3100	2800	2800	2500	2600
	20	5600	5600	4000	4000	3300	3200	2800	2800	2600	2600
	40	4900	5000	3900	3800	3100	3100	2700	2700	2400	2400
	60	4500	4500	3700	3600	3000	3000	2600	2600	2200	1900
	90	4100	4100	3300	3200	2800	2800	2300	2200	2100	1600
240x45	10	6600	6600	4700	4600	3800	3800	3300	3300	3000	3000
	20	6400	6400	4800	4800	3900	3900	3400	3300	3000	3000
	40	5600	5600	4700	4600	3800	3700	3200	3200	2900	2900
	60	5200	5200	4300	4300	3600	3500	3100	3000	2700 ₅	2700 ₅
	90	4700	4700	3900	3900	3300	3300	2800	2800	2500 ₁₀	2500 ₁₀
280x45	10	7700	7700	5500	5500	4500	4400	3900	3900	3500	3400
	20	7100	7200	5600	5600	4600	4500	4000	4000	3600 ₁₀	3500 ₅
	40	6300	6300	5300	5300	4400	4400	3800	3700	3400 ₁₅	3200 ₁₀
	60	5800	5800	4900	4900	4200	4200	3600 ₅	3500 ₅	3200 ₁₅	3200 ₁₅
	90	5300	5300	4400	4400	3900	3800	3300 ₁₅	3200 ₁₀	2900 ₂₅	2900 ₂₅
300x45	10	8000	8200	5900	5800	4800	4700	4200	4200	3800 ₅	3700 ₅
	20	7300	7600	6000	5900	4900	4900	4300	4300 ₅	3800 ₁₅	3800 ₁₅
	40	6600	6600	5600	5600	4700	4700	4100 ₁₀	4000 ₁₀	3600 ₂₀	3400 ₁₅
	60	6100	6100	5100	5100	4500	4400	3800 ₁₀	3800 ₁₀	3400 ₂₅	3300 ₂₅
	90	5500	5600	4700	4700	4100 ₅	4100 ₅	3600 ₂₀	3300 ₁₀	3200 ₃₀	3200 ₃₀
120x70	10	3900	3800	2700	2700	2200	2200	1900	1900	1700	1700
	20	4000	4000	2800	2800	2300	2300	2000	1900	1700	1700
	40	3500	3500	2700	2700	2200	2100	1900	1900	1600	1600
	60	3100	3100	2500	2500	2100	2000	1700	1700	1600	1400
	90	2800	2700	2200	2100	1900	1800	1600	1500	1500	1200
160x70	10	5200	5200	3700	3600	3000	3000	2600	2700	2300	2300
	20	5100	5200	3800	3700	3100	3100	2700	2700	2400	2400
	40	4500	4500	3700	3600	2900	2900	2500	2600	2200	2100
	60	4100	4100	3300	3200	2800	2800	2400	2400	2100	2000
	90	3700	3700	2900	2900	2500	2500	2200	2100	2000	1900
200x70	10	6500	6500	4600	4500	3800	3700	3300	3200	2900	2900
	20	6000	6000	4700	4700	3900	3800	3400	3300	3000	3000
	40	5300	5300	4400	4400	3700	3600	3200	3100	2800	2800
	60	4800	4900	4100	4100	3500	3400	3000	3000	2700	2700
	90	4400	4400	3600	3600	3200	3100	2800	2800	2500	2600
240x70	10	7400	7600	5500	5500	4500	4500	3900	3900	3500	3500
	20	6800	6800	5700	5600	4600	4600	4000	4000	3600	3500
	40	6000	6000	5100	5100	4400	4400	3800	3800	3400	3300
	60	5500	5600	4700	4700	4200	4200	3600	3500	3200	3200
	90	5100	5100	4300	4200	3800	3700	3400	3300	3000	3000
280x70	10	8000	8400	6400	6400	5300	5300	4600	4500	4100	4100
	20	7400	7600	6400	6400	5400	5400	4700	4600	4200	4200
	40	6700	6700	5700	5700	5100	5100	4500	4400	4000	3900
	60	6200	6200	5200	5200	4700	4700	4200	4200	3700	3700
	90	5700	5700	4800	4800	4300	4300	3900	3900	3500	3400
300x70	10	8400	8800	6900	6900	5700	5600	4900	4900	4400	4400
	20	7700	8000	6700	6800	5800	5800	5100	5100	4500	4500
	40	7000	7100	6000	6000	5400	5400	4800	4700	4200	4200
	60	6500	6500	5500	5500	4900	5000	4500	4500	4000	4000
	90	6000	6000	5000	5000	4500	4500	4200	4200	3700 ₅	3700 ₅
200x90	10	6900	7000	5200	5200	4300	4300	3700	3600	3400	3300
	20	6300	6300	5300	5300	4400	4300	3800	3700	3400	3300
	40	5600	5600	4700	4700	4200	4200	3600	3500	3200	3200
	60	5100	5200	4300	4300	3900	3800	3400	3300	3000	3000

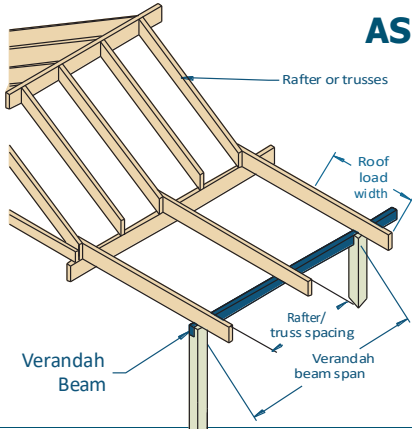
Verandah beam (Continuous span) AS 4055 classification N1, N2 and N3 (Cont'd)

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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah beam span (mm)									
		Continuous span									
240x90	10	7600	7900	6300	6300	5100	5200	4500	4400	4000	4000
	20	7000	7100	6100	6100	5300	5300	4600	4500	4100	4100
	40	6300	6300	5400	5400	4800	4800	4300	4300	3800	3800
	60	5900	5900	4900	5000	4400	4400	4100	4100	3600	3500
	90	5400	5400	4500	4500	4100	4100	3700	3700	3400	3300
280x90	10	8300	8700	7300	7300	6000	6000	5200	5200	4700	4600
	20	7700	8000	6700	6800	6100	6100	5300	5400	4800	4700
	40	7000	7100	6000	6000	5400	5400	5000	5000	4500	4400
	60	6500	6500	5600	5600	5000	5000	4600	4600	4200	4200
300x90	90	6000	6000	5100	5100	4600	4600	4200	4200	3900	3900
	10	8700	9100	7600	7900	6400	6400	5600	5600	5000	5100
	20	8000	8400	7000	7100	6400	6400	5700	5700	5100	5100
	40	7300	7400	6300	6300	5700	5700	5200	5300	4800	4700
	60	6800	6900	5800	5800	5300	5300	4900	4900	4500	4500
90	6300	6300	5300	5300	4800	4800	4500	4400	4200	4200	
200x120	10	7200	7300	6000	6000	5000	5000	4300	4300	3900	3800
	20	6600	6700	5700	5700	5100	5100	4400	4400	3900	3900
	40	5900	5900	5000	5100	4500	4500	4100	4100	3700	3600
	60	5500	5500	4600	4600	4200	4200	3800	3800	3500	3400
	90	5000	5100	4200	4200	3800	3700	3400	3400	3100	3100
240x120	10	7900	8200	7000	7100	5900	5900	5200	5200	4700	4600
	20	7300	7500	6500	6500	5800	5800	5300	5300	4700	4600
	40	6700	6700	5800	5800	5200	5200	4800	4800	4400	4400
	60	6200	6200	5300	5300	4800	4800	4400	4400	4100	4100
280x120	90	5700	5700	4900	4900	4400	4300	4000	4000	3700	3700
	10	8600	9000	7600	7900	7000	6900	6000	6000	5400	5400
	20	8000	8400	7100	7200	6500	6500	6000	6000	5500	5500
	40	7300	7500	6400	6400	5800	5800	5300	5300	5000	5000
300x120	60	6900	6900	5900	5900	5300	5300	4900	5000	4600	4600
	90	6400	6400	5400	5400	4900	4900	4500	4500	4300	4300
	10	9000	9400	7900	8300	7300	7400	6500	6500	5800	5800
	20	8300	8700	7400	7500	6800	6800	6300	6300	5900	5800
	40	7600	7800	6700	6700	6100	6100	5600	5600	5300	5300
60	7100	7300	6200	6200	5600	5600	5200	5200	4900	4900	
90	6700	6700	5700	5700	5200	5200	4800	4800	4500	4500	
240x140	10	8100	8400	7200	7300	6400	6400	5600	5600	5000	5100
	20	7500	7700	6600	6700	6000	6000	5500	5500	5100	5100
	40	6800	6900	5900	5900	5400	5400	4900	5000	4600	4600
	60	6400	6400	5500	5500	4900	5000	4600	4600	4300	4300
	90	5900	5900	5000	5100	4500	4500	4200	4200	3900	3900
280x140	10	8800	9100	7800	8100	7200	7300	6500	6500	5900	5800
	20	8200	8500	7300	7400	6700	6700	6200	6200	5800	5800
	40	7500	7700	6600	6600	6000	6000	5500	5500	5200	5200
	60	7000	7100	6100	6100	5500	5600	5100	5100	4800	4800
300x140	90	6600	6600	5600	5700	5100	5100	4700	4700	4400	4400
	10	9100	9500	8100	8500	7400	7700	6900	7000	6300	6300
	20	8500	8900	7600	7800	6900	7000	6500	6500	6100	6100
	40	7800	8100	6900	7000	6300	6300	5800	5800	5500	5500
	60	7300	7500	6400	6400	5800	5800	5400	5400	5100	5100
90	6900	6900	5900	5900	5400	5400	5000	5000	4700	4700	

NOTES:

- D = member depth, B = member breadth, NS = not suitable.
- 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.
- Restraint value for slenderness calculations is 1200 mm
- Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
- Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

Verandah beam (single span) AS 4055 classification C1, C2 and C3



EXAMPLE:

wind speed = C3
 sheet roof - 40 kg/m²
 rafter/truss spacing = 600 mm
 verandah span = 3500 mm (single span)
 roof load width = 3900 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 at 40 kg/m² row

ADOPT:

SmartLam GLT15C - 280x 70
 - 240 x 90

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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah span (mm)									
		Single span									
120x45	10	2100	2000	1400	1000	1200	NS	NS	NS	NS	NS
	20	2100	2000	1400	1000	1200	NS	NS	NS	NS	NS
	40	2200	2100	1500	1000	1200	NS	NS	NS	NS	NS
	60	2200	2100	1500	1100	1200	NS	NS	NS	NS	NS
	90	1900	1900	1500	1000	1200	NS	NS	NS	NS	NS
160x45	10	2800	2800	2000	1800	1600	1000	1400	NS	1000	NS
	20	2900	2800	2000	1800	1600	1100	1400	NS	1000	NS
	40	2900	2800	2000	1900	1600	1200	1400	NS	1000	NS
	60	3000	2900	2100	2000	1700	1300	1400	NS	1300	NS
200x45	90	2600	2700	2000	1900	1600	1200	1400	NS	1000	NS
	10	3600	3400	2500	2400	2000	1700	1700	1100	1500	NS
	20	3700	3500	2600	2500	2100	1700	1700	1100	1500	NS
	40	3700	3600	2600	2500	2100	2000	1800	1300	1600	NS
240x45	60	3800	3600	2700	2600	2200	2100	1800	1400	1600	NS
	90	3400	3300	2600	2500	2100	2000	1700	1200	1500	NS
	10	4300	4300	3000	2900	2500	2400	2100	1700	1900	1200
	20	4400	4300	3100	2900	2500	2400	2200	1700	1900	1200
280x45	40	4500	4400	3100	3000	2600	2500	2200	1800	1900	1400
	60	4500	4500	3200	3100	2600	2500	2300	1800	2000	1500
	90	4100	4000	3100	3000	2500	2500	2200	1700	1900	1200
	10	5100	5000	3600	3400	2900	2800	2500	2400	2200	1700
300x45	20	5100	5100	3600	3400	2900	2800	2500	2500	2300	1700
	40	5200	5200	3700	3500	3000	2900	2600	2500	2300	1800
	60	5200	5200	3800	3600	3100	2900	2600	2600	2400	1800
	90	4600	4600	3700	3500	3000	2900	2600	2500	2300	1700
120x70	10	5400	5400	3800	3700	3100	3000	2700	2600	2400	1800
	20	5500	5400	3900	3700	3100	3000	2700	2700	2500	1900
	40	5600	5500	4000	3800	3200	3100	2800	2700	2500	1900
	60	5500	5500	4000	3900	3300	3100	2800	2800	2600	2000
	90	4900	4900	3900	3800	3200	3100	2700	2700	2500	1900
160x70	10	2500	2500	1700	1400	1400	NS	1200	NS	1100	NS
	20	2500	2500	1700	1400	1400	NS	1200	NS	1100	NS
	40	2600	2600	1800	1500	1400	1000	1200	NS	1100	NS
	60	2500	2600	1800	1500	1500	1000	1300	NS	1100	NS
	90	2200	2200	1700	1500	1400	1000	1200	NS	1100	NS
200x70	10	3400	3200	2400	2300	1900	1600	1600	1200	1400	NS
	20	3400	3300	2400	2300	1900	1700	1600	1300	1400	NS
	40	3400	3300	2500	2400	2000	1800	1700	1300	1500	1000
	60	3400	3300	2500	2400	2000	1800	1700	1400	1500	1100
240x70	90	2900	2900	2300	2300	1900	1700	1600	1300	1500	NS
	10	4300	4200	3000	2900	2500	2300	2100	1900	1800	1600
	20	4300	4200	3000	2900	2500	2400	2100	2000	1800	1600
	40	4300	4300	3100	3000	2500	2400	2200	2100	1900	1700
280x70	60	4200	4200	3100	3000	2600	2500	2200	2100	1900	1700
	90	3700	3700	2900	2900	2500	2400	2100	2000	1800	1600
	10	5100	5100	3600	3400	2900	2800	2500	2400	2300	2200
	20	5100	5200	3700	3500	2900	2800	2600	2500	2300	2200
300x70	40	5100	5200	3700	3600	3000	2900	2600	2500	2400	2200
	60	4900	4900	3800	3700	3100	3000	2700	2600	2400	2300
	90	4400	4400	3500	3500	3000	2900	2600	2500	2300	2200
	10	6000	5900	4200	4100	3500	3300	3000	2900	2700	2600
	20	6000	6000	4300	4200	3500	3300	3000	2900	2700	2600
280x70	40	6000	6000	4400	4300	3600	3400	3100	2900	2700	2700
	60	5600	5600	4500	4400	3600	3500	3100	3000	2800	2700
	90	5100	5100	4100	4100	3500	3400	3000	2900	2700	2600

Verandah beam (Single span) AS 4055 classification C1, C2 and C3 (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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah beam span (mm)									
		Single span									
300x70	10	6300	6300	4500	4500	3700	3500	3200	3100	2800	2800
	20	6300	6300	4600	4600	3700	3600	3200	3100	2900	2800
	40	6300	6300	4700	4700	3800	3700	3300	3100	2900	2800
	60	6000	6000	4800	4800	3900	3700	3400	3200	3000	2900
	90	5400	5400	4400	4400	3800	3600	3200	3100	2900	2800
200x90	10	4700	4700	3400	3200	2800	2700	2400	2300	2100	2000
	20	4700	4700	3500	3300	2800	2700	2400	2300	2200	2100
	40	4700	4700	3500	3400	2800	2800	2500	2400	2200	2100
	60	4500	4500	3600	3400	2900	2800	2500	2400	2300	2200
	90	4000	4000	3200	3100	2700	2700	2400	2300	2200	2100
240x90	10	5600	5600	4100	4000	3400	3200	2900	2800	2600	2500
	20	5600	5600	4100	4000	3400	3200	2900	2800	2600	2500
	40	5600	5600	4200	4100	3500	3300	3000	2900	2700	2600
	60	5300	5300	4300	4300	3500	3400	3000	2900	2700	2700
	90	4700	4700	3900	3800	3300	3300	2900	2800	2600	2500
280x90	10	6400	6400	4800	4800	3900	3800	3400	3200	3000	2900
	20	6400	6400	4900	4800	4000	3800	3400	3300	3000	2900
	40	6400	6400	5000	4900	4000	3900	3500	3300	3100	3000
	60	6100	6000	4900	4900	4100	4000	3600	3400	3200	3100
	90	5400	5400	4400	4400	3900	3900	3500	3300	3000	2900
300x90	10	6700	6800	5200	5100	4200	4100	3700	3500	3300	3100
	20	6800	6800	5200	5200	4200	4200	3700	3500	3300	3100
	40	6800	6800	5300	5300	4300	4300	3800	3600	3400	3200
	60	6400	6400	5200	5200	4400	4400	3800	3700	3400	3300
	90	5800	5800	4700	4700	4200	4200	3700	3500	3300	3100
240x120	10	6100	6100	4800	4700	3900	3700	3400	3200	3000	2900
	20	6100	6100	4800	4800	3900	3800	3400	3200	3000	2900
	40	6100	6100	4900	4900	4000	3900	3500	3300	3100	3000
	60	5700	5700	4700	4600	4100	4000	3600	3400	3200	3000
	90	5100	5100	4200	4200	3700	3600	3300	3200	3000	2900
280x120	10	6900	6900	5600	5500	4500	4500	3900	3800	3500	3400
	20	6900	6900	5600	5500	4600	4600	4000	3800	3600	3400
	40	6900	6900	5700	5600	4700	4700	4000	3900	3600	3500
	60	6500	6500	5300	5300	4700	4700	4100	4000	3700	3500
	90	5900	5900	4800	4800	4300	4200	3900	3800	3500	3400
300x120	10	7300	7300	6000	5900	4900	4800	4200	4100	3800	3600
	20	7200	7200	6000	5900	4900	4900	4200	4200	3800	3700
	40	7300	7300	6100	6100	5000	5000	4300	4300	3900	3700
	60	7000	7000	5700	5700	5000	5000	4400	4400	4000	3800
	90	6300	6300	5100	5100	4500	4500	4100	4100	3800	3600
240x140	10	6400	6400	5100	5100	4200	4100	3700	3500	3200	3100
	20	6400	6400	5200	5200	4200	4100	3700	3500	3300	3100
	40	6400	6400	5200	5200	4300	4300	3800	3600	3400	3200
	60	5900	5900	4900	4900	4300	4300	3800	3700	3400	3300
	90	5300	5300	4400	4400	3900	3800	3500	3400	3200	3100
280x140	10	7200	7200	6000	5900	4900	4900	4200	4200	3800	3600
	20	7200	7200	6000	6000	5000	4900	4300	4200	3800	3700
	40	7200	7200	6000	6000	5100	5000	4400	4300	3900	3800
	60	6800	6800	5600	5600	4900	4900	4500	4400	4000	3900
	90	6100	6100	5000	5000	4400	4400	4100	4100	3700	3700
300x140	10	7600	7600	6400	6300	5300	5200	4600	4500	4100	4000
	20	7500	7600	6400	6300	5300	5300	4600	4600	4100	4000
	40	7500	7600	6400	6300	5400	5400	4700	4700	4200	4100
	60	7300	7300	5900	5900	5200	5200	4800	4700	4300	4200
	90	6500	6500	5300	5300	4700	4700	4300	4300	4000	4000

Verandah beam (Continuous span) AS 4055 classification C1, C2 and 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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah beam span (mm)									
		Continuous span									
120x45	10	2200	2100	1500	1300	1300	NS	NS	NS	NS	NS
	20	2200	2100	1500	1300	1300	NS	NS	NS	NS	NS
	40	2200	2200	1500	1400	1300	NS	NS	NS	NS	NS
	60	2200	2200	1600	1400	1300	NS	NS	NS	NS	NS
	90	2200	2200	1600	1400	1300	NS	NS	NS	NS	NS
160x45	10	2900	2900	2000	2000	1600	1300	1400	NS	1000	NS
	20	2900	2900	2100	2000	1600	1300	1400	NS	1000	NS
	40	3000	3000	2100	2000	1600	1300	1400	NS	1000	NS
	60	3000	3000	2100	2000	1600	1400	1400	NS	1000	NS
	90	3000	3000	2100	2000	1600	1300	1400	NS	1000	NS
200x45	10	3600	3500	2600	2600	2000	1600	1600	1200	1100	NS
	20	3700	3600	2600	2700	2000	1600	1600	1200	1100	NS
	40	3800	3700	2600	2700	2200	1700	1600	1300	1300	NS
	60	3800	3800	2700	2700	2200	1700	1600	1300	1400	NS
	90	3800	3700	2600	2700	2200	1700	1500	1200	1100	NS
240x45	10	4400	4300	3100	3100	2500	2500	1900	1900	1900 ₅	1700
	20	4400	4400	3100	3100	2500	2600	1900	1900	1900 ₁₀	1700 ₅
	40	4500	4500	3200	3200	2500	2700	1900	1900	1900 ₁₅	1800 ₁₀
	60	4600	4500	3300	3200	2600	2700 ₅	2000 ₅	1600	1900 ₂₀	1900 ₂₀
	90	4500	4500	3200	3200	2500 ₁₀	2600 ₁₀	1900 ₁₀	1900 ₁₀	1900 ₃₀	1700 ₂₀
280x45	10	5100	5100	3600	3500	2900	2900	2300	2000	2000 ₁₀	2000 ₁₀
	20	5200	5200	3600	3600	3000 ₅	3000 ₅	2400 ₁₀	2000	2000 ₁₅	2000 ₁₅
	40	5300	5300	3700	3600	3000 ₁₀	3000 ₁₀	2500 ₂₀	2500 ₂₀	2000 ₂₀	2000 ₂₀
	60	5400	5400	3800	3700	3100 ₁₅	3100 ₁₅	2500 ₂₅	2700 ₃₅	2000 ₂₅	2000 ₂₅
	90	5300	5300	3700 ₅	3600 ₅	3000 ₂₀	3000 ₂₀	2400 ₃₀	2000 ₁₅	2000 ₃₅	2000 ₃₅
300x45	10	5500	5500	3900	3800	3100 ₅	3100 ₅	2500 ₁₀	2000	2000 ₁₅	2000 ₁₅
	20	5500	5500	3900	3900	3200 ₁₀	3200 ₅	2600 ₂₀	2700 ₂₀	2000 ₁₅	2000 ₁₅
	40	5600	5600	4000	4000	3200 ₁₅	3200 ₁₅	2500 ₂₀	2800 ₃₀	2000 ₂₅	2000 ₂₅
	60	5800	5700	4100 ₅	4100 ₅	3300 ₂₀	3200 ₂₀	2600 ₃₀	2800 ₄₀	2100 ₃₀	2000 ₃₀
	90	5500	5600	4000 ₁₀	4000 ₁₀	3200 ₂₅	3200 ₂₅	2500 ₃₅	2500 ₃₅	2400 ₆₅	2000 ₄₀
120x70	10	2600	2600	1700	1700	1400	1200	1300	NS	NS	NS
	20	2600	2600	1800	1800	1500	1200	1300	NS	NS	NS
	40	2600	2700	1800	1800	1500	1300	1300	NS	NS	NS
	60	2700	2700	1900	1900	1500	1400	1300	NS	1000	NS
	90	2600	2700	1800	1800	1500	1300	1300	NS	NS	NS
160x70	10	3400	3300	2400	2400	2000	1900	1600	1500	1500	1200
	20	3400	3400	2400	2600	2000	1900	1700	1500	1500	1200
	40	3500	3400	2500	2600	2000	1900	1700	1600	1600	1300
	60	3600	3500	2600	2600	2100	2000	1700	1600	1600	1300
	90	3500	3400	2500	2600	2000	1900	1700	1600	1500	1200
200x70	10	4300	4300	3000	3000	2500	2500	2100	2000	1700	1500
	20	4300	4300	3000	3000	2500	2600	2200	2000	1700	1500
	40	4400	4400	3100	3100	2600	2600	2200	2100	2000	1600
	60	4500	4500	3200	3100	2600	2700	2200	2100	2000	1700
	90	4400	4400	3100	3100	2500	2600	2200	2100	1700	1600
240x70	10	5200	5200	3600	3600	2900	2900	2600	2600	2300	2200
	20	5200	5200	3700	3600	3000	3000	2600	2700	2300	2200
	40	5300	5300	3800	3700	3000	3000	2700	2700	2300	1900
	60	5400	5400	3800	3800	3100	3100	2700	2700	2400 ₅	2400 ₅
	90	5100	5100	3700	3700	3000	3000	2600	2700	2300 ₅	2200 ₅
280x70	10	6000	6000	4200	4200	3500	3400	3000	3000	2700	2700
	20	6100	6000	4300	4300	3500	3400	3000	3000	2700	2700 ₅
	40	6200	6200	4400	4400	3600	3500	3100	3100	2800 ₁₀	2800 ₁₀
	60	6200	6200	4500	4400	3600	3600	3200 ₅	3200 ₅	2800 ₁₅	2800 ₂₀
	90	5700	5700	4400	4400	3500	3500	3000 ₁₀	3000 ₁₀	2700 ₂₀	2700 ₂₅

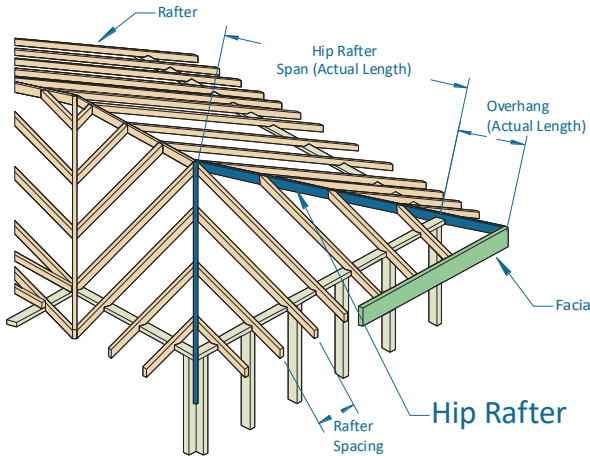
Verandah beam (continuous span) AS 4055 classification C1, C2 and C3 (Cont'd)

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 DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Verandah beam span (mm)									
		Continuous span									
300x70	10	6500	6400	4600	4500	3700	3600	3200	3200	2900 ₅	2900 ₅
	20	6500	6500	4600	4500	3800	3700	3300	3200	2900 ₁₀	2900 ₁₀
	40	6700	6700	4700	4600	3800	3800	3300 ₅	3200 ₅	3000 ₁₅	3000 ₁₅
	60	6500	6500	4800	4700	3900	3900	3400 ₁₀	3300 ₁₀	3000 ₂₅	3000 ₂₀
	90	6000	6000	4700	4600	3800 ₅	3700 ₅	3300 ₁₅	3200 ₁₅	2900 ₂₅	2900 ₃₀
200x90	10	4900	4900	3400	3400	2800	2800	2400	2400	2200	2100
	20	4900	5000	3500	3400	2800	2800	2400	2400	2200	2100
	40	5000	5100	3500	3500	2900	2900	2500	2600	2200	2100
	60	5100	5200	3600	3500	2900	2900	2600	2600	2300	2200
	90	4700	4700	3500	3400	2900	2900	2500	2500	2200	2100
240x90	10	5900	5800	4100	4100	3400	3300	2900	2900	2600	2700
	20	5900	5900	4200	4200	3400	3300	2900	2900	2600	2700
	40	6000	6000	4200	4200	3500	3400	3000	3000	2700	2700
	60	5900	5900	4400	4300	3500	3500	3100	3100	2800	2800
	90	5400	5400	4200	4200	3500	3400	2900	2900	2600	2700
280x90	10	6900	6800	4800	4800	3900	3900	3400	3300	3000	3000
	20	6900	6900	4900	4900	4000	4000	3500	3400	3100	3100
	40	7000	7000	5000	5000	4100	4100	3500	3400	3200	3100
	60	6500	6500	5100	5100	4100	4100	3600	3500	3200 ₅	3200 ₅
	90	6000	6000	4900	4900	4000	4000	3500	3400	3100 ₁₀	3100 ₁₀
300x90	10	7400	7400	5200	5200	4200	4200	3700	3600	3300	3200
	20	7400	7400	5200	5200	4300	4300	3700	3600	3300	3200
	40	7300	7400	5300	5300	4400	4400	3800	3700	3400 ₅	3300
	60	6800	6900	5400	5400	4500	4400	3900	3800	3500 ₁₀	3400 ₁₀
	90	6300	6300	5300	5300	4300	4300	3700 ₅	3600 ₅	3300 ₁₅	3200 ₁₅
240x120	10	6800	6800	4800	4800	3900	3900	3400	3300	3000	3000
	20	6900	6800	4800	4800	3900	3900	3400	3300	3000	3000
	40	6700	6700	4900	4900	4000	4000	3500	3400	3100	3100
	60	6200	6200	5000	5100	4100	4100	3600	3500	3200	3200
	90	5700	5700	4900	4900	4000	4000	3400	3400	3000	3000
280x120	10	7900	7900	5600	5600	4600	4500	4000	3900	3500	3500
	20	8000	8000	5600	5600	4600	4500	4000	4000	3600	3500
	40	7300	7500	5800	5700	4700	4600	4100	4100	3600	3600
	60	6900	6900	5900	5800	4800	4800	4200	4200	3700	3600
	90	6400	6400	5400	5400	4700	4600	4000	4000	3600	3500
300x120	10	8400	8500	6000	5900	4900	4900	4200	4200	3800	3700
	20	8300	8600	6000	6000	4900	4900	4300	4300	3800	3800
	40	7600	7800	6200	6100	5000	5100	4400	4400	3900	3900
	60	7100	7300	6200	6200	5200	5200	4500	4400	4000	4000
	90	6700	6700	5700	5700	5000	5000	4300	4300	3800 ₅	3800 ₅
240x140	10	7400	7400	5200	5200	4200	4200	3600	3600	3300	3200
	20	7400	7500	5200	5200	4300	4200	3700	3600	3300	3200
	40	6800	6900	5300	5300	4400	4300	3800	3700	3400	3300
	60	6400	6400	5400	5400	4500	4400	3900	3800	3500	3400
	90	5900	5900	5000	5100	4300	4300	3700	3600	3300	3200
280x140	10	8300	8600	6000	6000	4900	4900	4300	4300	3800	3800
	20	8200	8500	6100	6100	5000	5000	4300	4300	3900	3800
	40	7500	7700	6200	6200	5100	5100	4400	4400	4000	3900
	60	7000	7100	6100	6100	5200	5200	4500	4500	4000	4000
	90	6600	6600	5600	5700	5000	5000	4300	4300	3900	3800
300x140	10	8700	9200	6500	6500	5300	5300	4600	4500	4100	4100
	20	8500	8900	6500	6500	5300	5300	4600	4600	4100	4100
	40	7800	8100	6700	6700	5400	5400	4800	4700	4200	4200
	60	7300	7500	6400	6400	5600	5600	4800	4800	4300	4300
	90	6900	6900	5900	5900	5400	5400	4600	4600	4100	4100

NOTES:

- D = member depth, B = member breadth, NS = not suitable.
- End bearing lengths = 70mm 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.
- Restraint value for slenderness calculations is 1200 mm
- Not all sizes of SmartLam GLT15C in this table are stocked in each state. Please check with your supplier before ordering
- Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

Hip rafter - sheet and tile roof AS 4055 wind classification N1, N2, N3, 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/m² roof load

ADOPT:

SmartLam GLT15C — 200 x 45

Wind Speed		N1, N2 & N3				C1, C2 & C3			
Rafter spacing (mm)		600		1200		600		1200	
		Maximum Rafter span + overhang span (mm)				Maximum Rafter span + overhang span (mm)			
Member size DxB (mm)	Roof & ceiling mass (kg/m ²)	Span	Overhang	Span	Overhang	Span	Overhang	Span	Overhang
		Single span				Single span			
120x45	40	3000	250	3000	250	2800	250	2800	250
	90	2500	250	2500	250	2500	250	2500	250
160x45	40	3800	400	3800	400	3400	400	3400	400
	90	3200	400	3200	400	3200	400	3200	400
200x45	40	4500	600	4500	600	3900	600	3900	600
	90	3800	600	3800	550	3800	600	3800	550
240x45	40	5200	800	5200	800	4400	800	4400	800
	90	4300	750	4300	750	4300	750	4300	750
280x45	40	5800	1000	5800	1000	4900	1000	4900	1000
	90	4900	950	4900	950	4900	950	4900	950
300x45	40	6100	1050	6100	1050	5100	1050	5100	1050
	90	5200	1000	5200	1000	5100 ₅	1000	5100 ₅	1000
320x45	40	6400	1200	6400	1150	5300	1200	5400	1150
	90	5400	1100	5400	1050	5300 ₅	1100	5300 ₅	1050
360x45	40	6900	1400	6900	1350	5800 ₅	1400	5800 ₅	1350
	90	6000	1250	6000	1250	5700 ₁₀	1250	5800 ₁₅	1250
120x70	40	3300	450	3300	400	3100	450	3100	400
	90	2700	400	2700	400	2700	400	2700	400
160x70	40	4100	700	4100	700	3800	700	3800	700
	90	3400	700	3400	650	3400	700	3400	650
200x70	40	4900	1000	4900	1000	4400	1000	4400	1000
	90	4100	950	4100	950	4100	950	4100	950
240x70	40	5600	1200	5600	1200	4900	1200	4900	1200
	90	4700	1150	4700	1100	4700	1150	4700	1100
280x70	40	6200	1500	6200	1450	5500	1500	5500	1450
	90	5300	1350	5300	1350	5300	1350	5300	1350
300x70	40	6500	1600	6500	1600	5800	1600	5700	1600
	90	5600	1450	5600	1450	5600	1450	5600	1450
320x70	40	6800	1750	6800	1750	6000	1700	6000	1700
	90	5900	1550	5900	1550	5900	1550	5900	1550
360x70	40	7400	2000	7400	1950	6500	1850	6500	1800
	90	6400	1750	6400	1750	6400	1750	6400	1750
200x90	40	5200	1200	5200	1150	4800	1200	4700	1150
	90	4300	1100	4300	1100	4300	1100	4300	1100
240x90	40	5900	1500	5900	1500	5400	1500	5400	1500
	90	5000	1350	5000	1350	5000	1350	5000	1350
280x90	40	6600	1800	6600	1800	6000	1750	6000	1750
	90	5600	1600	5600	1600	5600	1600	5600	1600
300x90	40	6900	1950	6900	1950	6300	1800	6200	1800
	90	6000	1750	6000	1700	6000	1750	6000	1700
320x90	40	7200	2100	7200	2050	6500	1900	6500	1850
	90	6200	1850	6200	1850	6200	1800	6200	1800

Wind Speed		N1, N2 & N3				C1, C2 & C3			
Rafter spacing (mm)		600		1200		600		1200	
		Maximum Rafter span + overhang span (mm)							
Member size DxB (mm)	Roof & ceiling mass (kg/m ²)	Span	Overhang	Span	Overhang	Span	Overhang	Span	Overhang
		Single span				Single span			
360x90	40	7800	2350	7800	2300	7000	2000	7100	2000
	90	6700	2050	6700	2050	6700	1900	6700	1900
240x120	40	6300	1850	6300	1850	5900	1800	5900	1800
	90	5400	1700	5400	1650	5400	1700	5400	1650
280x120	40	7000	2200	7000	2200	6600	1950	6600	1950
	90	6000	1950	6000	1950	6000	1850	6000	1850
300x120	40	7300	2350	7300	2350	6900	2000	6900	2000
	90	6300	2050	6300	2050	6300	1900	6300	1900
320x120	40	7600	2450	7600	2450	7200	2050	7200	2050
	90	6600	2150	6600	2150	6600	1950	6600	1950
360x120	40	8200	2700	8200	2700	7800	2200	7800	2200
	90	7100	2400	7100	2350	7100	2100	7100	2100

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 birds mouth 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 19 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 GLT15C in this table are stocked in each state. Please check with your supplier before ordering
8. Table does not list all available SmartLam GLT15C sizes. See page 11 for full list of sizes

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