

SmartLam GL17S

(non pre-cambered)

Design Guide



Table of Contents

Introduction	1
GLTAA deflection limits	1
Ordering SmartLam GL17S	2
Installation	
- Preparatory work	2
- Deflection	2
- Verticality	2
- Notches	2
- Holes for services	2
- Birdsmouthing	3
- Eaves overhang	3
- Multiple SmartLam GL17S section beams	
- Top loaded beams	3
- Side loaded beams	3
- Steel and timber post fixing	4
Storage and handling	4
SmartLam GL17S design/effective span	5
Durability and weather exposed application	5
Protection systems	
- During construction	6
- Exterior applications	6
- Painted SmartLam GL17S	6
- Design and construction detailing tips	7
Fire rating (resistance)	7
Checking of SmartLam GL17S	8
Designing with SmartLam GL17S	
- Product specification	9
- Limit state design characteristic	9
- Strength reduction factors	9
- Duration of load	9
- Partial seasoning factor	9
- Length and position of bearing	9
- Load sharing	9
- Stability	9
- Temperature	9
- Beam section properties	10
Span tables	11-77

SmartFrame Product Warranty

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

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

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

Tilling Timber Pty Ltd
31-45 Orchard Street
Kilsyth Vic 3137
Ph: +61 (0)3 9725 0222 Fax: +61 (0)3 9725 6569
Email: techsupport@tilling.com.au

Scope of this publication

This Design Guide and Load Tables assist in the selection of SmartLam GL 17S for some of the common structural elements in domestic construction.

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

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

Tilling Timber 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 characteristic properties of GL 17S defined in table 7.1 of AS 1720.1, manufactured to AS/NZS 1328 by quality producers and distributed by Tilling Timber.

Copyright

Copyright of this publication remains the property of Tilling Timber Pty Ltd, and reproduction of the whole or part of this publication without written permission from Tilling Timber Pty Ltd is prohibited.

Certification

As a professional engineer, qualified and experienced in timber engineering, I certify that the use of the SmartLam GL 17S 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 – 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.
- GLTAA Unified design criteria

Craig Kay

CRAIG KAY RPEng, RPEQ-5100, EC-1961, PB0730, CC56335 C NER
National Product Engineer

The information contained in this product brochure is current as at August 2018 and is based on data available to Tilling Timber Pty Ltd at the time of going to print. Tilling Timber Pty Ltd has used its reasonable endeavours to ensure the accuracy and reliability of the information contained in this document and, to the extent permitted by law, will not be liable for any inaccuracies, omissions or errors in this information nor for any actions taken in reliance on this information. Tilling Timber Pty Ltd reserves the right to change the information contained in this document without prior notice. It is important that you call the technical support customer Helpline on 1300 668 690 to confirm that you have the most up to date information available.

SmartLam® GL 17S

Introduction

Tilling Timber offer multiple GL 17S options, with both softwood and hardwood based glulam beams available.

SmartLam GL 17S beams are manufactured for Tilling Timber by 3rd party audited quality glulam manufacturers to AS/NZS 1328. SmartLam GL 17S Glulam 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 GL 17S

Cost Effectiveness - SmartLam GL 17S 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 GL 17S beams are manufactures in accordance with AS 1328 Glue Laminated Structural Timber and the Glued Laminated Timber Association (GLTAA) Industry standard GLTAA-4-91.

Fire safety - Extensive fire test data shows that large end section timber performs well in fire situations due to the formation of a protective layer of char which usually occurs at a temperature

around 250° C. This charred area inhibits the effects of the fire on the inner portion of the timber component, hence it maintains structural load support for measurable periods of time as the fire progresses.

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

Fast easy erection - Timber is a user friendly building material, requiring no special tools other than those a normal builder would use, and with SmartLam GL 17S beams, installation is fast, easy and efficient.

Environmental responsibility - SmartLam GL 17S beams are made from timber from sustainable managed forests, a natural resource that is friendly to the environment.

Low maintenance - In most applications, SmartLam GL 17S 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 GL 17S beams allow you to build timber's natural warmth and beauty into your designs.

Serviceability Criteria

The deflection limits (serviceability) applied in these tables and reproduced in Table 1 below, are in accordance the Glued

Laminated Timber Association of Australia (GLTAA) Unified Design Criteria and in some circumstances, differ for those listed in AS 1720.3 -2016.

Table 1: GLTAA Serviceability Criteria

Member type	Long term		Short term	
	$j_2 \times DL$	$j_2 \times (DL+0.5 \text{ kPa})$	LL	Serviceability WL
Bearers (floor loads only)		L/300 or 12 mm	L/360 or 18 mm	
Bearers (with roof loads)		L/300 or 12 mm	L/360 or 18 mm	L/150
Joists		L/300 or 15 mm	L/360 or 9 mm	
Lintels (with roof loads only)	L/300 or 9 mm		L/250 or 9 mm	L/150
Lintels (with roof and floor)		L/300 or 9 mm	L/360 or 9 mm	L/200
Strutting, hanging, and counter beams	L/300 or 15 mm		L/270 or 15 mm	L/150
Hanging/Strutting, Counter/Strutting beams	L/300 or 12 mm		L/300 or 12 mm	L/150
Roof beams, rafters, hips	L/300 or 20 mm		L/250	L/150
Patio or verandah beams	L/400 or 10 mm		L/250 or 12 mm	L/200

Where:

1. DL = Dead load, LL = Live load, WL = Wind load,
2. j_2 = Creep modification factor Clause 2.4.1.2 AS 1720.1

Ordering SmartLam GL 17S

SmartLam GL 17S glulam can be purchased in multiple appearance grades.

AS/NZS 1328.2 defines 3 appearance grades:

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

SmartLam GL 17S B grade

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

Appearance grade

Stock SmartLam GL 17S will be supplied without camber (straight) in B grade finish unless otherwise specifically requested.

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 1 details deflection limits for various applications

Verticality

SmartLam GL 17S members must not be installed out of plumb more than height/500.

Notches

Large notches and holes in Glulam beams should normally be avoided as they cause abrupt changes in cross section and disrupt the stress flow in the structure. This gives rise to tension perpendicular to the grain and shear stresses around the holes and notches. For this reason, notches seriously reduce the strength of a beam, particularly if located in the tension zone of a beam. Unless specific allowance has been made in the design, no notches shall be made without first obtaining the advice of an engineer. Design rules are set out in AS 1720.1 Timber Engineering Code and should be followed closely when considering notching anywhere in a Glulam beam.

Holes for services

Horizontal Holes - Like notches, holes in a Glulam 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 Glulam beams are limited in size and location to maintain the structural integrity of the beam. Figure 2 below shows the zones of a uniformly loaded, simply supported beam where field drilling of holes may be considered.

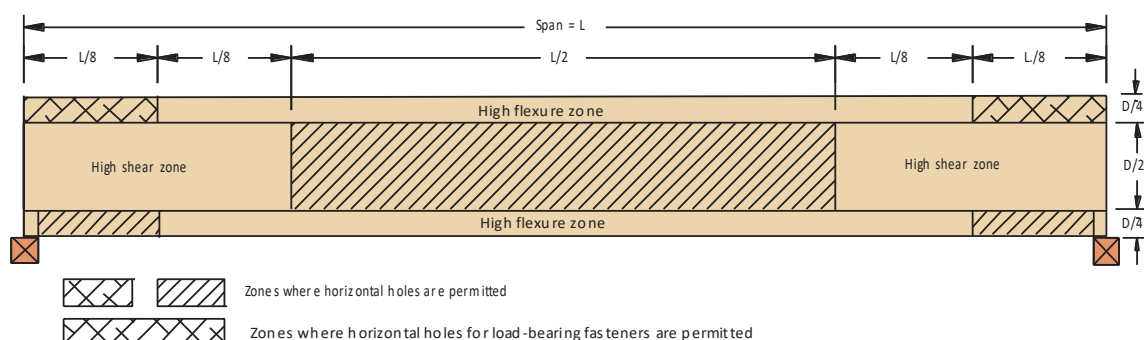
Field drilled horizontal holes should be for access only and should not be used as attachment points for brackets or other load bearing hardware unless specifically designed as such by the Engineer/Designer.

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 Glulam beam cause a reduction in capacity at that location directly proportional to the ratio of $1\frac{1}{2}$ 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 $\frac{1}{4}$. For this reason, where it is necessary to drill vertical holes through a Glulam 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 Glulam 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.

Figure 2 - Zones where horizontal holes are permitted in a uniformly loaded simply supported beam



Installation

Birdsmouthing

Figure 3 - Birds mouthing details for SmartLam GL17S

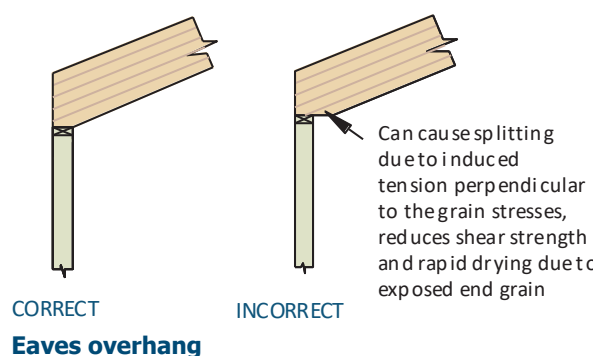
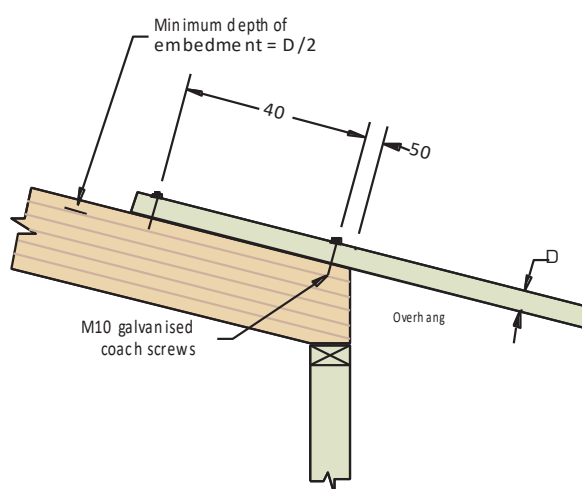


Figure 4 - Eaves overhang details for SmartLam GL17S



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:
 - Sheet roof - 20% of actual beam span
 - Tiled roof - 30% of actual beam span

2. Cyclonic Areas

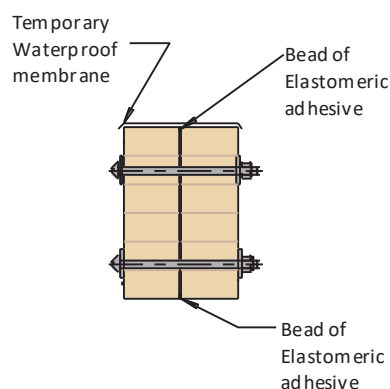
Recommendations as per above, but reduced as follows:

- Non Birds mouthed - 25% of actual beam span
- Birds mouthed-
 - Sheet roof - 10% of actual beam span
 - Tiled roof - 20% of actual beam span

Multiple SmartLam GL17S 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 GL17S, nails are NOT suitable for combining SmartLam GL17S beams.

Experience with Glulam 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 elastomeric adhesive, prevents moisture penetration between the laminates.

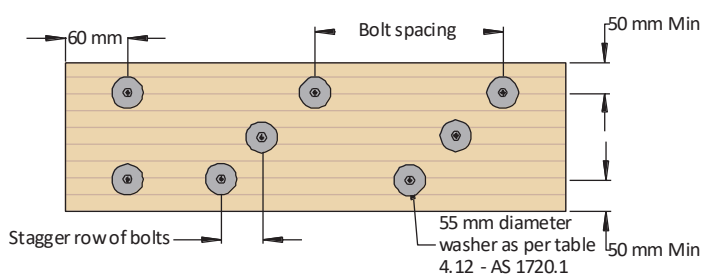


Recommended "during construction" protection from weather for multiple SmartLams.

Combination 1
2 pieces of
65 or 85 mm



Combination 2
3 pieces of
65 or 85 mm



Top loaded beams (Symmetrical loading)

The edges of the individual sections must be carefully aligned to each other so that the composite beam is flat, allowing the applied loads to be equally shared. It is recommended that there be 2 rows of galvanised M12 bolts at 600 mm centres.

Side loaded beams (Non – symmetrical loading)

When a load is applied to one side of a built-up SmartLam GL17S or an unbalanced load is applied to both sides, the elements of the built up beam shall be attached such that the applied load is distributed equally to all elements. Like the minimum connection

Installation (cont'd)

shown above, the connection is made with bolts, with the allowable floor load width supported by either outside member shown in the table below.

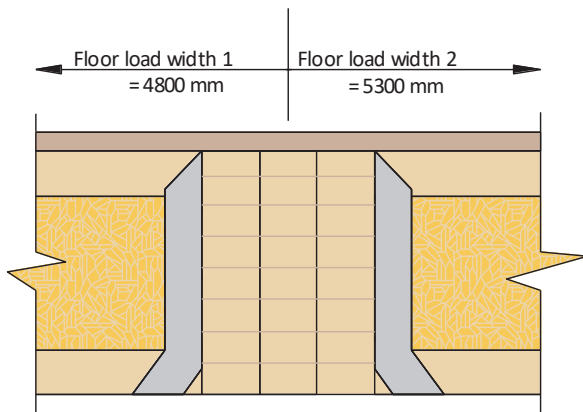
Maximum floor load width supported by either outside member (mm)

Combination (see details below)	12 mm Φ bolts	
	2 rows at 600 ctrs	2 rows at 300 ctrs
Combination 1	10100	10400
Combination 2	15000	20200

Notes:

1. Table values are for 40 kg/m² floors.
2. Bolts are to be grade 4.6 commercial bolts conforming to AS 1111. Bolt holes are to be a maximum of 13 mm diameter and are to be located NOT less than 50 mm from either edge.
3. All bolts shall be fitted with a washer at each end, of a size NOT less than that given in AS 1720.1 table 4.12.

How to use the maximum uniform side load table



Example:

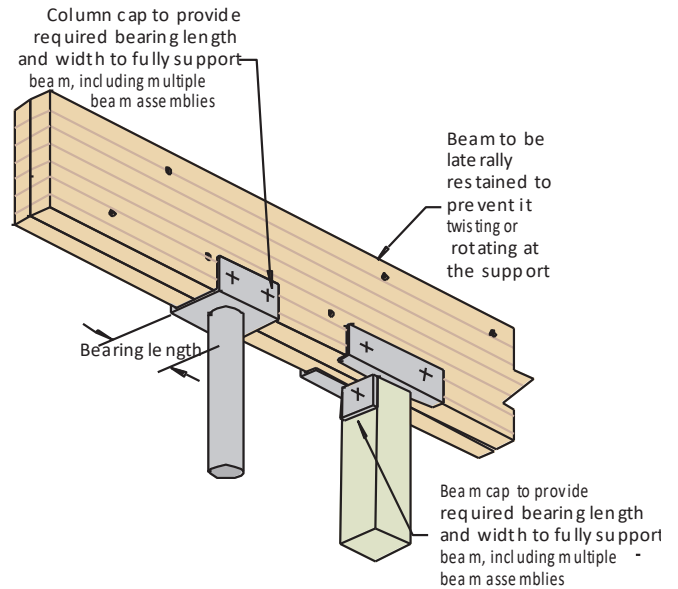
Beam of 2 SmartLam GL17S loaded on both side (Combination 1)

FLW 1 = 4800 mm, FLW 2 = 5300 mm

Total FLW = 4800 + 5300 = 10100 mm.

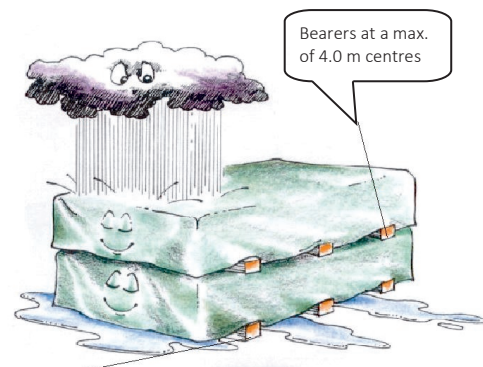
1. Use SmartFrame software or these SmartLam GL17S safe load tables to size the two member section to support the FLW of 5100 mm.
2. Choose the larger of the side FLW's carried by the beam, in this case 5300 mm.
3. Enter the table at the "Combination 1" row and scan across to a table value greater than 5300 mm. The first value in the row at 10200 mm is greater than the 5300 mm required.
4. Thus adopt 2 rows of 12 mm Φ x bolts at 600 mm centres

Steel and Timber fixing to SmartLam GL17S



Storage and handling of SmartLam GL 17S

1. Store SmartLam GL 17S 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 GL 17S to be in contact with the ground.



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

SmartLam GL17S 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

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

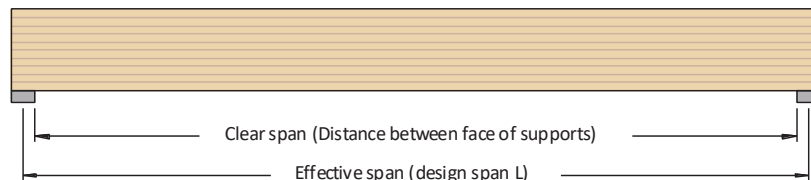
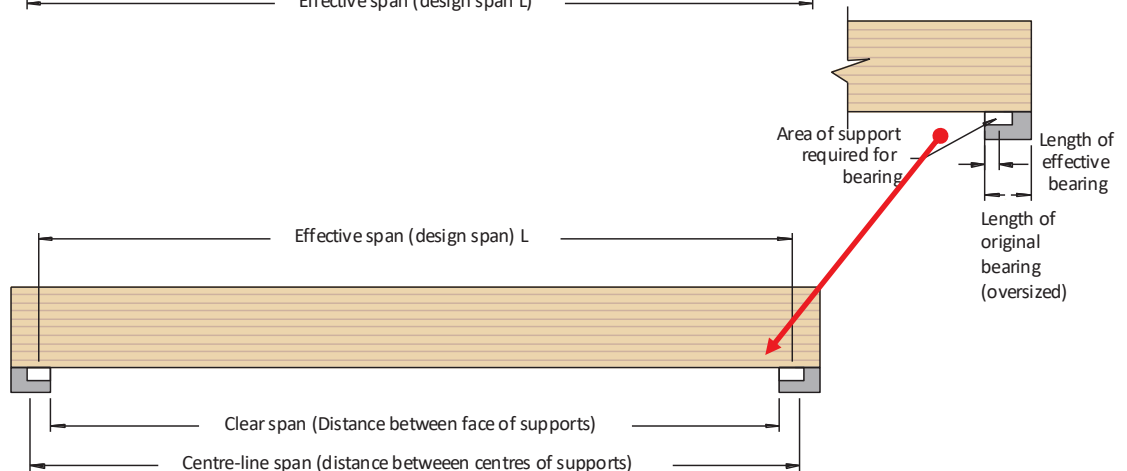


Diagram (b) shows beam where bearings at each end have been oversized. (This is frequently the case for beams that bear onto brickwork or concrete walls where the thickness of the wall is in excess of the area required to give the beam bearing capacity). To find the correct effective span:

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



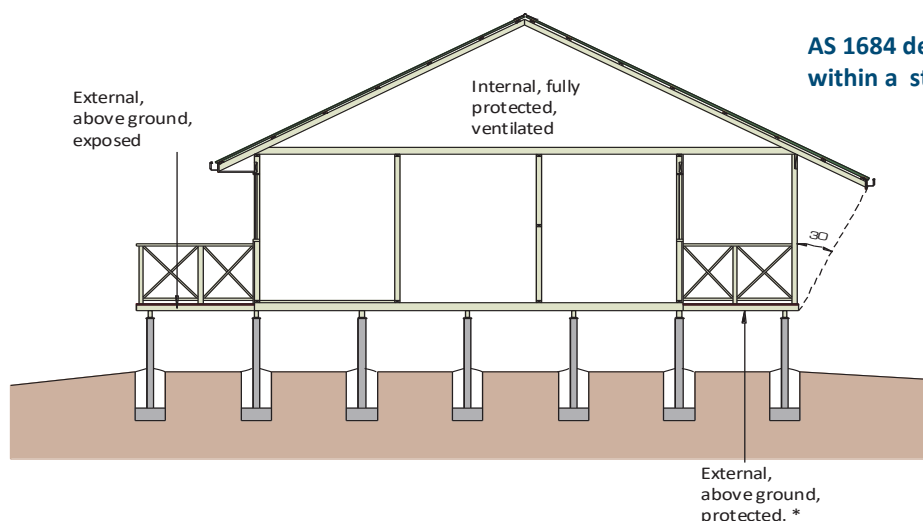
span difference	effective span	resultant span description
10% Max	main span	continuous
10 – 30%	1.1 x main span	continuous
Above 30% difference	main span	single

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

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

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 durability and weather exposure

SmartLam GL 17S 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 GL 17S protection methods

1. During Construction (pre-water proof roof)

SmartLam GL 17S is supplied WITHOUT any short term construction sealer. However if SmartLam GL 17S 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 GL 17S 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 GL 17S is installed inside a building with direct exposure to air conditioning or dry heat then a sealer is required.
- If the SmartLam GL 17S 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).
- If the SmartLam GL 17S is exposed to the sun or weather refer to "Exterior Applications" below.

Treatment options

SmartLam GL17S may be ordered untreated or with preservative treatment to the H2 and H3 hazard class for protection against insect attack and biological decay respectively. (All Pine based SmartLam GL17S is preservative treated against the European House borer Beetle)

Treatment for a service at a higher hazard class satisfies all requirements for service at a lower hazard class. Products treated to H3 therefore meet or exceed the requirements for H1 and H2 applications.

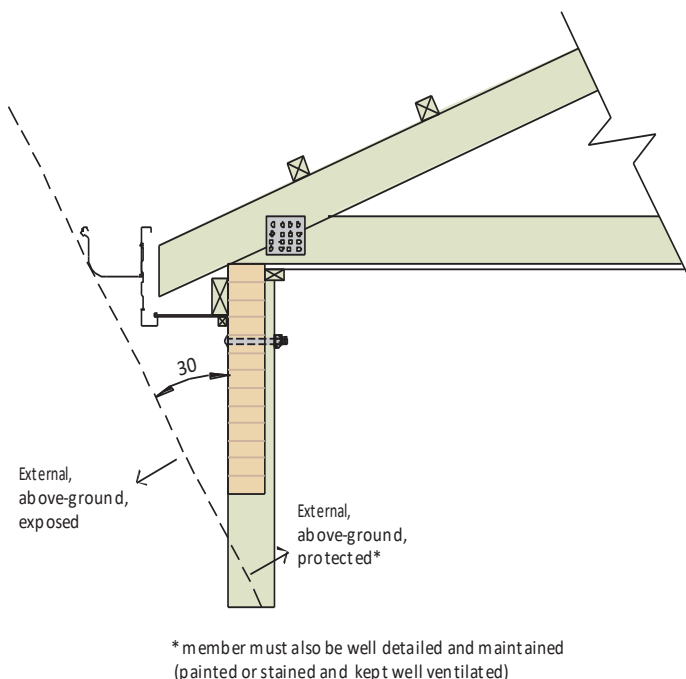
Table 1 of Appendix A in AS/NZS 1604.5 is a guide to hazard classifications for various end-use applications. This table is for guidance only, and only lists limited application.

Example applications

1. Covered alfresco and garage beams

Alfresco beams constructed to comply with the diagram adjacent are classified in AS 1684 as External, above-ground, protected and can be an untreated Class 4 durability timber.

SmartLam GL 17S beams treated to H2 or above are ideal for alfresco and garage beam applications



A SmartLam GL17S in this application must be correctly painted with a premium quality protective finish See **3. Painting treated SmartLam GL17S** below.

2. External, above ground, EXPOSED

Untreated SmartLam GL 17S beams must NOT be used in external, above ground, EXPOSED applications without the following:

- H3 treated to AS/NZS 1604.5
- Correctly detailed (e.g. End caps, good drainage and ventilation). See "Design & Construction detailing tips" below
- Correctly painted as per covered alfresco beam example above

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

3. Painting treated SmartLam GL17S

(a) General

To provide the longest service life of the SmartLam GL17S, it is recommended the SmartLam GL 17S are painted with an exterior paint with a Light Reflectance Value (LRV) greater than 30%. Heat reduction exterior paints should be used where the desired colour is dark or has a LRV of less than 30%. The heat reflective paints colours should be limited to a Total Solar Reflectance (TSR) value greater than 29%.

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

- The wood must be dry and clean prior to applying any

Durability and weather exposure (Cont'd)

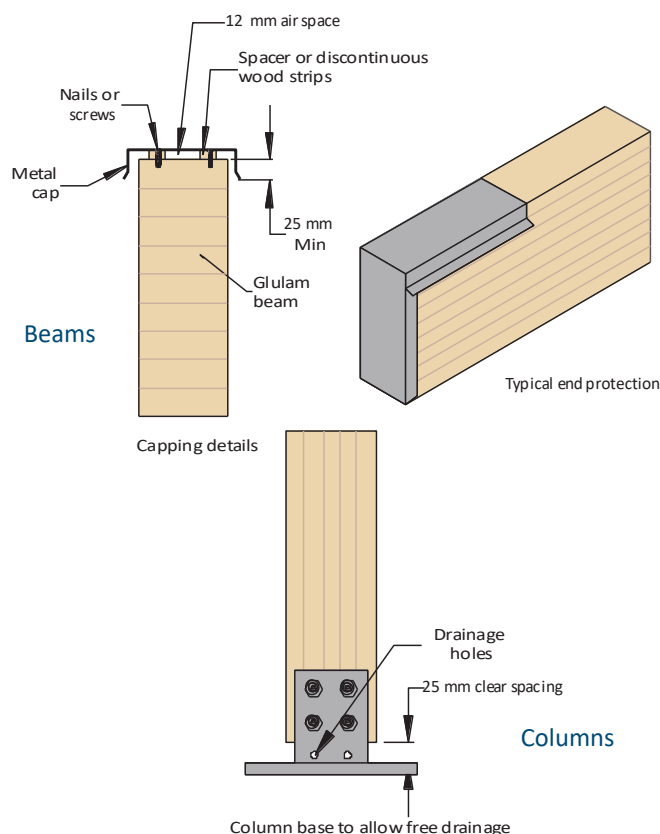
finish coating. If initial cleaning of the treated wood is needed, it is recommended that the project be cleaned with a deck cleaning product and allow to fully dry

2. At this time, a clear water repellent can be added to the project. If applied, allow 8 weeks prior to the application of a semi-transparent stain or paint
3. If no water repellent is added, an oil based stain can be 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.

3. Design & Construction detailing tips

- i. The use of building overhangs and other structures which protect the beams from excessive moisture movement and sun exposure.
- ii. Shielding of the beam from free moisture or direct sun. The use of metal, fibro or plastic shields on the exposed faces or ends of beams is highly recommended to help maintain the beam in an unstressed dry condition.
- iii. All beams should be provided with adequate ventilation so that moisture content within beams will not exceed 15% and moisture gradients across the beam will not occur.
- iv. The use of arrised or round edges on beams to reduce the likelihood of coating failures on sharp edges.
- v. The use of drip edges or other devices which provide a path for free moisture flow away from the timber beam. Refer to detail below opposite.
- vi. Joint detailing should, wherever possible, comply with the following:
 - Keep horizontal contact areas to a minimum, in favour of self draining vertical surfaces.
 - Ventilate joint surfaces by using spacers, wherever possible.
 - Always use compatible fasteners which have adequate corrosion protection and do not cause splitting during installation e.g. Hot dipped galvanic coatings or stainless steel.
 - Ensure any moisture entering a joint is not trapped but can adequately drain away from the joint.
- vii. Allow for thermal expansion/contraction in the joint design.



Fire ratings (resistance)

The Fire Resistance Level (FRL) of an object is expressed as the number of minutes for which the specimen fulfils the requirements of each of the three criteria, being:

- i. Structural adequacy
- ii. Integrity; and
- iii. Insulation, and expressed in that order under test conditions.

In a fire, SmartLam GL17S beams have an inherent fire rating. As timber burns, a layer of charcoal forms enclosing a core of timber which is yet unaffected by the fire. This timber core maintains its structural capacity. Hence, dependant upon the loss of material to the charcoal layer, the SmartLam GL17S beam can carry the dead load of the structure for a period of time.

The Structural Adequacy Resistance to fire can be established by reference to AS 1720.4.

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

Where δ = timber density at a moisture content of 12%, in kg/m^3 . For Softwood SmartLam GL 17S this equates to a char rate of 0.54 mm per minute, for the Hardwood SmartLam GL 17S, 0.50 mm per hour

The Structural Adequacy Fire resistance period can be determined by performing a series of successive iterations of time. The calculated value is reached when the effective residual section is no longer capable of resisting the design loads.

NOTE: this calculation is for the structural adequacy component of the FRL ONLY. More information on the determination of the FRL go to www.woodsolutions.com.au.

Checking in SmartLam GL 17S

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

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

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

Identification of checking

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

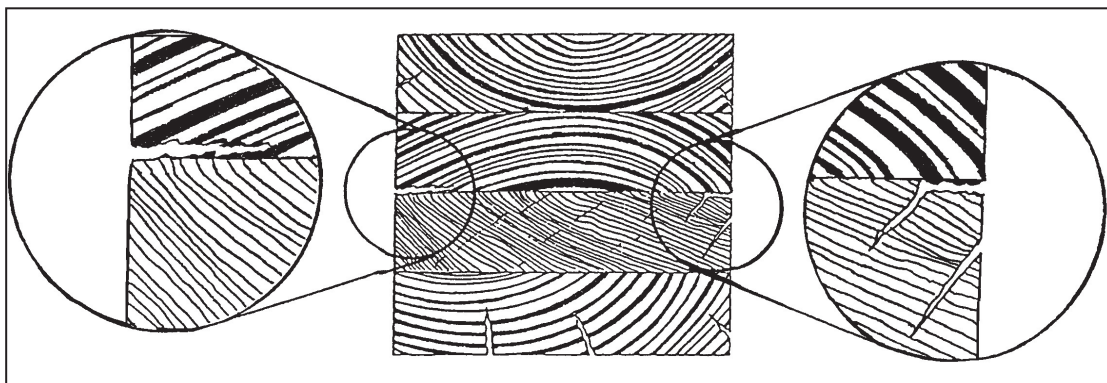
Checks are usually not of structural importance unless they are significant in depth, occur in the mid-height of the member near the supports, and the design of the member is governed by shear. If these conditions exist, the reduction in shear strength is directly proportional to the ratio of the depth 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 (Glulam)"** gives detailed analysis of the modification to structural capacity as a result of severe checking.



Designing with SmartLam GL 17S

The design information contained within this Design Guide is for the properties of SmartLam GL17S only. Other manufacturers' glulam may have different properties and therefore cannot be designed using this information.

1. Product Specification

Lamella:	Thickness:	30-45 mm
	Species:	Slash pine (Pinus elliottii) Keruing (Dipterocarpus spp)
	Strength Group	Slash SD5, Keruing SD4
	Joints:	Finger joint
Dimensional tolerances:	Length:	± 10 mm
	Depth:	≤ 100 mm ± 1 mm ≥ 100 ≤ 302 mm ± 3 mm ≥ 301 ≤ 600 mm ± 4 mm ≥ 601 ± 6 mm
	Thickness:	- 0, +4 mm at 12% moisture content
Adhesive:	Complies with AS/NZS 4364:2010	
Treatment options:	Untreated, H2, and H3 treatment to AS 1604.5	

2. Limit State Design Characteristic Properties

Timber Strength Properties: ⁽¹⁾		
Bending	f'_b	40 MPa
Tension Parallel to grain	f'_t	20 MPa
Tension Perpendicular to grain	f'_{tp}	0.5 MPa
Compression Parallel to grain	f'_c	33 MPa
Compression Perpendicular to grain - Edge	f'_p	13 MPa
Shear	f'_s	4.2 MPa
Average Elastic Modulus	E	16,700 MPa
Average Modulus of Rigidity	G	1110 MPa
Average Density	Slash	650 kg/m ³
	Keruing	900 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 GL 17 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 2.4 of AS 1720.1.

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 of the GLTAA Technical Data Sheet No 2: "Glulam in weather exposed applications"
- Service Classes 1,2 & 3 are defined in AS 1328

5. Partial seasoning factor

SmartLam GL17S is a seasoned timber product, generally k_4 equals 1. Where the glulam is subjected to conditions in which the average moisture content for a 12 month period is expected to exceed 15%, the characteristic capacity shall be decreased. The value of k_4 shall be the greater of:

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

$$b. \quad k_4 = 0.7$$

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 in clause 2.4.4 of AS 1720.1

7. Load sharing

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

8. Stability

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

9. Temperature

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

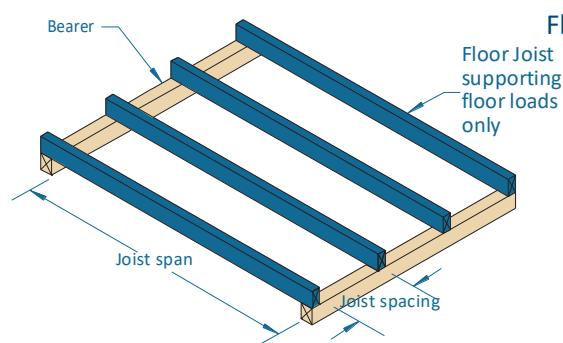
SmartLam GL 17S section properties

Nominal Size DxB mm	Beam mass kg/m	Nominal section area 10 ³ mm ²	Major axis			Minor Axis	
			Zxx 10 ³ mm ²	Ixx 10 ⁶ mm ⁴	EIxx 10 ⁹ Nmm ²	Zyy 10 ³ mm ²	Iyy 10 ⁶ mm ⁴
200 x 50	9.0	10.0	333	33	557	83.3	2.1
250 x 50	11.3	12.5	521	65	1087	104.2	2.6
200 x 60	10.8	12.0	400	40	668	120.0	3.6
265 x 60	14.3	15.9	702	93	1554	159.0	4.8
300 x 60	16.2	18.0	900	135	2255	180.0	5.4
330 x 60	17.8	19.8	1089	180	3001	198.0	5.9
130 x 65	4.6	8.5	183	12	199	91.5	3.0
165 x 65	5.9	10.7	295	24	406	116.2	3.8
195 x 65	7.0	12.7	412	40	671	137.3	4.5
230 x 65	8.2	15.0	573	66	1101	162.0	5.3
260 x 65	9.3	16.9	732	95	1590	183.1	6.0
295 x 65	10.5	19.2	943	139	2322	207.7	6.8
300 x 65	10.7	19.5	975	146	2442	211.3	6.9
330 x 65	11.8	21.5	1180	195	3251	232.4	7.6
360 x 65	12.9	23.4	1404	253	4220	253.5	8.2
395 x 65	14.1	25.7	1690	334	5575	278.1	9.0
425 x 65	15.2	27.6	1957	416	6944	299.3	9.7
200 x 80	14.4	16.0	533	53	891	213.3	8.5
265 x 80	19.1	21.2	936	124	2072	282.7	11.3
300 x 80	21.6	24.0	1200	180	3006	320.0	12.8
330 x 80	23.8	26.4	1452	240	4001	352.0	14.1
130 x 85	6.1	11.1	239	16	260	156.5	6.7
165 x 85	7.7	14.0	386	32	531	198.7	8.4
195 x 85	9.1	16.6	539	53	877	234.8	10.0
230 x 85	10.8	19.6	749	86	1439	277.0	11.8
295 x 85	13.8	25.1	1233	182	3037	355.2	15.1
330 x 85	15.4	28.1	1543	255	4251	397.4	16.9
360 x 85	16.8	30.6	1836	330	5519	433.5	18.4
395 x 85	18.5	33.6	2210	437	7290	475.6	20.2
425 x 85	19.9	36.1	2559	544	9081	511.8	21.8
460 x 85	21.5	39.1	2998	689	11514	553.9	23.5
495 x 85	23.1	42.1	3471	859	14347	596.1	25.3
525 x 85	24.5	44.6	3905	1025	17117	632.2	26.9
560 x 85	26.2	47.6	4443	1244	20774	674.3	28.7
590 x 85	27.6	50.2	4931	1455	24295	710.5	30.2

Note:

The section properties for larger Smart Lam GL 17S are available on request from the Tech Support Helpline 1300 668 690

Floor joists supporting floor loads only



Floor mass - 40 kg/m²

EXAMPLE:

single span
joist spacing = 450 mm
joist span = 6000 mm

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

ADOPT: SmartLam GL 17S - 265 x 60

Loadings: Permanent - Self weight + 40 kg/m² + 0.5 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

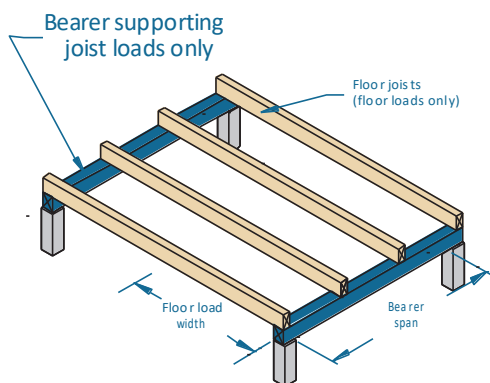
Joist spacing (mm)	300	450	600	300	450	600
Member size (GL17S) DxB (mm)	Maximum recommended joist span (mm)					
	Single span			Continuous span		
200x50	5200	4800	4400	6300	5700	5200
250x50	6100	5600	5300	7400	6700	6200
200x60	5400	5000	4700	6600	5900	5500
265x60	6600	6100	5700	8100	7300	6800
300x60	7100	6600	6200	8900	8100	7500
330x60	7600	7100	6700	8100	8700	8100
130x65	4000	3300	3000	4800	4000	3500
165x65	4900	4400	3900	5800	5200	4600
195x65	5500	5000	4700	6600	5900	5500
230x65	6200	5700	5300	7400	6700	6200
260x65	6800	6200	5800	8100	7400	6900
295x65	7400	6800	6400	9000	8100	7500
300x65	7500	6900	6500	9100	8200	7600
330x65	8000	7400	6900	10300	8800	8200
360x65	8500	7800	7400	8800	9400	8700
395x65	9000	8400	7900	9400	9900	9400
425x65	9400	8800	8300	10500	9900	9900
200x80	5700	5300	5000	7100	6400	5900
265x80	6900	6400	6100	8700	7900	7300
300x80	7500	7000	6600	9400	8700	8100
330x80	8000	7400	7100	10400	9300	8600
130x85	4300	3700	3300	5200	4500	3900
165x85	5200	4700	4300	6200	5600	5100
195x85	5800	5400	5000	7000	6400	5900
230x85	6500	6000	5700	7900	7200	6700
260x85	7100	6600	6200	8700	7900	7300
295x85	7800	7200	6800	8100	8700	8100
300x85	7800	7200	6800	8200	8800	8200
330x85	8300	7700	7300	11000	9400	8800
360x85	8800	8200	7800	9300	10000	9400
395x85	9400	8800	8300	10600	9900	10000
425x85	9900	9200	8700	11200	9900	9900

NOTES:

- Spans are suitable for solid timber, particle board and ply flooring. floor sheeting glued and nailed to joists will improve floor rigidity. Where heavy overlay material is to be applied, such as a mortar bed tiled or slate floor, the permanent load allowance should be increased to 1.2 kPa. A reduction of joist spacing may be used to accommodate this extra permanent load. A satisfactory result can be achieved by adopting the maximum spans for 600 mm and 450 mm spacing but installing the joists at 450 and 300 mm spacing respectively.
- For beams which are continuous over two unequal spans, the design span and the 'resultant span description' depend upon the percentage span differences between the two spans as shown on page 5
- D = member depth, B = member breadth, NS = not suitable.
- End bearing lengths = 42 mm at end supports and 58 mm at internal supports for continuous members.
- Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
- Sizes in *italics* are for a Natural Durability class 3 Hardwood GL17S

Single span floor bearers supporting floor loads only - Single span

Floor mass - 40 kg/m²



EXAMPLE:

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

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

ADOPT:

SmartLam GL 17 S- 360 x 85

Loadings: permanent - self weight + 40 kg/m² + 0.5 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

Floor load width (mm)	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600
Member size (GL17S) DxB (mm)	Maximum recommended Single span bearer span (mm)									
200x50	3600	3200	2900	2600	2500	2300	2200	2100	2000	1900
250x50	4200	3800	3600	3300	3100	2900	2800	2600	2400	2300
200x60	3800	3300	3000	2800	2600	2500	2400	2300	2100	2000
265x60	4600	4200	3900	3700	3500	3300	3200	3000	2800	2700
300x60	5100	4600	4300	4000	3900	3700	3600	3400	3200	3100
330x60	5400	4900	4600	4300	4100	4000	3800	3700	3600	3400
130x65	2600	2200	2000	1900	1700	1700	1600	1500	1400	1400
165x65	3300	2800	2600	2400	2200	2100	2000	1900	1800	1800
195x65	3800	3400	3000	2800	2600	2500	2400	2300	2200	2100
230x65	4300	3900	3600	3300	3100	3000	2800	2700	2600	2500
260x65	4700	4200	3900	3700	3500	3300	3200	3100	2900	2800
295x65	5100	4700	4300	4100	3900	3700	3600	3500	3300	3200
330x65	5600	5100	4700	4400	4200	4100	3900	3800	3700	3600
360x65	5900	5400	5000	4700	4500	4300	4200	4100	3900	3800
200x80	4000	3600	3300	3100	2900	2700	2600	2500	2400	2300
265x80	4900	4500	4200	3900	3800	3600	3500	3300	3200	3100
300x80	5400	4900	4600	4300	4100	4000	3800	3700	3600	3500
330x80	5800	5300	4900	4600	4400	4300	4100	4000	3900	3800
195x85	4000	3600	3300	3100	2900	2700	2600	2500	2400	2300
230x85	4500	4100	3800	3600	3400	3200	3100	2900	2800	2700
260x85	5000	4500	4200	4000	3800	3600	3500	3300	3200	3100
295x85	5500	5000	4600	4400	4200	4000	3800	3700	3600	3500
330x85	5900	5400	5000	4700	4500	4300	4200	4100	3900	3800
360x85	6300	5700	5400	5100	4800	4600	4500	4300	4200	4100
395x85	6800	6200	5700	5400	5200	5000	4800	4600	4500	4400
425x85	7100	6500	6000	5700	5500	5200	5100	4900	4800	4600
295x115	5900	5300	5000	4700	4500	4300	4100	4000	3900	3800
330x115	6300	5800	5400	5100	4900	4700	4500	4400	4200	4100
360x115	6800	6200	5700	5400	5200	5000	4800	4700	4500	4400
395x115	7200	6600	6100	5800	5600	5300	5200	5000	4900	4700
425x115	7600	7000	6500	6100	5900	5600	5500	5300	5100	5000
260x135	5500	5000	4700	4400	4200	4100	3900	3800	3700	3600
295x135	6100	5500	5200	4900	4700	4500	4300	4200	4100	4000
330x135	6600	6000	5600	5300	5100	4900	4700	4500	4400	4300
360x135	7000	6400	6000	5600	5400	5200	5000	4900	4700	4600
395x135	7500	6800	6400	6000	5800	5600	5400	5200	5100	4900
425x135	7800	7200	6700	6400	6100	5900	5700	5500	5300	5200

Continuous span floor bearers supporting floor loads only

Floor mass - 40 kg/m²

Loadings: permanent - self weight + 40 kg/m² +0.5 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

Floor load width (mm)	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600
Member size (GL17S) DxB (mm)	Maximum recommended Continuous span bearer span (mm)									
200x50	4500	3700	3200	2800	2600	2400	2200	2100	2000	1900
250x50	5300	4600	3900	3500	3200	3000	2800	2600	2400	2300 ₅
200x60	4700	4000	3500	3100	2800	2600	2400	2300	2100	2000
265x60	5800	5300	4600	4100	3700	3400	3200	3000	2800	2700
300x60	6400	5800	5200	4600	4200	3900	3600	3400 ₅	3200 ₁₀	3100 ₁₅
330x60	6800	6200	5700	5100	4600	4300	4000 ₅	3800 ₁₅	3600 ₂₀	3400 ₂₅
130x65	3500	3000	2600	2300	2100	1900	1800	1700	1600	1500
165x65	4200	3800	3200	2900	2600	2400	2300	2100	2000	1900
195x65	4800	4300	3800	3400	3100	2900	2700	2500	2400	2300
230x65	5400	4900	4500	4000	3700	3400	3200	3000	2800	2700
260x65	5900	5300	5000	4600	4200	3800	3600	3400	3200	3000
295x65	6500	5900	5400	5100	4700	4300	4100	3800	3600 ₅	3400 ₁₅
330x65	7000	6400	5900	5600	5300	4900	4500 ₅	4300 ₁₅	4000 ₂₀	3800 ₂₅
360x65	7500	6800	6300	6000	5700	5300 ₁₀	4900 ₁₅	4700 ₂₅	4400 ₃₀	4200 ₄₀
200x80	5100	4600	4000	3600	3200	3000	2800	2600	2500	2400
265x80	6200	5600	5300	4700	4300	4000	3700	3500	3300	3100
300x80	6800	6200	5800	5300	4800	4500	4200	3900	3700	3500
330x80	7300	6600	6200	5800	5300	4900	4600	4300	4100 ₅	3900 ₁₀
195x85	5100	4600	4300	3900	3600	3300	3100	2900	2700	2600
230x85	5700	5200	4800	4600	4200	3900	3600	3400	3200	3100
260x85	6300	5700	5300	5000	4700	4400	4100	3800	3600	3500
295x85	6900	6200	5800	5500	5200	5000	4600	4400	4100	3900
330x85	7500	6800	6300	6000	5700	5500	5200	4900	4600 ₅	4400 ₁₀
360x85	8000	7200	6700	6400	6100	5800	5600	5300 ₁₀	5000 ₁₅	4800 ₂₀
395x85	8500	7700	7200	6800	6500	6300	6000 ₁₀	5800 ₂₀	5500 ₂₅	5200 ₃₀
425x85	9000	8200	7600	7200	6900	6600 ₅	6400 ₁₅	6200 ₂₅	5900 ₃₅	5600 ₄₅
295x115	7400	6700	6200	5900	5600	5400	5200	5100	4800	4600
330x115	8000	7300	6800	6400	6100	5900	5700	5500	5400	5100
360x115	8500	7800	7200	6800	6500	6300	6100	5900	5700	5600 ₅
395x115	9100	8300	7700	7300	7000	6700	6500	6300	6100 ₅	6000 ₁₀
425x115	9600	8700	8200	7700	7400	7100	6900	6600	6500 ₁₀	6300 ₂₀
295x135	7600	7000	6500	6100	5900	5600	5400	5300	5100	4900
330x135	8300	7600	7000	6700	6400	6100	5900	5700	5600	5400
360x135	8800	8000	7500	7100	6800	6500	6300	6100	5900	5800
395x135	9400	8600	8000	7600	7300	7000	6800	6500	6400	6200
425x135	9900	9100	8500	8000	7700	7400	7100	6900	6700	6600 ₅

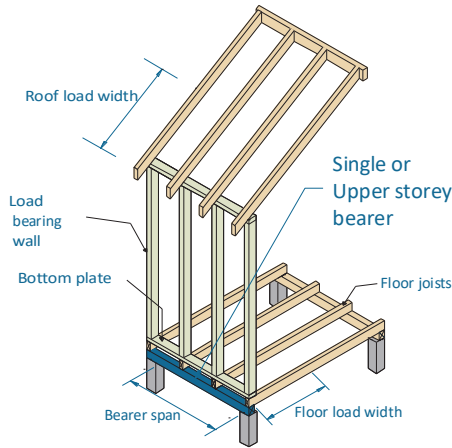
NOTES:

- D = member depth, B = member breadth, NS = not suitable.
- The above table was based on a maximum DL of 40 kg/m², floor live load of 1.5 kPa, floor point load of 1.8 kN
- 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.
- Restraint value for slenderness calculations is 600 mm. (floor joist centers at 600 mm max)
- Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
- Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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 = 3500 mm
 roof load width = 1950 mm
 bearer span = 3000 mm (single span)

Enter single span table at 4800 mm in floor load width column, 4500 roof load width column, read down to a span equal to or greater than 3000 mm in the 40 kg/m² row.

ADOPT:

SmartLam GL17S - 300 x 60

Floor load width (mm)	Roof mass (kg/m ²)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) DxB (mm)		Maximum recommended Single span bearer span (mm)								
200x50	40	2900	2600	2400	2600	2400	2200	2100	2000	1900
	90	2700	2200	2000	2400	2100	1900	2000	1800	1700
250x50	40	3600	3200	3000	3200	3000	2800	2600	2500	2400
	90	3400	2800	2500	3100	2600	2400	2500	2300	2100
200x60	40	3100	2700	2500	2800	2500	2300	2300	2200	2100
	90	2900	2400	2100	2600	2200	2000	2200	2000	1900
265x60	40	4000	3600	3300	3600	3300	3100	3000	2900	2800
	90	3700	3100	2800	3400	3000	2700	2900	2700	2500
300x60	40	4300	4000	3700	4000	3700	3500	3400	3300	3100
	90	4100	3600	3200	3800	3400	3000	3300	3000	2800
330x60	40	4700	4300	4000	4300	4000	3800	3700	3600	3400
	90	4400	3800	3500	4100	3700	3300	3600	3300	3100
130x65	40	2100	1800	1700	1800	1700	1600	1500	1500	1400
	90	1900	1600	1400	1700	1500	1300	1500	1300	1200
165x65	40	2600	2300	2100	2300	2100	2000	2000	1900	1800
	90	2400	2000	1800	2200	1900	1700	1900	1700	1600
195x65	40	3100	2800	2500	2800	2500	2400	2300	2200	2100
	90	2900	2400	2100	2600	2200	2000	2200	2000	1900
230x65	40	3600	3300	3000	3300	3000	2800	2800	2600	2500
	90	3400	2800	2500	3100	2600	2400	2700	2400	2200
260x65	40	4000	3700	3400	3700	3400	3100	3100	2900	2800
	90	3800	3200	2800	3500	3000	2700	3000	2700	2500
295x65	40	4400	4000	3800	4000	3800	3600	3500	3300	3200
	90	4100	3600	3200	3900	3400	3100	3400	3100	2800
330x65	40	4800	4400	4100	4400	4100	3900	3900	3700	3600
	90	4500	3900	3600	4200	3700	3400	3800	3400	3200
360x65	40	5100	4700	4400	4700	4400	4200	4100	3900	3800
	90	4800	4200	3800	4500	4000	3700	4000	3700	3500
395x65	40	5500	5000	4700	5000	4700	4500	4400	4200	4100
	90	5200	4500	4100	4800	4300	4000	4300	4000	3700
425x65	40	5800	5300	5000	5300	5000	4700	4700	4500	4300
	90	5400	4700	4300	5100	4500	4200	4500	4200	4000
200x80	40	3400	3000	2800	3000	2800	2600	2600	2400	2300
	90	3100	2600	2300	2900	2500	2200	2500	2200	2000
265x80	40	4200	3900	3600	3900	3600	3400	3400	3200	3100
	90	4000	3500	3100	3700	3300	2900	3300	2900	2700
300x80	40	4700	4300	4000	4300	4000	3800	3800	3600	3500
	90	4400	3800	3500	4100	3700	3300	3700	3300	3100
330x80	40	5000	4600	4300	4600	4300	4100	4000	3900	3700
	90	4700	4100	3800	4400	3900	3600	3900	3600	3400

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

Single span (cont'd)

Floor load width (mm)	Roof mass (kg/m ²)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) Dx B (mm)		Maximum recommended single span bearer span (mm)								
130x85	40	2300	2000	1800	2000	1800	1700	1700	1600	1500
	90	2100	1700	1500	1900	1600	1500	1600	1500	1300
165x85	40	2900	2500	2300	2600	2300	2200	2200	2000	1900
	90	2700	2200	1900	2400	2100	1900	2100	1900	1700
195x85	40	3400	3000	2800	3000	2800	2600	2500	2400	2300
	90	3100	2600	2300	2800	2400	2200	2500	2200	2000
230x85	40	3900	3600	3300	3600	3300	3000	3000	2800	2700
	90	3700	3100	2700	3400	2900	2600	2900	2600	2400
260x85	40	4300	3900	3700	3900	3700	3400	3400	3200	3100
	90	4000	3500	3100	3700	3300	2900	3300	3000	2700
295x85	40	4700	4300	4000	4300	4000	3800	3800	3600	3500
	90	4400	3800	3500	4100	3700	3300	3700	3400	3100
330x85	40	5100	4700	4400	4700	4400	4200	4100	4000	3800
	90	4800	4200	3800	4500	4000	3700	4000	3700	3500
360x85	40	5400	5000	4700	5000	4700	4400	4400	4200	4100
	90	5100	4500	4100	4800	4300	4000	4300	4000	3700
395x85	40	5800	5300	5000	5300	5000	4800	4700	4500	4400
	90	5500	4800	4400	5100	4600	4200	4600	4200	4000
425x85	40	6100	5600	5300	5600	5300	5000	5000	4800	4600
	90	5800	5100	4600	5400	4800	4500	4900	4500	4200
295x115	40	5000	4600	4300	4600	4300	4100	4100	3900	3800
	90	4800	4100	3800	4400	4000	3700	4000	3700	3400
330x115	40	5500	5000	4700	5000	4700	4500	4400	4300	4100
	90	5200	4500	4100	4800	4300	4000	4300	4000	3800
360x115	40	5800	5400	5000	5400	5000	4800	4700	4500	4400
	90	5500	4800	4400	5100	4600	4300	4600	4300	4000
395x115	40	6300	5700	5400	5700	5400	5100	5100	4900	4700
	90	5900	5100	4700	5500	4900	4600	4900	4600	4300
425x115	40	6600	6100	5700	6100	5700	5400	5400	5200	5000
	90	6200	5400	5000	5800	5200	4800	5200	4800	4600
295x135	40	5200	4800	4500	4800	4500	4300	4200	4100	3900
	90	4900	4300	3900	4600	4100	3800	4100	3800	3600
330x135	40	5700	5200	4900	5200	4900	4700	4600	4400	4300
	90	5400	4700	4300	5000	4500	4100	4500	4200	3900
360x135	40	6100	5600	5200	5600	5200	5000	4900	4700	4600
	90	5700	5000	4600	5300	4800	4400	4800	4400	4200
395x135	40	6500	6000	5600	6000	5600	5300	5300	5100	4900
	90	6100	5300	4900	5700	5100	4800	5100	4800	4500
425x135	40	6800	6300	5900	6300	5900	5600	5600	5400	5200
	90	6500	5600	5200	6000	5400	5000	5400	5000	4700

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

Continuous span

Floor load width (mm)	Roof mass (kg/m ²)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) DxB (mm)		Maximum recommended Continuous span bearer span (mm)								
200x50	40	3600	3100	2700	2800	2600	2400	2100	2000	1900
	90	3300	2500	2100	2600	2300	1900	2000	1800	1700
250x50	40	4300	3900	3400	3500	3200	3000	2600	2500	2400 ₅
	90	4100	3100	2600	3300	2800	2400	2500	2300 ₅	2100 ₁₅
200x60	40	3800	3400	3000	3100	2800	2600	2300	2200	2100
	90	3600	2700	2300	2900	2500	2100	2200	2000	1900
265x60	40	4700	4300	4000	4000	3700	3500	3000	2900	2800
	90	4400	3600	3000	3800	3300	2800	2900	2700 ₅	2500 ₁₀
300x60	40	5100	4800	4500	4600	4200	4000	3400 ₅	3300 ₁₀	3100 ₁₅
	90	4900	4100	3400 ₅	4400	3700	3200 ₁₀	3300 ₅	3000 ₁₅	2800 ₂₅
330x60	40	5500	5100	4800	4900	4700	4400	3700 ₁₅	3600 ₂₀	3400 ₂₅
	90	5200	4500	3700 ₁₅	4800	4100 ₅	3500 ₂₀	3600 ₁₅	3300 ₃₀	3100 ₄₀
130x65	40	2800	2500	2200	2200	2100	1900	1700	1600	1500
	90	2600	2000	1700	2100	1800	1600	1600	1500	1400
165x65	40	3600	3200	2800	2900	2600	2500	2100	2000	1900
	90	3300	2600	2100	2700	2300	2000	2100	1900	1700
195x65	40	4100	3700	3300	3400	3100	2900	2500	2400	2300
	90	3800	3000	2500	3200	2800	2400	2400	2200	2100
230x65	40	4600	4200	3900	4000	3700	3500	3000	2800	2700
	90	4300	3600	3000	3800	3300	2800	2900	2600	2400
260x65	40	5000	4600	4300	4500	4200	3900	3400	3200	3100
	90	4700	4100	3400	4300	3700	3200	3300	3000	2800 ₁₀
295x65	40	5500	5100	4700	5100	4700	4400	3800	3600 ₅	3500 ₁₀
	90	5200	4500	3800	4900	4200	3600 ₅	3700 ₅	3400 ₁₅	3100 ₂₅
330x65	40	6000	5500	5200	5500	5200	4900	4300 ₁₅	4100 ₂₀	3900 ₂₅
	90	5700	4900	4200 ₁₅	5300	4700 ₅	4000 ₂₀	4100 ₁₅	3800 ₃₀	3500 ₄₀
360x65	40	6400	5900	5500	5900	5500	5200 ₅	4600 ₂₅	4400 ₃₀	4300 ₃₅
	90	6100	5300	4600 ₂₅	5600	5000 ₁₅	4400 ₃₀	4500 ₃₀	4100 ₄₀	3800 ₆₅
395x65	40	6900	6300	5900	6300	5900 ₅	5600 ₁₀	5100 ₃₅	4900 ₅₀	4700 ₆₀
	90	6500	5600 ₅	5100 ₃₅	6000	5400 ₂₀	4800 ₅₀	4900 ₄₀	4500 ₆₅	4200 ₇₅
425x65	40	7300	6700	6200	6700	6200 ₁₀	5900 ₂₀	5500 ₅₅	5200 ₆₅	5000 ₇₀
	90	6900	6000 ₁₀	5400 ₆₀	6400 ₅	5700 ₂₅	5200 ₇₀	5300 ₆₅	4900 ₈₀	4500 ₉₀
200x80	40	4000	3800	3500	3500	3300	3100	2600	2500	2400
	90	3900	3200	2600	3400	2900	2500	2500	2300	2100
265x80	40	5000	4700	4400	4500	4300	4000	3500	3300	3200
	90	4800	4200	3500	4300	3800	3300	3400	3100	2900
300x80	40	5500	5100	4800	4900	4700	4500	3900	3800	3600
	90	5200	4700	3900	4800	4300	3700	3800	3500	3200 ₁₀
330x80	40	5900	5500	5200	5300	5000	4800	4300	4100 ₅	4000 ₁₀
	90	5600	5000	4300	5100	4700	4100 ₅	4200	3800 ₁₀	3600 ₂₀
195x85	40	4300	4000	3700	3900	3600	3400	2900	2700	2600
	90	4100	3500	2900	3700	3200	2700	2800	2500	2400
230x85	40	4900	4500	4200	4500	4200	4000	3400	3200	3100
	90	4600	4000	3400	4300	3700	3200	3300	3000	2800
260x85	40	5400	4900	4600	4900	4600	4400	3800	3700	3500
	90	5100	4400	3800	4700	4200	3600	3700	3400	3200
295x85	40	5900	5400	5100	5400	5100	4800	4300	4200	4000
	90	5600	4800	4300	5200	4600	4100	4200	3900	3600 ₁₀
330x85	40	6400	5900	5500	5900	5500	5200	4900	4700 ₅	4500 ₁₀
	90	6100	5300	4800	5600	5000	4600 ₅	4700 ₅	4300 ₁₀	4000 ₂₀
360x85	40	6900	6300	5900	6300	5900	5600	5300 ₁₀	5100 ₁₅	4900 ₂₀
	90	6500	5600	5100 ₅	6000	5400	5000 ₁₅	5200 ₁₅	4700 ₂₀	4400 ₃₀
395x85	40	7300	6700	6300	6700	6300	6000	5800 ₂₀	5600 ₂₅	5300 ₃₀
	90	6900	6000	5500 ₁₅	6400	5800	5300 ₂₅	5600 ₂₅	5200 ₃₅	4800 ₅₀
425x85	40	7700	7100	6600	7100	6600	6300	6200 ₃₀	6000 ₃₅	5700 ₄₀
	90	7300	6400	5800 ₂₀	6800	6100 ₅	5600 ₃₀	6100 ₃₅	5600 ₅₀	5200 ₇₀

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

Floor load width (mm)	Roof mass (kg/m ²)	1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) DxB (mm)		Maximum recommended Continuous span bearer span (mm)								
230x115	40	5300	4800	4500	4800	4500	4300	3900	3800	3600
	90	5000	4300	3900	4600	4100	3700	3800	3500	3300
260x115	40	5800	5300	5000	5300	5000	4700	4400	4300	4100
	90	5500	4700	4300	5100	4500	4200	4300	4000	3700
295x115	40	6400	5800	5500	5800	5500	5200	5000	4800	4600
	90	6000	5200	4800	5600	5000	4600	4900	4500	4200
330x115	40	6900	6300	5900	6300	5900	5600	5600	5400	5200
	90	6500	5700	5200	6100	5400	5000	5400	5000	4700 ₅
360x115	40	7400	6700	6300	6800	6300	6000	6000	5700	5500
	90	6900	6100	5500	6500	5800	5400	5800	5400 ₅	5100 ₁₅
395x115	40	7900	7200	6800	7200	6800	6400	6400	6100 ₅	5900 ₅
	90	7400	6500	5900	6900	6200	5700	6200	5800 ₁₀	5400 ₂₀
425x115	40	8300	7600	7100	7600	7100	6800	6800 ₅	6500 ₁₀	6300 ₁₅
	90	7900	6800	6300	7300	6600	6100 ₅	6600 ₅	6100 ₁₅	5700 ₃₀
230x135	40	5500	5000	4700	5000	4700	4500	4300	4100	3900
	90	5200	4500	4100	4800	4300	4000	4100	3800	3500
260x135	40	6000	5500	5200	5500	5200	4900	4800	4600	4400
	90	5700	4900	4500	5300	4700	4400	4700	4300	4000
295x135	40	6600	6000	5700	6100	5700	5400	5400	5100	5000
	90	6200	5400	5000	5800	5200	4800	5200	4800	4500
330x135	40	7200	6600	6200	6600	6200	5900	5800	5600	5400
	90	6800	5900	5400	6300	5600	5200	5700	5200	4900
360x135	40	7600	7000	6600	7000	6600	6200	6200	6000	5800
	90	7200	6300	5800	6700	6000	5600	6000	5600	5300
395x135	40	8200	7500	7000	7500	7000	6700	6600	6400	6200
	90	7700	6700	6200	7200	6500	6000	6500	6000	5700 ₁₀
425x135	40	8600	7900	7400	7900	7400	7100	7000	6700	6500
	90	8100	7100	6500	7600	6800	6300	6800	6300 ₅	6000 ₁₅

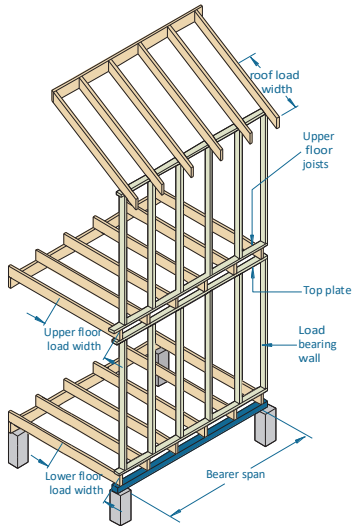
NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a total ground floor mass of 40 (kg/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.
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 GL 17S in this table are stocked in each state. Please check with your supplier before ordering
7. Sizes in *italics* are for a Natural Durability class 3 Hardwood GL17S

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

Single span

Floor mass - 40 kg/m²



EXAMPLE:

sheet roof - 40 kg/m²
 lower floor load width = 3500 mm
 upper floor load width = 1500 mm
 roof load width = 1950 mm
 bearer span = 3100 mm (single span)

Enter single span table at 3600 mm in lower floor load width column, 1800 mm in upper floor width column, 4500 mm roof load width column, read down to a span equal to or greater than 3100 mm in the 40 kg/m² row.

ADOPT:

SmartLam GL17S - 330 x 60

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended single span bearer span (mm)											
200x50	40	2000	1900	1800	1900	1800	1700	1800	1800	1700	1700	1600	1600
	90	2000	1800	1600	1800	1700	1500	1800	1600	1500	1600	1500	1400
250x50	40	2600	2400	2300	2300	2200	2200	2300	2200	2100	2100	2000	2000
	90	2500	2200	2100	2300	2100	1900	2300	2100	1900	2100	1900	1800
200x60	40	2200	2100	2000	2000	1900	1800	2000	1900	1800	1800	1800	1700
	90	2100	1900	1700	1900	1800	1700	1900	1800	1600	1800	1700	1500
265x60	40	2900	2700	2600	2600	2500	2400	2600	2500	2400	2400	2300	2300
	90	2800	2500	2300	2600	2400	2200	2500	2300	2200	2400	2200	2100
300x60	40	3300	3100	3000	3000	2900	2800	3000	2800	2700	2800	2700	2600
	90	3200	2900	2600	2900	2700	2500	2900	2700	2500	2700	2500	2300
330x60	40	3500	3400	3200	3300	3200	3000	3200	3100	3000	3000	2900	2800
	90	3400	3100	2900	3200	2900	2800	3200	2900	2700	3000	2800	2600
165x65	40	1800	1700	1700	1700	1600	1500	1700	1600	1500	1500	1500	1400
	90	1800	1600	1500	1600	1500	1400	1600	1500	1400	1500	1400	1300
195x65	40	2200	2100	2000	2000	1900	1800	2000	1900	1800	1800	1800	1700
	90	2100	1900	1700	1900	1800	1700	1900	1800	1600	1800	1700	1600
230x65	40	2600	2400	2300	2300	2200	2200	2300	2200	2100	2200	2100	2000
	90	2500	2200	2100	2300	2100	2000	2300	2100	1900	2100	2000	1900
260x65	40	2900	2800	2600	2700	2500	2500	2600	2500	2400	2500	2400	2300
	90	2800	2500	2300	2600	2400	2200	2600	2400	2200	2400	2200	2100
295x65	40	3300	3100	3000	3000	2900	2800	3000	2900	2800	2800	2700	2600
	90	3200	2900	2700	2900	2700	2500	2900	2700	2500	2700	2500	2400
330x65	40	3600	3400	3300	3300	3200	3100	3300	3200	3100	3100	3000	2900
	90	3500	3200	3000	3300	3000	2800	3200	3000	2800	3100	2800	2700
360x65	40	3800	3700	3500	3600	3500	3400	3500	3400	3300	3400	3300	3200
	90	3700	3400	3200	3500	3300	3100	3500	3300	3100	3300	3100	2900
395x65	40	4100	3900	3800	3800	3700	3600	3800	3700	3600	3600	3500	3400
	90	4000	3700	3500	3700	3500	3300	3700	3500	3300	3500	3400	3200 ₅
200x80	40	2400	2300	2200	2200	2100	2000	2200	2100	2000	2000	1900	1900
	90	2300	2100	1900	2100	1900	1800	2100	1900	1800	2000	1800	1700
265x80	40	3200	3000	2900	2900	2800	2700	2900	2800	2700	2700	2600	2500
	90	3100	2800	2600	2800	2600	2400	2800	2600	2400	2600	2400	2300
300x80	40	3500	3400	3200	3300	3100	3000	3200	3100	3000	3000	2900	2800
	90	3400	3100	2900	3200	2900	2800	3200	2900	2700	3000	2800	2600
330x80	40	3800	3600	3500	3500	3400	3300	3500	3400	3300	3300	3200	3100
	90	3700	3400	3200	3400	3200	3000	3400	3200	3000	3200	3100	2900

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

Single span (Cont'd)

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended single span bearer span (mm)											
195x85	40	2400	2300	2200	2200	2100	2000	2200	2100	2000	2000	1900	1900
	90	2300	2100	1900	2100	1900	1800	2100	1900	1800	2000	1800	1700
230x85	40	2800	2700	2500	2600	2500	2400	2500	2400	2300	2400	2300	2200
	90	2700	2500	2300	2500	2300	2100	2500	2300	2100	2300	2200	2000
260x85	40	3200	3000	2900	2900	2800	2700	2900	2800	2700	2700	2600	2500
	90	3100	2800	2600	2800	2600	2400	2800	2600	2400	2600	2400	2300
295x85	40	3500	3400	3300	3300	3200	3000	3300	3100	3000	3000	2900	2900
	90	3400	3200	2900	3200	3000	2800	3200	2900	2700	3000	2800	2600
330x85	40	3800	3700	3500	3600	3500	3400	3500	3400	3300	3400	3300	3200
	90	3700	3400	3200	3500	3300	3100	3500	3300	3100	3300	3100	2900
360x85	40	4100	3900	3800	3800	3700	3600	3800	3700	3600	3600	3500	3400
	90	4000	3700	3500	3700	3500	3300	3700	3500	3300	3500	3400	3200
395x85	40	4400	4200	4100	4100	4000	3800	4100	3900	3800	3800	3700	3700
	90	4300	3900	3700	4000	3800	3600	4000	3700	3600	3800	3600	3400
295x115	40	3800	3600	3500	3500	3400	3300	3500	3400	3300	3300	3200	3200
	90	3700	3400	3200	3500	3300	3100	3400	3200	3000	3300	3100	2900
330x115	40	4100	4000	3800	3800	3700	3600	3800	3700	3600	3600	3500	3400
	90	4000	3700	3500	3800	3500	3400	3700	3500	3400	3600	3400	3200
360x115	40	4400	4200	4100	4100	4000	3900	4100	4000	3800	3900	3800	3700
	90	4300	4000	3700	4000	3800	3600	4000	3800	3600	3800	3600	3500
395x115	40	4700	4500	4400	4400	4300	4100	4400	4200	4100	4100	4000	3900
	90	4600	4300	4000	4300	4100	3900	4300	4000	3800	4100	3900	3700
425x115	40	5000	4800	4600	4700	4500	4400	4600	4500	4400	4400	4300	4200
	90	4900	4500	4200	4600	4300	4100	4500	4300	4100	4300	4100	3900
295x135	40	3900	3800	3600	3700	3600	3500	3600	3500	3400	3500	3400	3300
	90	3800	3600	3300	3600	3400	3200	3600	3400	3200	3400	3200	3100
330x135	40	4300	4100	4000	4000	3900	3800	4000	3800	3700	3800	3700	3600
	90	4200	3900	3600	3900	3700	3500	3900	3700	3500	3700	3500	3400
360x135	40	4600	4400	4200	4300	4100	4000	4200	4100	4000	4000	3900	3800
	90	4500	4100	3900	4200	3900	3700	4200	3900	3700	4000	3800	3600
395x135	40	4900	4700	4500	4600	4400	4300	4500	4400	4300	4300	4200	4100
	90	4800	4400	4200	4500	4200	4000	4500	4200	4000	4200	4000	3900
425x135	40	5200	5000	4800	4800	4700	4600	4800	4700	4500	4600	4400	4300

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on total upper floor mass of 40 kg/m², total ground floor mass of 40 kg/m², floor live load of 1.5 kPa, floor point load of 1.8 kN, wall mass of 32 kg/m², & permanent floor live load of 0.5 kPa.
3. The above table was based on a wall height of 5400 mm
4. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports.
5. Not all sizes of SmartLam GL17S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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

Continuous span

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) Dx B (mm)	Roof mass (kg/m²)	Maximum recommended continuous span bearer span (mm)											
200x50	40	2300	2100	2000	2000	1800	1800	1900	1800	1700	1700	1600	1600
	90	2200	1900	1700	1900	1700	1500	1800	1600	1500 ₅	1600	1500	1400
	40	2800	2600	2500	2500	2300 ₅	2200 ₁₀	2300 ₅	2200 ₁₀	2200 ₁₅	2100 ₁₅	2000 ₂₀	2000 ₂₅
	90	2700	2400 ₅	2100 ₁₅	2400 ₅	2100 ₁₅	1900 ₂₅	2300 ₅	2100 ₂₀	1900 ₃₀	2100 ₂₀	1900 ₂₅	1700 ₃₅
200x60	40	2500	2300	2200	2100	2000	1900	2000	2000	1900	1800	1800	1700
	90	2400	2100	1800	2100	1900	1700	2000	1800	1700	1800	1700	1500
	40	3300	3100	2900	2900	2700	2600 ₁₀	2700	2600 ₅	2500 ₁₀	2500 ₁₅	2400 ₁₅	2300 ₂₀
	90	3100	2700	2500 ₁₅	2800	2500 ₁₀	2300 ₂₅	2700 ₅	2400 ₁₅	2200 ₂₅	2400 ₁₅	2200 ₂₅	2100 ₃₅
	40	3700	3500 ₅	3300 ₁₀	3200 ₁₀	3100 ₁₅	2900 ₂₀	3100 ₁₅	3000 ₂₀	2800 ₂₅	2800 ₂₅	2700 ₃₀	2600 ₃₅
	90	3600	3100 ₁₅	2800 ₂₅	3100 ₁₅	2800 ₂₅	2600 ₄₀	3000 ₁₅	2700 ₃₀	2500 ₄₀	2700 ₃₀	2500 ₄₀	2300 ₆₅
	40	4100 ₅	3800 ₁₀	3600 ₂₀	3600 ₂₀	3400 ₃₀	3200 ₃₅	3400 ₂₅	3300 ₃₀	3100 ₃₅	3100 ₄₅	3000 ₅₀	2900 ₆₅
	90	3900 ₁₀	3400 ₂₅	3100 ₄₅	3400 ₂₅	3100 ₄₀	2800 ₆₅	3300 ₃₀	3000 ₄₅	2800 ₇₀	3000 ₄₅	2800 ₆₅	2600 ₈₀
	40	2300	2200	2000	2000	1900	1800	1900	1800	1800	1700	1700	1600
	90	2200	1900	1700	1900	1700	1600	1900	1700	1500	1700	1600	1400
	40	2700	2600	2400	2400	2300	2100	2300	2200	2100	2000	2000	1900
	90	2600	2300	2000	2300	2100	1900	2200	2000	1800	2000	1800	1700
230x65	40	3200	3000	2800	2800	2700	2500	2700	2600	2500	2400	2300	2300 ₅
	90	3100	2700	2400	2700	2400	2200 ₅	2600	2400	2200 ₁₀	2400	2200 ₅	2000 ₁₅
	40	3700	3400	3200	3200	3000	2900 ₅	3000	2900 ₅	2800 ₅	2700 ₁₀	2700 ₁₅	2600 ₂₀
	90	3500	3100	2700 ₁₀	3100	2800 ₁₀	2500 ₂₀	3000 ₅	2700 ₁₀	2500 ₂₀	2700 ₁₀	2500 ₂₀	2300 ₃₀
	40	4100	3900	3600 ₅	3600 ₅	3400 ₁₅	3300 ₂₀	3400 ₁₀	3300 ₁₅	3200 ₂₀	3100 ₂₅	3000 ₃₀	2900 ₃₅
	90	4000	3500 ₁₀	3100 ₂₅	3500 ₁₀	3100 ₂₅	2900 ₃₅	3400 ₁₅	3100 ₃₀	2800 ₄₀	3100 ₃₀	2800 ₃₅	2600 ₅₅
	40	4500	4300 ₁₀	4100 ₂₀	4000 ₂₀	3800 ₂₅	3600 ₃₅	3800 ₂₅	3700 ₃₀	3600 ₄₀	3500 ₄₀	3400 ₅₀	3300 ₆₅
	90	4400 ₁₀	3900 ₂₅	3500 ₄₀	3900 ₂₅	3500 ₄₀	3200 ₆₅	3800 ₃₀	3400 ₄₅	3100 ₆₅	3400 ₄₅	3200 ₇₀	2900 ₇₅
	40	4800 ₁₀	4600 ₂₀	4400 ₃₀	4400 ₃₀	4200 ₄₀	4000 ₅₅	4200 ₃₅	4000 ₄₅	3900 ₆₀	3800 ₆₅	3700 ₇₀	3600 ₇₅
	90	4700 ₁₅	4200 ₃₅	3800 ₆₅	4300 ₃₅	3800 ₆₅	3500 ₇₅	4100 ₄₅	3700 ₆₅	3400 ₈₀	3700 ₆₅	3400 ₈₀	3200 ₉₀
	40	5200 ₁₅	5000 ₃₀	4800 ₄₅	4800 ₄₅	4600 ₆₅	4400 ₇₅	4600 ₆₅	4400 ₇₀	4200 ₇₅	4200 ₈₀	4000 ₈₅	3900 ₉₀
	90	5000 ₂₅	4600 ₆₀	4200 ₈₀	4700 ₆₀	4200 ₈₀	3800 ₉₅	4500 ₆₅	4100 ₈₀	3800 ₁₀₀	4100 ₈₀	3800 ₉₅	3500 ₁₁₀
200x80	40	2900	2700	2500	2500	2300	2200	2400	2300	2200	2100	2100	2000
	90	2700	2400	2100	2400	2100	2000	2300	2100	1900	2100	1900	1800
	40	3800	3500	3300	3300	3100	3000	3100	3000	2900	2800	2800	2600 ₅
	90	3600	3200	2800	3200	2900	2600 ₅	3100	2800	2600 ₁₀	2800	2600 ₁₀	2400 ₁₅
	40	4300	4000	3800	3700	3500	3400 ₅	3600	3400 ₅	3300 ₁₀	3200 ₁₀	3100 ₁₅	3000 ₁₅
	90	4100	3600	3200 ₁₀	3600	3200 ₁₀	3000 ₂₀	3500 ₅	3200 ₁₅	2900 ₂₀	3200 ₁₅	2900 ₂₀	2700 ₃₀
	40	4700	4400	4100 ₅	4100 ₅	3900 ₁₀	3700 ₁₅	3900 ₁₀	3800 ₁₅	3600 ₂₀	3500 ₂₀	3400 ₂₅	3300 ₃₀
	90	4500	3900 ₁₀	3500 ₂₀	4000 ₁₀	3600 ₂₀	3300 ₃₅	3800 ₁₀	3500 ₂₅	3200 ₃₅	3500 ₂₅	3200 ₃₅	3000 ₅₀
195x85	40	3100	2900	2700	2700	2600	2500	2600	2500	2400	2300	2300	2200
	90	3000	2600	2300	2600	2400	2200	2500	2300	2100	2300	2100	2000
	40	3700	3500	3200	3200	3000	2900	3100	3000	2800	2800	2700	2600
	90	3500	3100	2800	3100	2800	2500	3000	2700	2500	2700	2500	2300
	40	4000	3900	3700	3600	3400	3300	3500	3300	3200	3100	3000	2900 ₅
	90	3900	3500	3100	3500	3200	2900 ₅	3400	3100	2800 ₅	3100	2800 ₅	2600 ₁₅
	40	4400	4300	4100	4100	3900	3700 ₅	3900	3800 ₅	3600 ₅	3600 ₁₀	3500 ₁₅	3300 ₁₅
	90	4300	4000	3600 ₁₀	4000	3600 ₁₀	3300 ₂₀	3800	3500 ₁₀	3200 ₂₀	3500 ₁₀	3200 ₂₀	3000 ₃₀
	40	4800	4600	4500	4500 ₅	4400 ₁₀	4200 ₁₅	4400 ₁₀	4200 ₁₅	4100 ₂₀	4000 ₂₀	3900 ₂₅	3700 ₃₀
	90	4700	4300 ₁₀	4000 ₂₀	4400 ₁₀	4000 ₂₀	3700 ₃₅	4300 ₁₅	3900 ₂₅	3600 ₃₅	3900 ₂₅	3600 ₃₅	3400 ₅₅

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

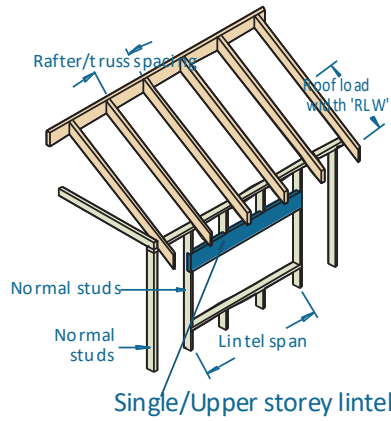
Continuous span (Cont'd)

Lower floor load width (mm)		1800						3600					
Upper floor load width (mm)		1800			3600			1800			3600		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended continuous span bearer span (mm)											
360x85	40	5200	4900	4800 ₁₀	4800 ₁₀	4700 ₂₀	4500 ₂₅	4800 ₂₀	4600 ₂₅	4400 ₃₀	4300 ₃₅	4200 ₃₅	4100 ₅₀
	90	5000	4600 ₁₅	4300 ₃₀	4700 ₁₅	4400 ₃₅	4000 ₅₀	4700 ₂₅	4300 ₃₅	3900 ₅₅	4300 ₃₅	3900 ₅₅	3700 ₇₀
395x85	40	5500	5300 ₅	5100 ₁₅	5200 ₂₀	5000 ₂₅	4800 ₃₅	5100 ₃₀	5000 ₃₅	4800 ₄₅	4800 ₅₅	4600 ₆₅	4500 ₇₀
	90	5400	5000 ₂₅	4700 ₅₀	5000 ₂₅	4700 ₅₀	4400 ₇₀	5000 ₃₀	4700 ₆₀	4300 ₇₅	4700 ₆₀	4300 ₇₅	4000 ₈₅
425x85	40	5800	5600 ₁₀	5400 ₂₀	5400 ₂₅	5300 ₃₅	5100 ₅₀	5400 ₃₅	5200 ₄₅	5100 ₆₀	5100 ₇₀	5000 ₇₅	4800 ₈₀
	90	5700 ₁₀	5300 ₃₀	5000 ₆₅	5300 ₃₀	5000 ₆₅	4700 ₈₅	5300 ₄₀	5000 ₇₀	4600 ₈₅	5000 ₇₀	4600 ₈₅	4300 ₁₀₀
295x115	40	4800	4600	4400	4500	4300	4200	4400	4300	4200	4100	4000	3900
	90	4700	4300	4100	4400	4100	3800	4300	4100	3700 ₅	4100	3700 ₅	3500 ₁₀
330x115	40	5200	5000	4800	4800	4700	4600	4800	4700	4500	4600 ₅	4400 ₁₀	4300 ₁₀
	90	5100	4700	4400	4800	4500	4200 ₁₅	4700	4400 ₅	4200 ₁₅	4500 ₅	4200 ₁₅	3900 ₂₅
360x115	40	5500	5300	5100	5200	5000	4900	5100	5000	4800 ₅	4900 ₁₀	4800 ₁₅	4600 ₂₀
	90	5400	5000	4700 ₁₀	5100	4800 ₁₀	4500 ₂₀	5000	4700 ₁₀	4500 ₂₅	4800 ₁₀	4600 ₂₅	4200 ₃₅
395x115	40	5900	5700	5500	5500	5400	5200 ₁₀	5500 ₅	5300 ₁₀	5200 ₁₅	5200 ₂₀	5100 ₂₀	5000 ₃₀
	90	5800	5400	5100 ₁₅	5400	5100 ₁₅	4900 ₃₀	5400 ₅	5100 ₂₀	4800 ₃₅	5100 ₂₀	4900 ₃₅	4700 ₆₅
425x115	40	6300	6000	5800	5900	5700 ₁₀	5500 ₁₅	5800 ₁₀	5600 ₁₅	5500 ₂₀	5500 ₂₅	5400 ₃₀	5300 ₄₀
	90	6100	5700 ₅	5300 ₂₀	5700 ₅	5400 ₂₀	5100 ₄₀	5700 ₁₀	5400 ₂₅	5100 ₅₀	5400 ₃₀	5200 ₅₀	4900 ₇₅
295x135	40	5000	4800	4600	4600	4500	4400	4600	4500	4300	4400	4300	4200
	90	4800	4500	4200	4500	4300	4100	4500	4200	4000	4300	4100	3800 ₅
330x135	40	5400	5200	5000	5000	4900	4700	5000	4900	4700	4700	4600	4500
	90	5300	4900	4600	4900	4600	4400	4900	4600	4400 ₅	4700	4400 ₅	4200 ₁₅
360x135	40	5800	5500	5300	5400	5200	5100	5300	5200	5000	5100	4900 ₅	4800 ₅
	90	5600	5200	4900	5300	5000	4700 ₁₀	5200	4900	4700 ₁₅	5000	4700 ₁₅	4500 ₂₅
395x135	40	6200	5900	5700	5800	5600	5400	5700	5600	5400	5400 ₅	5300 ₁₀	5200 ₁₅
	90	6000	5600	5300 ₅	5700	5300 ₅	5100 ₁₅	5600	5300 ₅	5000 ₂₀	5300 ₁₀	5100 ₂₀	4900 ₃₅
425x135	40	6500	6300	6000	6100	5900	5700 ₅	6100	5900	5700 ₁₀	5700 ₁₀	5600 ₁₅	5500 ₂₀
	90	6400	5900	5600 ₁₀	6000	5600 ₁₀	5300 ₂₅	5900	5600 ₁₅	5300 ₃₀	5700 ₁₅	5400 ₂₅	5200 ₄₅

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on total upper floor mass of 40 kg/m², total ground floor mass of 40 kg/m², floor live load of 1.5 kPa, floor point load of 1.8 kN, wall mass of 32 kg/m², & permanent floor live load of 0.5 kPa.
3. The above table was based on a wall height of 5400 mm
4. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports.
5. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m²
roof load width = 3900 mm
rafter/truss spacing = 600 mm
lintel span = 3500 mm

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

ADOPT:

SmartLam GL17S- 265 x 60

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Lintel span (mm)									
		Single span - Wind speed N1, N2, N3 & N4									
200x50	40	4200	4200	3600	3500	3200	3200	2900	2800	2600	2500
	90	3500	3400	2900	2900	2600	2600	2300	2300	2100	2100
250x50	40	4900	4900	4200	4200	3800	3800	3600	3500	3300	3100
	90	4100	4100	3500	3400	3100	3100	2900	2900	2700	2700
200x60	40	4300	4300	3700	3700	3400	3300	3100	3100	2800	2800
	90	3600	3600	3100	3000	2700	2700	2500	2500	2300	2300
265x60	40	5300	5300	4600	4600	4200	4200	3900	3900	3700	3700
	90	4500	4400	3800	3800	3400	3400	3200	3200	3000	3000
300x60	40	5800	5800	5000	5000	4600	4500	4300	4300	4000	4000
	90	4900	4900	4100	4100	3800	3700	3500	3500	3300	3300
330x60	40	6200	6200	5400	5400	4900	4900	4600	4600	4300	4300
	90	5200	5200	4500	4400	4000	4000	3800	3700	3600	3500
130x65	40	3300	3200	2700	2700	2400	2400	2100	2100	2000	1900
	90	2600	2700	2100	2000	1800	1800	1600	1500	1500	1400
165x65	40	3900	3900	3300	3300	3000	3000	2700	2800	2500	2600
	90	3200	3200	2600	2700	2300	2300	2100	2100	1900	1900
195x65	40	4400	4400	3700	3700	3400	3400	3200	3100	3000	3000
	90	3600	3600	3100	3100	2700	2700	2500	2500	2300	2300
230x65	40	5000	5000	4200	4200	3800	3800	3600	3500	3400	3400
	90	4100	4100	3500	3400	3100	3100	2900	2900	2700	2700
260x65	40	5400	5400	4600	4600	4200	4200	3900	3900	3700	3700
	90	4500	4500	3800	3800	3500	3400	3200	3200	3000	3000
295x65	40	6000	5900	5100	5100	4600	4600	4300	4300	4100	4100
	90	5000	5000	4200	4200	3800	3800	3500	3500	3400	3300
330x65	40	6400	6400	5500	5500	5000	5000	4700	4700	4500	4400
	90	5400	5400	4600	4500	4100	4100	3900	3800	3600	3600
360x65	40	6900	6800	5900	5900	5400	5400	5000	5000	4800	4700
	90	5700	5700	4900	4900	4400	4400	4100	4100	3900	3900
395x65	40	7300	7300	6300	6300	5800	5700	5400	5400	5100	5100
	90	6100	6100	5200	5200	4800	4700	4400	4400	4200	4200
425x65	40	7700	7700	6700	6600	6100	6000	5700	5700	5400	5400
	90	6500	6500	5500	5500	5000	5000	4700	4600	4400	4400
200x80	40	4600	4600	4000	4000	3600	3600	3400	3300	3200	3200
	90	3900	3800	3300	3300	3000	3000	2700	2700	2500	2600
265x80	40	5600	5600	4900	4900	4500	4400	4200	4200	3900	3900
	90	4800	4700	4000	4000	3700	3600	3400	3400	3200	3200
300x80	40	6100	6100	5300	5300	4900	4900	4600	4500	4300	4300
	90	5200	5200	4400	4400	4000	4000	3800	3700	3600	3500
330x80	40	6600	6500	5700	5700	5200	5200	4900	4900	4700	4600
	90	5600	5600	4800	4700	4300	4300	4000	4000	3800	3800
130x85	40	3500	3400	2900	2900	2600	2600	2300	2400	2200	2200
	90	2800	2800	2200	2300	2000	2000	1800	1800	1600	1600
165x85	40	4100	4100	3500	3500	3200	3200	3000	3000	2800	2800
	90	3400	3400	2900	2900	2500	2600	2300	2300	2100	2100
195x85	40	4700	4700	4000	4000	3600	3600	3400	3300	3200	3200
	90	3900	3900	3300	3300	3000	3000	2700	2700	2500	2600
230x85	40	5300	5300	4500	4500	4100	4100	3800	3800	3600	3600
	90	4400	4400	3700	3700	3400	3300	3100	3100	3000	3000
260x85	40	5800	5700	4900	4900	4500	4500	4200	4200	4000	4000
	90	4800	4800	4100	4100	3700	3700	3400	3400	3300	3200

Single span lintels in single/upper storey walls (cont'd)

AS 4055 Classification N1, N2, N3 & N4

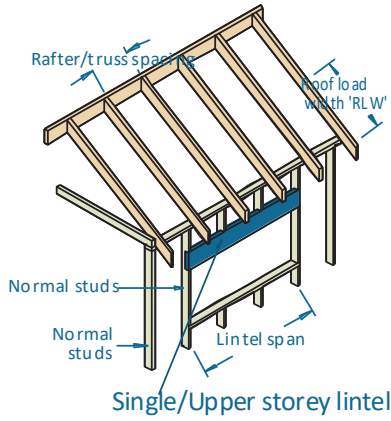
Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Lintel span (mm)									
		Single span - Wind speed N1, N2, N3 & N4									
295x85	40	6300	6300	5400	5400	4900	4900	4600	4600	4400	4400
	90	5300	5300	4500	4500	4100	4000	3800	3800	3600	3500
330x85	40	6800	6800	5900	5900	5400	5400	5000	5000	4800	4700
	90	5700	5700	4900	4900	4400	4400	4100	4100	3900	3900
360x85	40	7200	7200	6300	6200	5700	5700	5300	5300	5100	5100
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
395x85	40	7700	7700	6700	6700	6100	6100	5700	5700	5400	5400
	90	6500	6500	5600	5600	5100	5000	4700	4700	4500	4400
425x85	40	8100	8100	7100	7000	6500	6400	6000	6000	5700	5700
	90	6900	6900	5900	5900	5300	5300	5000	5000	4700	4700

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 75 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 75 mm.
3. Restraint value for slenderness calculations is 600 mm.
4. Not all sizes of SmartLam GL17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Single span lintels in single/upper storey walls

AS 4055 classification C1, C2 and C3



EXAMPLE:

wind speed = C3

sheet roof - 40 kg/m²

roof load width = 3900 mm

rafter/truss spacing = 600 mm

lintel span = 3500 mm

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

ADOPT:

SmartLam GL17S- 300 x 60

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Lintel span (mm)									
		Single Span - Wind speed C1, C2 & C3									
200x50	40	3900	3700	2700	2600	2200	2100	1800	1500	1600	NS
	90	3500	3400	2800	2800	2300	2200	1900	1600	1700	1100
	40	4900	4800	3400	3200	2700	2700	2400	2300	2100	1600
	90	4100	4100	3500	3400	2900	2800	2500	2400	2200	1800
200x60	40	4200	4100	2900	2800	2400	2300	2000	1800	1800	1400
	90	3600	3600	3100	3000	2500	2400	2200	2100	1900	1600
	40	5300	5300	4000	3800	3200	3100	2700	2700	2500	2400
	90	4500	4400	3800	3800	3400	3200	2900	2800	2600	2500
300x60	40	5800	5800	4500	4400	3700	3500	3100	3000	2800	2700
	90	4900	4900	4100	4100	3800	3700	3300	3200	2900	2800
	40	6200	6200	5000	4900	4000	3900	3500	3300	3100	3000
	90	5200	5200	4500	4400	4000	4000	3700	3500	3300	3100
130x65	40	3100	3000	2200	2000	1700	1300	1400	1000	1300	NS
	90	2600	2700	2100	2000	1800	1500	1500	1100	1400	NS
165x65	40	3900	3800	2700	2700	2300	2100	1900	1600	1700	1300
	90	3200	3200	2600	2700	2300	2300	2000	1800	1800	1500
195x65	40	4400	4400	3300	3100	2700	2600	2300	2200	2000	1700
	90	3600	3600	3100	3100	2700	2700	2400	2300	2200	2100
230x65	40	5000	5000	3900	3700	3100	3000	2700	2600	2400	2300
	90	4100	4100	3500	3400	3100	3100	2900	2800	2600	2500
260x65	40	5400	5400	4400	4300	3600	3400	3100	3000	2700	2700
	90	4500	4500	3800	3800	3500	3400	3200	3100	2900	2800
295x65	40	6000	5900	5000	5000	4100	3900	3500	3400	3100	3000
	90	5000	5000	4200	4200	3800	3800	3500	3500	3300	3200
330x65	40	6400	6400	5500	5500	4600	4500	3900	3800	3500	3400
	90	5400	5400	4600	4500	4100	4100	3900	3800	3600	3600
360x65	40	6900	6800	5900	5900	5000	5000	4300	4200	3800	3700
	90	5700	5700	4900	4900	4400	4400	4100	4100	3900	3900
395x65	40	7300	7300	6300	6300	5500	5400	4800	4800	4200	4100
	90	6100	6100	5200	5200	4800	4700	4400	4400	4200	4200 ₁₀
200x80	40	4600	4600	3500	3300	2800	2700	2400	2300	2100	2000
	90	3900	3800	3300	3300	2900	2800	2500	2400	2300	2200
265x80	40	5600	5600	4600	4600	3700	3600	3200	3100	2800	2800
	90	4800	4700	4000	4000	3700	3600	3400	3200	3000	2900
300x80	40	6100	6100	5200	5200	4200	4100	3700	3500	3200	3100
	90	5200	5200	4400	4400	4000	4000	3800	3700	3400	3300
330x80	40	6600	6500	5700	5600	4700	4700	4000	3900	3600	3400
	90	5600	5600	4800	4700	4300	4300	4000	4000	3800	3600
195x85	40	4700	4700	3800	3600	3000	2900	2600	2600	2400	2200
	90	3900	3900	3300	3300	3000	3000	2700	2700	2500	2400
230x85	40	5300	5300	4500	4400	3600	3500	3100	3000	2800	2700
	90	4400	4400	3700	3700	3400	3300	3100	3100	2900	2800
260x85	40	5800	5700	4900	4900	4100	4000	3600	3400	3100	3000
	90	4800	4800	4100	4100	3700	3700	3400	3400	3300	3200
295x85	40	6300	6300	5400	5400	4700	4700	4000	3900	3600	3400
	90	5300	5300	4500	4500	4100	4000	3800	3800	3600	3500
330x85	40	6800	6800	5900	5900	5200	5200	4500	4500	4000	3900
	90	5700	5700	4900	4900	4400	4400	4100	4100	3900	3900

Single span lintels in single/upper storey walls (Cont'd)

AS 4055 classification C1, C2 and C3

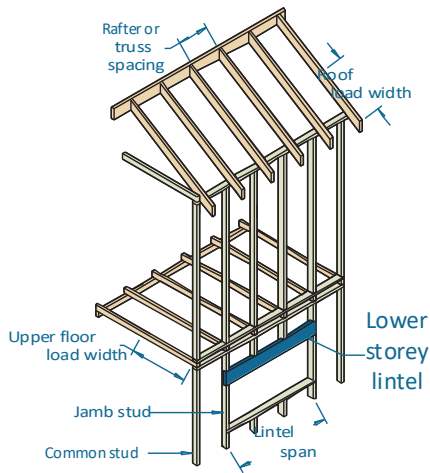
Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Lintel span (mm)									
		Single Span - Wind speed C1, C2 & C3									
360x85	40	7200	7200	6300	6200	5700	5600	4900	4900	4400	4300
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
395x85	40	7700	7700	6700	6700	6100	6100	5400	5300	4900	4900
	90	6500	6500	5600	5600	5100	5000	4700	4700	4500	4400
360x65	40	8150	8050	5700	5600 ₅	4650 ₅	4650 ₁₀	4000 ₁₅	3850 ₁₅	3600 ₃₀	3400 ₂₀
	90	6700	6700	5400 ₁₀	5400 ₁₀	4700 ₁₀	4700 ₁₅	4050 ₂₅	3950 ₂₅	3650 ₄₀	3450 ₃₀
395x65	40	8900	8850	6250 ₅	6200 ₅	5100 ₁₅	5050 ₂₀	4400 ₂₀	4350 ₃₀	3950 ₃₀	3800 ₂₅
	90	7350	7300	5950 ₅	5900 ₁₀	5150 ₂₅	5100 ₃₀	4450 ₃₀	4400 ₄₀	4000 ₄₀	3850 ₃₅

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 70 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm.
3. Restraint value for slenderness calculations is 600 mm.
4. Not all sizes of SmartLam GL17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Single span lintels in lower storey walls

AS 4055 classification N1, N2, N3 & C1



EXAMPLE:

wind speed = N3
 sheet roof - 40 kg/m²
 roof load width = 3900 mm
 floor load width = 1200 mm
 rafter/truss spacing = 600 mm
 lintel span = 3500 mm

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

ADOPT: SmartLam GL17S –300 x 60

Roof load width (mm)		1500			3000			4500			6000		
Floor load width (mm)		1200	2400	3600	1200	2400	3600	1200	2400	3600	1200	2400	3600
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended single span lintel span (mm)											
200x50	40	2700	2500	2300	2600	2400	2200	2500	2300	2100	2400	2200	2100
	90	2600	2400	2200	2300	2200	2100	2200	2000	1900	2000	1900	1800
250x50	40	3200	3000	2800	3100	2900	2700	3000	2800	2700	2900	2700	2600
	90	3100	2900	2700	2900	2700	2600	2700	2600	2400	2600	2400	2300
200x60	40	2900	2600	2400	2700	2500	2300	2600	2400	2300	2500	2400	2200
	90	2700	2500	2300	2500	2300	2200	2300	2200	2100	2200	2100	2000
265x60	40	3500	3300	3100	3400	3200	3000	3300	3100	2900	3200	3000	2900
	90	3400	3100	3000	3100	3000	2800	3000	2800	2700	2800	2700	2600
300x60	40	3900	3600	3400	3700	3500	3300	3600	3400	3200	3500	3300	3200
	90	3700	3500	3300	3400	3300	3100	3200	3100	3000	3100	3000	2900
330x60	40	4200	3900	3600	4000	3700	3500	3900	3600	3500	3700	3500	3400
	90	4000	3700	3500	3700	3500	3400	3500	3300	3200	3300	3200	3100
130x65	40	2000	1800	1600	1800	1700	1600	1800	1600	1500	1700	1600	1500
	90	1800	1700	1500	1600	1500	1400	1500	1400	1400	1400	1400	1300
165x65	40	2500	2200	2100	2300	2100	2000	2200	2100	1900	2100	2000	1900
	90	2300	2100	2000	2100	2000	1800	1900	1800	1800	1800	1700	1700
195x65	40	2900	2700	2400	2700	2500	2400	2600	2400	2300	2500	2400	2200
	90	2700	2500	2300	2500	2300	2200	2300	2200	2100	2200	2100	2000
230x65	40	3200	3000	2800	3100	2900	2800	3000	2800	2700	2900	2800	2600
	90	3100	2900	2700	2900	2700	2600	2700	2600	2500	2600	2400	2300
260x65	40	3600	3300	3100	3400	3200	3000	3300	3100	3000	3200	3000	2900
	90	3400	3200	3000	3100	3000	2900	3000	2900	2700	2800	2700	2700
295x65	40	3900	3600	3400	3800	3500	3300	3600	3400	3200	3500	3300	3200
	90	3700	3500	3300	3500	3300	3200	3300	3100	3000	3100	3000	2900
330x65	40	4300	3900	3700	4100	3800	3600	3900	3700	3500	3800	3600	3500
	90	4000	3800	3600	3800	3600	3400	3600	3400	3300	3400	3300	3200
360x65	40	4500	4200	4000	4400	4100	3900	4200	4000	3800	4100	3900	3700
	90	4300	4100	3800	4000	3800	3700	3800	3700	3500	3600	3500	3400
395x65	40	4900	4500	4200	4700	4400	4100	4500	4300	4100	4400	4200	4000
	90	4600	4300	4100	4300	4100	3900	4100	3900	3800	3900	3800	3600
200x80	40	3100	2800	2700	2900	2800	2600	2800	2700	2500	2700	2600	2400
	90	2900	2700	2600	2700	2600	2400	2500	2400	2300	2400	2300	2200
265x80	40	3800	3500	3300	3600	3400	3200	3500	3300	3100	3400	3200	3100
	90	3600	3400	3200	3400	3200	3100	3200	3000	2900	3000	2900	2800
300x80	40	4200	3900	3600	4000	3700	3500	3800	3600	3500	3700	3500	3400
	90	3900	3700	3500	3700	3500	3400	3500	3300	3200	3300	3200	3100
330x80	40	4500	4100	3900	4300	4000	3800	4100	3900	3700	4000	3800	3600
	90	4200	4000	3800	4000	3800	3600	3700	3600	3500	3600	3500	3300

Single span lintels in lower storey walls (Cont'd)

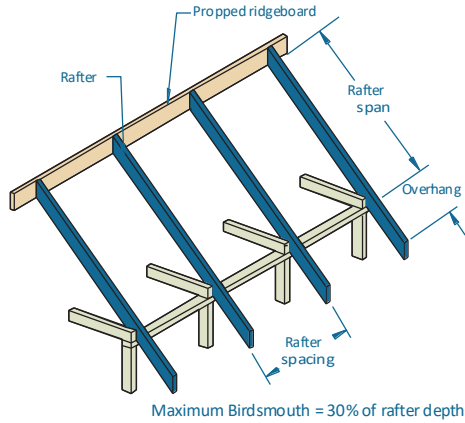
AS 4055 classification N1, N2, N3 & C1

Roof load width (mm)		1500			3000			4500			6000		
Floor load width (mm)		1200	2400	3600	1200	2400	3600	1200	2400	3600	1200	2400	3600
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended single span lintel span (mm)											
260x85	40	3800	3500	3300	3600	3400	3200	3500	3300	3200	3400	3200	3100
	90	3600	3400	3200	3400	3200	3100	3200	3100	2900	3000	2900	2800
295x85	40	4200	3900	3600	4000	3800	3600	3900	3700	3500	3800	3600	3400
	90	4000	3700	3500	3700	3500	3400	3500	3400	3200	3300	3200	3100
330x85	40	4500	4200	4000	4400	4100	3900	4200	4000	3800	4100	3900	3700
	90	4300	4100	3800	4000	3800	3700	3800	3700	3500	3600	3500	3400
360x85	40	4900	4500	4200	4700	4400	4100	4500	4200	4000	4400	4100	4000
	90	4600	4300	4100	4300	4100	3900	4100	3900	3800	3900	3800	3600
395x85	40	5200	4800	4500	5000	4700	4400	4800	4500	4300	4700	4400	4200
	90	4900	4600	4400	4600	4400	4200	4400	4200	4000	4200	4000	3900
425x85	40	5500	5100	4800	5300	4900	4700	5100	4800	4600	4900	4700	4500
	90	5200	4900	4600	4900	4600	4400	4600	4400	4300	4400	4300	4100

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Total upper floor mass of 40 kg/m², floor live load of 1.5 kPa, floor point load of 1.8 kN.
3. Minimum bearing length = 35 mm at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm.
4. Restraint value for slenderness calculations is 600 mm.
5. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

wind speed = N3
sheet roof - 40 kg/m²
Rafter spacing = 600
rafter span = 5800 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm for a 40 kg/m² roof

ADOPT:

SmartLam GL17S - 200 x 50

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
200x50	30	6600	6300	5800	5400	8300	7900	7400	7000
	40	6300	6000	5400	5000	8000	7500	7000	6600
	75	5500	5100	4500	4200	7100	6700	6100	5700
	90	5300	4800	4300	3900	6800	6400	5800	5300
250x50	30	7600	7300	6800	6500	9600	9200	8600	8200
	40	7300	7000	6500	6100	9200	8800	8200	7700
	75	6600	6200	5600	5200	8300	7800	7200	6700
	90	6300	6000	5300	4900	8000	7500	6900	6500
200x60	30	6800	6500	6100	5700	8600	8200	7600	7200
	40	6500	6200	5700	5300	8200	7800	7200	6800
	75	5800	5400	4800	4400	7300	6900	6400	6000
	90	5500	5100	4500	4200	7100	6700	6100	5700
265x60	30	8100	7800	7300	7000	10200	9800	9200	8800
	40	7800	7500	7000	6600	9900	9400	8800	8300
	75	7100	6700	6200	5800	8900	8400	7800	7300
	90	6800	6500	5900	5500	8600	8100	7500	7000
300x60	30	8800	8500	8000	7600	11100	10600	10000	9600
	40	8500	8100	7600	7200	10700	10200	9500	9100
	75	7700	7300	6800	6300	9700	9200	8500	8000
	90	7400	7100	6500	6100	9400	8900	8200	7700
330x60	30	9300	9000	8500	8100	11700	11300	10700	10200
	40	9000	8600	8100	7700	11300	10900	10200	9700
	75	8200	7800	7200	6800	10300	9800	9100	8500
	90	7900	7500	7000	6500	10000	9500	8800	8200
130x65	30	5200	4800	4300	4000	6800	6400	5900	5400
	40	4800	4500	4000	3600	6400	6000	5400	4900
	75	4000	3700	3300	3000	5500	5000	4400	4100
	90	3800	3500	3100	2800	5200	4800	4200	3800
165x65	30	6300	6000	5400	5000	7900	7500	7000	6600
	40	6000	5600	5000	4600	7600	7100	6600	6200
	75	5100	4700	4100	3800	6600	6200	5600	5100
	90	4800	4400	3900	3600	6400	6000	5300	4800
195x65	30	7100	6700	6200	5800	8900	8400	7800	7400
	40	6700	6400	5800	5400	8500	8000	7400	6900
	75	5900	5500	4900	4400	7500	7000	6400	6000
	90	5600	5200	4600	4200	7200	6800	6200	5700
230x65	30	7900	7500	7000	6600	9900	9400	8800	8300
	40	7500	7100	6600	6200	9500	9000	8300	7800
	75	6700	6300	5700	5200	8400	7900	7300	6800
	90	6400	6100	5400	4900	8100	7600	7000	6500
260x65	30	8500	8200	7600	7200	10700	10300	9600	9000
	40	8200	7800	7200	6800	10300	9800	9100	8500
	75	7300	6900	6300	5900	9200	8600	7900	7400
	90	7000	6600	6100	5600	8900	8300	7600	7100

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

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
295x65	30	9200	8900	8300	7800	11600	11100	10400	9900
	40	8900	8400	7800	7400	11100	10600	9900	9300
	75	8000	7500	6900	6500	10000	9400	8700	8100
	90	7700	7200	6600	6200	9700	9100	8400	7800
330x65	30	9900	9500	8900	8500	12000	12000	11200	10700
	40	9600	9100	8500	8000	12000	11500	10700	10100
	75	8600	8100	7500	7000	10800	10200	9400	8800
	90	8300	7800	7200	6700	10500	9800	9100	8500
360x65	30	10500	10100	9500	9000	12000	12000	11900	11300
	40	10100	9700	9000	8500	12000	12000	11300	10700
	75	9100	8600	8000	7500	11400	10800	10000	9400
	90	8800	8300	7700	7200	11100	10500	9600	9000
395x65	30	11100	10700	10100	9600	12000	12000	12000	12000
	40	10700	10300	9600	9100	12000	12000	12000	11400
	75	9700	9200	8500	8000	12000	11600	10700	10000
	90	9400	8900	8200	7700	11800	11200	10300	9600
200x80	30	7100	6800	6400	6100	8900	8500	8000	7600
	40	6800	6500	6100	5700	8600	8200	7600	7200
	75	6200	5800	5200	4800	7700	7300	6800	6400
	90	5900	5500	4900	4500	7500	7100	6500	6100
265x80	30	8400	8100	7700	7300	10600	10200	9700	9200
	40	8100	7800	7300	7000	10200	9800	9200	8800
	75	7400	7100	6600	6200	9400	8900	8300	7800
	90	7200	6800	6300	5900	9100	8600	8000	7500
300x80	30	9000	8800	8300	8000	11400	11000	10500	10000
	40	8800	8500	8000	7600	11100	10600	10000	9600
	75	8100	7700	7200	6700	10200	9700	9000	8500
	90	7800	7400	6900	6500	9900	9400	8700	8200
330x80	30	9600	9300	8800	8500	12000	11700	11100	10700
	40	9300	9000	8500	8100	11700	11300	10700	10200
	75	8600	8200	7600	7200	10800	10300	9600	9100
	90	8400	7900	7400	6900	10500	10000	9300	8700
130x85	30	5500	5200	4600	4300	7100	6700	6200	5800
	40	5200	4800	4300	3900	6700	6400	5800	5400
	75	4400	4000	3500	3200	5900	5500	4800	4400
	90	4100	3800	3300	3100	5600	5200	4600	4200
165x85	30	6600	6300	5800	5400	8300	7900	7300	6900
	40	6300	6000	5400	5000	7900	7500	6900	6500
	75	5500	5000	4500	4100	7000	6600	6100	5600
	90	5200	4800	4200	3900	6800	6400	5800	5300
195x85	30	7400	7000	6500	6200	9300	8800	8200	7800
	40	7100	6700	6200	5800	8900	8400	7800	7300
	75	6300	5900	5300	4800	7900	7400	6800	6400
	90	6100	5600	5000	4600	7600	7200	6600	6100
230x85	30	8200	7800	7300	7000	10300	9900	9200	8700
	40	7900	7500	7000	6600	9900	9400	8700	8300
	75	7100	6700	6100	5700	8900	8400	7700	7200
	90	6800	6400	5900	5400	8600	8100	7400	6900
260x85	30	8800	8500	8000	7600	11200	10700	10000	9500
	40	8500	8100	7600	7200	10700	10200	9500	9000
	75	7700	7200	6700	6300	9700	9100	8400	7900
	90	7400	7000	6400	6000	9300	8800	8100	7600
295x85	30	9600	9200	8700	8200	12000	11600	10900	10400
	40	9200	8800	8200	7800	11600	11100	10400	9800
	75	8400	7900	7300	6900	10500	10000	9200	8600
	90	8100	7600	7000	6600	10200	9600	8900	8300

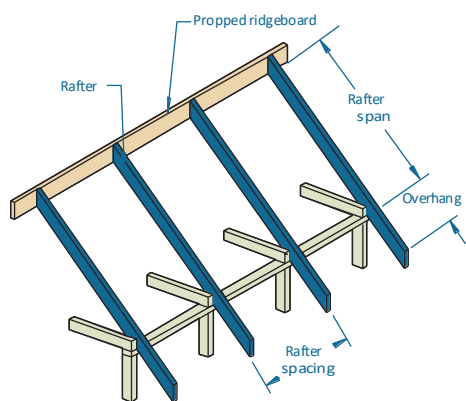
Single/continuous span roof rafter with ceiling attached - AS 4055 classification N1, N2, N3 & N4 (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
330x85	30	10300	9900	9300	8900	12000	12000	11800	11200
	40	9900	9500	8900	8400	12000	12000	11200	10600
	75	9000	8500	7900	7400	11300	10700	9900	9400
	90	8700	8300	7600	7200	11000	10400	9600	9000
360x85	30	10800	10500	9900	9400	12000	12000	12000	11900
	40	10500	10100	9400	9000	12000	12000	11900	11300
	75	9600	9100	8400	7900	12000	11400	10600	10000
	90	9300	8800	8100	7600	11600	11000	10200	9600
395x85	30	11500	11100	10500	10000	12000	12000	12000	12000
	40	11100	10700	10000	9600	12000	12000	12000	12000
	75	10200	9700	9000	8500	12000	12000	11300	10600
	90	9800	9300	8600	8100	12000	11800	10900	10200
425x85	30	12000	11600	11000	10500	12000	12000	12000	12000
	40	11600	11200	10500	10000	12000	12000	12000	12000
	75	10700	10200	9400	8900	12000	12000	11900	11200
	90	10400	9800	9100	8600	12000	12000	11400	10800

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Maximum birdsmouth depth = 30 % of rafter depth
4. End bearing lengths = 35 mm at end supports and 35 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 35 mm at internal supports
5. Construction loads shall not be applied to overhangs until a 190 x 19 (minimum) timber fascia or other fascia of equivalent stiffness is rigidly and permanently attached to the end of rafter overhangs
6. rafter spacing up to 1200 mm
7. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
8. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

wind speed = C3
 sheet roof - 40 kg/m²
 Rafter spacing = 600 mm
 rafter span = 5800 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm for a 40 kg/m² roof

ADOPT:

SmartLam GL17S - 200 x 50

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
200x50	30	6600	6300	5400	4600	7900	6800	5400	4600
	40	6300	6000	5400	4600	8000	6800	5500	4600
	75	5500	5100	4500	4200	7100	6700	5700	4800
	90	5300	4800	4300	3900	6800	6400	5700	4800
250x50	30	7600	7300	6800	5800	9600	8500	6800	5800
	40	7300	7000	6500	5900	9200	8600	6900	5900
	75	6600	6200	5600	5200	8300	7800	7200	6100
	90	6300	6000	5300	4900	8000	7500	6900	6100 _s
200x60	30	6800	6500	6000	5000	8600	7500	6000	5000
	40	6500	6200	5700	5100	8200	7500	6000	5100
	75	5800	5400	4800	4400	7300	6900	6300	5300
	90	5500	5100	4500	4200	7100	6700	6100	5300
265x60	30	8100	7800	7300	6800	10200	9800	8000	6800
	40	7800	7500	7000	6600	9900	9400	8100	6900
	75	7100	6700	6200	5800	8900	8400	7800	7200
	90	6800	6500	5900	5500	8600	8100	7500	7000
300x60	30	8800	8500	8000	7600	11100	10600	9100	7800
	40	8500	8100	7600	7200	10700	10200	9200	7800
	75	7700	7300	6800	6300	9700	9200	8500	8000 _s
	90	7400	7100	6500	6100	9400	8900	8200	7700 _s
330x60	30	9300	9000	8500	8100	11700	11300	10000	8600
	40	9000	8600	8100	7700	11300	10900	10200	8700 _s
	75	8200	7800	7200	6800	10300	9800	9100	8500 ₁₀
	90	7900	7500	7000	6500	10000	9500	8800	8200 ₁₀
130x65	30	5200	4800	4300	3600	6300	5400	4300	3600
	40	4800	4500	4000	3600	6400	5500	4400	3700
	75	4000	3700	3300	3000	5500	5000	4400	3800
	90	3800	3500	3100	2800	5200	4800	4200	3800
165x65	30	6300	6000	5400	4700	8000	6900	5500	4700
	40	6000	5600	5000	4600	7600	7000	5600	4700
	75	5100	4700	4100	3800	6600	6200	5600	4900
	90	4800	4400	3900	3600	6400	6000	5300	4800
195x65	30	7100	6700	6200	5600	8900	8200	6600	5600
	40	6700	6400	5800	5400	8500	8000	6700	5700
	75	5900	5500	4900	4400	7500	7000	6400	5900
	90	5600	5200	4600	4200	7200	6800	6200	5700
230x65	30	7900	7500	7000	6600	9900	9400	7800	6700
	40	7500	7100	6600	6200	9500	9000	7900	6700
	75	6700	6300	5700	5200	8400	7900	7300	6800
	90	6400	6100	5400	4900	8100	7600	7000	6500
260x65	30	8500	8200	7600	7200	10700	10300	8900	7600
	40	8200	7800	7200	6800	10300	9800	9000	7700
	75	7300	6900	6300	5900	9200	8600	7900	7400
	90	7000	6600	6100	5600	8900	8300	7600	7100

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

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
295x65	30	9200	8900	8300	7800	11600	11100	10100	8600
	40	8900	8400	7800	7400	11100	10600	9900	8700
	75	8000	7500	6900	6500	10000	9400	8700	8100
	90	7700	7200	6600	6200	9700	9100	8400	7800
330x65	30	9900	9500	8900	8500	12000	12000	11200	9700
	40	9600	9100	8500	8000	12000	11500	10700	9800 ₅
	75	8600	8100	7500	7000	10800	10200	9400	8800 ₅
	90	8300	7800	7200	6700	10500	9800	9100	8500 ₅
360x65	30	10500	10100	9500	9000	12000	12000	11900	10600 ₅
	40	10100	9700	9000	8500	12000	12000	11300	10700 ₁₀
	75	9100	8600	8000	7500	11400	10800	10000	9400 ₅
	90	8800	8300	7700	7200	11100	10500	9600	9000 ₁₀
395x65	30	11100	10700	10100	9600	12000	12000	12000	11700 ₁₀
	40	10700	10300	9600	9100	12000	12000	12000	11400 ₁₀
	75	9700	9200	8500	8000	12000	11600	10700	10000 ₁₀
	90	9400	8900	8200	7700	11800	11200	10300	9600 ₁₀
200x80	30	7100	6800	6400	5900	8900	8500	6900	5900
	40	6800	6500	6100	5700	8600	8200	7000	6000
	75	6200	5800	5200	4800	7700	7300	6800	6200
	90	5900	5500	4900	4500	7500	7100	6500	6100
265x80	30	8400	8100	7700	7300	10600	10200	9300	7900
	40	8100	7800	7300	7000	10200	9800	9200	8000
	75	7400	7100	6600	6200	9400	8900	8300	7800
	90	7200	6800	6300	5900	9100	8600	8000	7500
300x80	30	9000	8800	8300	8000	11400	11000	10500	9000
	40	8800	8500	8000	7600	11100	10600	10000	9100
	75	8100	7700	7200	6700	10200	9700	9000	8500
	90	7800	7400	6900	6500	9900	9400	8700	8200
330x80	30	9600	9300	8800	8500	12000	11700	11100	10000
	40	9300	9000	8500	8100	11700	11300	10700	10100
	75	8600	8200	7600	7200	10800	10300	9600	9100
	90	8400	7900	7400	6900	10500	10000	9300	8700
130x85	30	5500	5200	4600	4200	7100	6200	5000	4200
	40	5200	4800	4300	3900	6700	6300	5000	4200
	75	4400	4000	3500	3200	5900	5500	4800	4400
	90	4100	3800	3300	3100	5600	5200	4600	4200
165x85	30	6600	6300	5800	5400	8300	7900	6400	5400
	40	6300	6000	5400	5000	7900	7500	6400	5500
	75	5500	5000	4500	4100	7000	6600	6100	5600
	90	5200	4800	4200	3900	6800	6400	5800	5300
195x85	30	7400	7000	6500	6200	9300	8800	7600	6500
	40	7000	6700	6200	5800	8900	8400	7700	6500
	75	6300	5900	5300	4800	7900	7400	6800	6400
	90	6100	5600	5000	4600	7600	7200	6600	6100
230x85	30	8200	7800	7300	7000	10300	9900	9000	7700
	40	7800	7500	7000	6600	9900	9400	8700	7800
	75	7100	6700	6100	5700	8900	8400	7700	7200
	90	6800	6400	5900	5400	8600	8100	7400	6900
260x85	30	8800	8500	8000	7600	11200	10700	10000	8700
	40	8500	8100	7600	7200	10700	10200	9500	8800
	75	7700	7200	6700	6300	9700	9100	8400	7900
	90	7400	7000	6400	6000	9300	8800	8100	7600
295x85	30	9600	9200	8700	8200	12000	11600	10900	9900
	40	9200	8800	8200	7800	11600	11100	10400	9800
	75	8400	7900	7300	6900	10500	10000	9200	8600
	90	8100	7600	7000	6600	10200	9600	8900	8300

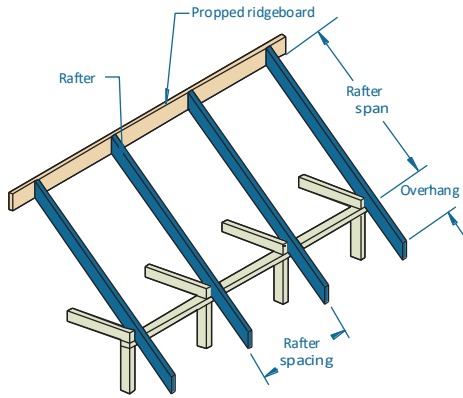
Single/continuous span roof rafter with ceiling attached - AS 4055 classification C1, C2 and C3 (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
330x85	30	10300	9900	9300	8900	12000	12000	11800	11200
	40	9900	9500	8900	8400	12000	12000	11200	10600
	75	9000	8500	7900	7400	11300	10700	9900	9400
	90	8700	8300	7600	7200	11000	10400	9600	9000
360x85	30	10800	10500	9900	9400	12000	12000	12000	11900
	40	10500	10100	9400	9000	12000	12000	11900	11300
	75	9600	9100	8400	7900	12000	11400	10600	10000
	90	9300	8800	8100	7600	11600	11000	10200	9600
395x85	30	11500	11100	10500	10000	12000	12000	12000	12000
	40	11100	10700	10000	9600	12000	12000	12000	12000
	75	10200	9700	9000	8500	12000	12000	11300	10600
	90	9800	9300	8600	8100	12000	11800	10900	10200
425x85	30	12000	11600	11000	10500	12000	12000	12000	12000
	40	11600	11200	10500	10000	12000	12000	12000	12000
	75	10700	10200	9400	8900	12000	12000	11900	11200 ₅
	90	10400	9800	9100	8600	12000	12000	11400	10800 ₅

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Maximum birdsmouth depth = 30 % of rafter depth
4. End bearing lengths = 35 mm at end supports and 35 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 35 mm at internal supports
5. Construction loads shall not be applied to overhangs until a 190 x 19 (minimum) timber fascia or other fascia of equivalent stiffness is rigidly and permanently attached to the end of rafter overhangs
6. rafter spacing up to 1200 mm
7. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
8. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m²
rafter/truss spacing = 600 mm
rafter span = 5800 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm for a 40 kg/m² roof

ADOPT:

SmartLam GL17S - 200 x 50

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
200x50	10	7600	7300	7000	6300	9500	9200	8000	6800
	20	7000	6700	6300	6000	8800	8500	7900	7000
	40	6300	6000	5400	5000	8000	7500	7000	6600
	60	5800	5400	4800	4400	7400	7000	6400	6000
250x50	10	8600	8400	8000	7800	10800	10600	10100	8600
	20	8000	7800	7300	7000	10100	9800	9200	8800
	40	7300	7000	6500	6100	9200	8800	8200	7700
	60	6900	6500	6000	5500	8600	8200	7500	7100
200x60	10	7700	7500	7200	6700	9600	9400	8900	7500
	20	7200	6900	6500	6200	9000	8700	8200	7700
	40	6500	6200	5700	5300	8200	7800	7200	6800
	60	6100	5700	5100	4700	7700	7200	6700	6300
265x60	10	9000	8800	8500	8200	11300	11100	10700	10100
	20	8500	8200	7800	7500	10700	10400	9800	9400
	40	7800	7500	7000	6600	9900	9400	8800	8300
	60	7400	7000	6500	6100	9300	8800	8200	7700
300x60	10	9600	9500	9100	8900	12000	11900	11500	11200
	20	9200	8900	8500	8100	11500	11200	10600	10200
	40	8500	8100	7600	7200	10700	10200	9500	9100
	60	8000	7600	7000	6700	10100	9600	8900	8400
330x60	10	10100	10000	9700	9400	12000	12000	12000	11900
	20	9700	9400	9000	8600	12000	11900	11300	10900
	40	9000	8600	8100	7700	11300	10900	10200	9700
	60	8500	8100	7500	7100	10700	10200	9500	8900
130x65	10	5400	5300	4900	4500	6900	6900	6400	5400
	20	5400	5300	4800	4500	6900	6900	6400	5500
	40	4800	4500	4000	3600	6400	6000	5400	4900
	60	4300	4000	3500	3200	5900	5400	4800	4400
165x65	10	7400	7100	6300	5700	9300	9000	8200	7000
	20	6700	6400	6000	5600	8500	8100	7500	7100
	40	6000	5600	5000	4600	7600	7100	6600	6200
	60	5400	5000	4400	4000	7000	6600	6000	5500
195x65	10	8200	7900	7400	6700	10300	9900	9400	8300
	20	7500	7200	6700	6400	9400	9000	8400	8000
	40	6700	6400	5800	5400	8500	8000	7400	6900
	60	6200	5800	5200	4800	7800	7400	6800	6300
230x65	10	9000	8700	8300	8000	11300	11000	10500	9900
	20	8400	8000	7500	7100	10500	10100	9400	9000
	40	7500	7100	6600	6200	9500	9000	8300	7800
	60	7000	6600	6100	5600	8800	8300	7600	7100
260x65	10	9700	9400	9000	8700	12000	11900	11300	10900
	20	9000	8700	8100	7800	11300	10900	10200	9800
	40	8200	7800	7200	6800	10300	9800	9100	8500
	60	7600	7200	6600	6200	9600	9000	8300	7800
295x65	10	10400	10200	9700	9400	12000	12000	12000	11800
	20	9800	9400	8900	8400	12000	11800	11100	10600
	40	8900	8400	7800	7400	11100	10600	9900	9300
	60	8300	7800	7200	6800	10400	9900	9100	8600

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

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
330x65	10	11100	10900	10400	10100	12000	12000	12000	12000
	20	10500	10100	9500	9100	12000	12000	12000	11500
	40	9600	9100	8500	8000	12000	11500	10700	10100
	60	9000	8500	7800	7400	11200	10700	9900	9300
360x65	10	11600	11400	11000	10600	12000	12000	12000	12000
	20	11000	10600	10100	9700	12000	12000	12000	12000
	40	10100	9700	9000	8500	12000	12000	11300	10700
	60	9500	9000	8300	7800	11900	11300	10500	9900
395x65	10	12000	12000	11600	11300	12000	12000	12000	12000
	20	11600	11300	10700	10300	12000	12000	12000	12000
	40	10700	10300	9600	9100	12000	12000	12000	11400
	60	10100	9600	8900	8400	12000	12000	11200	10500
200x80	10	7800	7700	7400	7200	9800	9600	9300	8800
	20	7400	7200	6800	6500	9300	9000	8500	8200
	40	6800	6500	6100	5700	8600	8200	7600	7200
	60	6400	6100	5500	5100	8000	7600	7100	6700
265x80	10	9100	9000	8700	8500	11500	11300	11000	10700
	20	8700	8500	8100	7800	11000	10700	10200	9800
	40	8100	7800	7300	7000	10200	9800	9200	8800
	60	7700	7300	6800	6500	9700	9200	8600	8100
300x80	10	9800	9600	9400	9200	12000	12000	11800	11500
	20	9400	9200	8800	8500	11800	11500	11000	10600
	40	8800	8500	8000	7600	11100	10600	10000	9600
	60	8300	8000	7400	7100	10500	10000	9400	8900
330x80	10	10300	10200	9900	9700	12000	12000	12000	12000
	20	9900	9700	9300	9000	12000	12000	11700	11300
	40	9300	9000	8500	8100	11700	11300	10700	10200
	60	8900	8500	7900	7500	11100	10700	10000	9500
130x85	10	6100	6000	5400	4900	7900	7900	7300	6300
	20	6000	5700	5200	4800	7600	7200	6700	6400
	40	5200	4800	4300	3900	6700	6400	5800	5400
	60	4600	4300	3800	3500	6200	5800	5200	4700
165x85	10	7600	7400	6900	6200	9500	9300	8800	8000
	20	7000	6700	6300	6000	8800	8500	7900	7500
	40	6300	6000	5400	5000	7900	7500	6900	6500
	60	5800	5400	4800	4400	7300	6900	6400	6000
195x85	10	8400	8100	7800	7400	10500	10200	9800	9400
	20	7800	7500	7000	6700	9800	9400	8800	8400
	40	7100	6700	6200	5800	8900	8400	7800	7300
	60	6600	6200	5600	5200	8300	7800	7200	6700
230x85	10	9200	9000	8600	8300	11500	11300	10800	10500
	20	8600	8300	7800	7500	10900	10500	9900	9400
	40	7900	7500	7000	6600	9900	9400	8700	8300
	60	7300	7000	6400	6000	9200	8700	8100	7600
260x85	10	9900	9600	9300	9000	12000	12000	11700	11300
	20	9300	9000	8500	8100	11700	11300	10700	10200
	40	8500	8100	7600	7200	10700	10200	9500	9000
	60	8000	7600	7000	6600	10000	9500	8800	8300

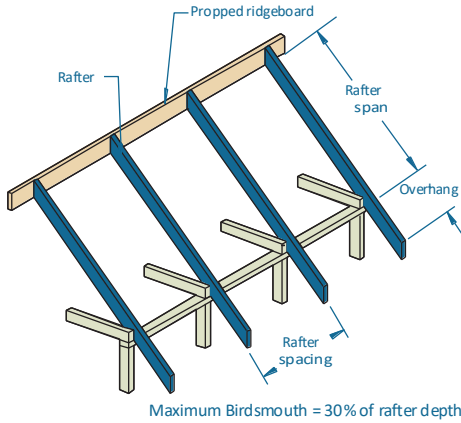
Single/continuous span roof rafter without ceiling attached AS 4055 classification N1, N2, N3 & N4 (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
295x85	10	10600	10400	10000	9700	12000	12000	12000	12000
	20	10000	9700	9200	8800	12000	12000	11600	11100
	40	9300	8800	8200	7800	11600	11100	10400	9800
	60	8700	8200	7600	7200	10900	10400	9600	9100
330x85	10	11200	11100	10700	10400	12000	12000	12000	12000
	20	10700	10400	9900	9500	12000	12000	12000	12000
	40	9900	9500	8900	8400	12000	12000	11200	10600
	60	9400	8900	8300	7800	11800	11200	10400	9800
360x85	10	11800	11600	11300	11000	12000	12000	12000	12000
	20	11300	11000	10500	10100	12000	12000	12000	12000
	40	10500	10100	9400	9000	12000	12000	11900	11300
	60	9900	9400	8800	8300	12000	11900	11100	10400
395x85	10	12000	12000	11900	11600	12000	12000	12000	12000
	20	11900	11600	11100	10700	12000	12000	12000	12000
	40	11100	10700	10000	9600	12000	12000	12000	12000
	60	10500	10000	9300	8800	12000	12000	11800	11100
425x85	10	12000	12000	12000	12000	12000	12000	12000	12000
	20	12000	12000	11600	11200	12000	12000	12000	12000
	40	11600	11200	10500	10000	12000	12000	12000	12000
	60	11000	10500	9800	9300	12000	12000	12000	11800

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Maximum birdsmouth depth = 30 % of rafter depth
4. End bearing lengths = 35 mm at end supports and 35 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 35 mm at internal supports
5. Construction loads shall not be applied to overhangs until a 190 x 19 (minimum) timber fascia or other fascia of equivalent stiffness is rigidly and permanently attached to the end of rafter overhangs
6. rafter spacing up to 1200 mm
7. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
8. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m²
rafter/truss spacing = 600 mm
rafter span = 5800 mm

Enter span table at rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm for a 40 kg/m² roof

ADOPT:

SmartLam GL17S - 200 x 50

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
200x50	10	7600	6600	5300	4500	7800	6600	5300	4500
	20	7000	6700	5400	4500	7800	6700	5400	4500
	40	6300	6000	5400	4600	8000	6800	5500	4600
	60	5800	5400	4800	4400	7400	7000	5600	4700
250x50	10	8600	8400	6700	5700	9800	8400	6700	5700
	20	8100	7800	6800	5700	9900	8400	6800	5700
	40	7300	7000	6500	5900	9200	8600	6900	5900
	60	6800	6500	6000	5500	8600	8200	7100	6000
200x60	10	7700	7300	5800	4900	8500	7300	5800	4900
	20	7200	6900	5900	5000	8600	7400	5900	5000
	40	6500	6200	5700	5100	8200	7500	6000	5100
	60	6100	5700	5100	4700	7700	7200	6200	5200
265x60	10	9000	8800	7800	6700	11300	9800	7800	6700
	20	8500	8200	7800	6700	10700	9900	7900	6700
	40	7800	7500	7000	6600	9900	9400	8100	6900
	60	7400	7000	6500	6100	9300	8800	8200	7000
300x60	10	9600	9500	8900	7600	12000	11100	8900	7600
	20	9100	8900	8500	7700	11500	11200	9000	7700
	40	8500	8100	7600	7200	10700	10200	9200	7800
	60	8000	7600	7000	6700	10100	9600	8900	8000 ₅
330x60	10	10200	10000	9700	8400	12000	12000	9800	8400
	20	9700	9400	9000	8500	12000	11900	9900	8500
	40	9000	8600	8100	7700	11300	10900	10200	8700 ₅
	60	8500	8100	7500	7100	10700	10200	9500	8800 ₁₀
130x65	10	5400	5000	4200	3500	6200	5300	4200	3500
	20	5400	5000	4300	3600	6300	5400	4300	3600
	40	4800	4500	4000	3600	6400	5500	4400	3700
	60	4300	4000	3500	3200	5900	5400	4500	3700
165x65	10	7000	6300	5400	4600	7900	6800	5400	4600
	20	6800	6300	5500	4600	8000	6800	5500	4600
	40	6000	5600	5000	4600	7600	7000	5600	4700
	60	5400	5000	4400	4000	7000	6600	5700	4800
195x65	10	8200	7500	6500	5500	9400	8000	6500	5500
	20	7500	7200	6500	5500	9500	8100	6500	5500
	40	6700	6400	5800	5400	8500	8000	6700	5700
	60	6200	5800	5200	4800	7800	7400	6800	5800
230x65	10	9000	8700	7700	6500	11100	9500	7700	6500
	20	8400	8000	7500	6600	10500	9600	7700	6600
	40	7500	7100	6600	6200	9500	9000	7900	6700
	60	7000	6600	6100	5600	8800	8300	7600	6900
260x65	10	9700	9400	8700	7400	12000	10800	8700	7400
	20	9000	8700	8100	7500	11300	10900	8800	7500
	40	8200	7800	7200	6800	10300	9800	9000	7700
	60	7600	7200	6600	6200	9600	9000	8300	7800

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

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
295x65	10	10400	10200	9700	8500	12000	12000	9900	8500
	20	9700	9400	8900	8400	12000	11800	10000	8500
	40	8900	8400	7800	7400	11100	10600	9900	8700
	60	8300	7800	7200	6800	10400	9900	9100	8600
330x65	10	11100	10900	10400	9500	12000	12000	11100	9500
	20	10400	10100	9500	9100	12000	12000	11200	9600
	40	9500	9100	8500	8000	12000	11500	10700	9800 ₅
	60	9000	8500	7800	7400	11200	10700	9900	9300 ₅
360x65	10	11600	11400	11000	10400	12000	12000	12000	10400
	20	11000	10600	10100	9700	12000	12000	12000	10500 ₅
	40	10100	9700	9000	8500	12000	12000	11300	10700 ₁₀
	60	9500	9000	8300	7800	11900	11300	10500	9900 ₅
395x65	10	12000	12000	11600	11300	12000	12000	12000	11500 ₅
	20	11600	11300	10700	10300	12000	12000	12000	11600 ₁₀
	40	10700	10300	9600	9100	12000	12000	12000	11400 ₁₀
	60	10100	9600	8900	8400	12000	12000	11200	10500 ₁₀
200x80	10	7800	7700	6800	5800	9800	8500	6800	5800
	20	7400	7200	6800	5800	9300	8600	6900	5800
	40	6800	6500	6100	5700	8600	8200	7000	6000
	60	6400	6100	5500	5100	8000	7600	7100	6100
265x80	10	9100	9000	8700	7800	11500	11300	9100	7800
	20	8700	8500	8100	7800	11000	10700	9200	7800
	40	8100	7800	7300	7000	10200	9800	9200	8000
	60	7700	7300	6800	6500	9700	9200	8600	8100
300x80	10	9800	9600	9400	8800	12000	12000	10400	8800
	20	9400	9200	8800	8500	11800	11500	10500	8900
	40	8800	8500	8000	7600	11100	10600	10000	9100
	60	8300	8000	7400	7100	10500	10000	9400	8900
330x80	10	10300	10200	9900	9700	12000	12000	11500	9800
	20	9900	9700	9300	9000	12000	12000	11600	9900
	40	9300	9000	8500	8100	11700	11300	10700	10100
	60	8900	8500	7900	7500	11100	10700	10000	9500
130x85	10	6000	5400	4800	4100	7100	6100	4900	4100
	20	6000	5400	4800	4100	7200	6200	4900	4200
	40	5200	4800	4300	3900	6700	6300	5000	4200
	60	4600	4300	3800	3500	6200	5800	5100	4300
165x85	10	7600	6900	6000	5300	9100	7800	6200	5300
	20	7000	6700	6000	5400	8800	7900	6300	5400
	40	6300	6000	5400	5000	7900	7500	6400	5500
	60	5800	5400	4800	4400	7300	6900	6400	5600
195x85	10	8300	8200	7100	6300	10500	9300	7400	6300
	20	7800	7500	7000	6400	9800	9400	7500	6400
	40	7000	6700	6200	5800	8900	8400	7700	6500
	60	6600	6200	5600	5200	8300	7800	7200	6700
230x85	10	9200	9000	8400	7500	11500	11000	8800	7500
	20	8600	8300	7800	7500	10900	10500	8900	7600
	40	7900	7500	7000	6600	9900	9400	8700	7800
	60	7300	7000	6400	6000	9200	8700	8100	7600
260x85	10	9900	9600	9300	8500	12000	12000	10000	8500
	20	9300	9000	8500	8100	11700	11300	10100	8600
	40	8500	8100	7600	7200	10700	10200	9500	8800
	60	8000	7600	7000	6600	10000	9500	8800	8300

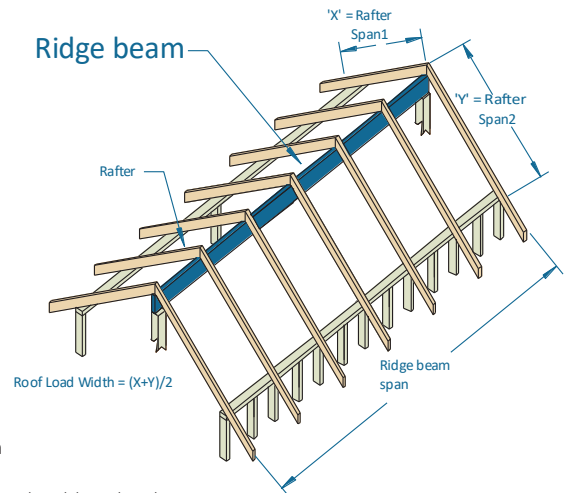
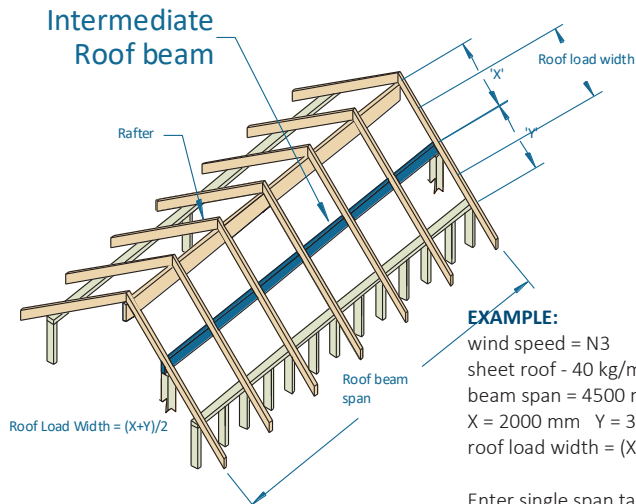
Single/continuous span roof rafter without ceiling attached AS 4055 classification C1, C2 and C3 (Cont'd)

Rafter spacing (mm)		450	600	900	1200	450	600	900	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended rafter span (mm)							
		Single Span				Continuous Span			
295x85	10	10600	10400	10000	9700	12000	12000	11400	9700
	20	10000	9700	9200	8800	12000	12000	11500	9800
	40	9200	8800	8200	7800	11600	11100	10400	9800
	60	8700	8200	7600	7200	10900	10400	9600	9100
330x85	10	11200	11100	10700	10400	12000	12000	12000	10900
	20	10700	10400	9900	9500	12000	12000	12000	11100
	40	9900	9500	8900	8400	12000	12000	11200	10600
	60	9400	8900	8300	7800	11800	11200	10400	9800
360x85	10	11800	11600	11300	11000	12000	12000	12000	12000
	20	11300	11000	10500	10100	12000	12000	12000	12000
	40	10500	10100	9400	9000	12000	12000	11900	11300
	60	9900	9400	8800	8300	12000	11900	11100	10400
395x85	10	12000	12000	11900	11600	12000	12000	12000	12000
	20	11900	11600	11100	10700	12000	12000	12000	12000
	40	11100	10700	10000	9600	12000	12000	12000	12000
	60	10500	10000	9300	8800	12000	12000	11800	11100
425x85	10	12000	12000	12000	12000	12000	12000	12000	12000
	20	12000	12000	11600	11200	12000	12000	12000	12000
	40	11600	11200	10500	10000	12000	12000	12000	12000
	60	11000	10500	9800	9300	12000	12000	12000	11800 _s

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Maximum birdsmouth depth = 30 % of rafter depth
4. End bearing lengths = 35 mm at end supports and 35 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 35 mm at internal supports
5. Construction loads shall not be applied to overhangs until a 190 x 19 (minimum) timber fascia or other fascia of equivalent stiffness is rigidly and permanently attached to the end of rafter overhangs
6. rafter spacing up to 1200 mm
7. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
8. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



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

ADOPT:

SmartLam GL17S - 250 x 50

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
200x50	40	4300	3600	3200	2900	2700	2500	5700	4200	3500	3100	2800	2500
	90	3400	2900	2500	2300	2100	2000	4600	3500	2900	2500	2300	2100
250x50	40	5400	4500	4000	3600	3400	3100	7000	5200	4400	3900	3500	3200
	90	4300	3600	3200	2900	2700	2500	5800	4300	3600	3200	2800 ₁₀	2600 ₁₅
200x60	40	4600	3900	3400	3100	2800	2700	6200	4600	3900	3400	3000	2800
	90	3600	3000	2700	2500	2300	2100	4900	3800	3200	2800	2500	2300
265x60	40	6000	5100	4500	4100	3800	3500	7500	6100	5100	4500	4000	3700
	90	4800	4000	3600	3300	3000	2900	6400	5000	4200	3700	3300 ₅	3000 ₁₀
300x60	40	6500	5700	5100	4600	4300	4000	8200	7000	5800	5100	4600	4200 ₅
	90	5400	4600	4100	3700	3400	3200	7000	5700	4800	4200 ₅	3700 ₁₅	3400 ₂₅
330x60	40	7000	6200	5600	5100	4700	4400	8800	7700	6300	5600	5000 ₅	4600 ₁₅
	90	5900	5000	4500	4100	3800	3600	7400	6200	5200 ₅	4600 ₁₅	4100 ₂₅	3700 ₃₅
130x65	40	3100	2600	2300	2100	1900	1800	4200	3400	2900	2500	2200	2000
	90	2400	2000	1800	1600	1500	1400	3300	2800	2400	2000	1800	1700
165x65	40	3900	3300	2900	2600	2400	2300	5400	4300	3600	3200	2800	2600
	90	3100	2600	2300	2100	1900	1800	4200	3500	3000	2600	2300	2100
195x65	40	4600	3900	3400	3100	2900	2700	6200	5100	4300	3800	3400	3100
	90	3600	3100	2700	2500	2300	2100	5000	4200	3500	3100	2800	2500
230x65	40	5500	4600	4000	3700	3400	3200	7000	6000	5000	4400	4000	3600
	90	4300	3600	3200	2900	2700	2500	5800	4900	4200	3600	3300	3000
260x65	40	6100	5200	4600	4100	3800	3600	7700	6700	5700	5000	4500	4100
	90	4900	4100	3600	3300	3100	2900	6400	5600	4700	4100	3700 ₅	3400 ₁₀
295x65	40	6700	5800	5200	4700	4300	4000	8400	7400	6500	5700	5100	4700 ₅
	90	5500	4600	4100	3800	3500	3300	7100	6200	5300	4700 ₅	4200 ₁₅	3800 ₂₀
330x65	40	7200	6400	5800	5300	4900	4500	9100	8000	7200	6300	5700 ₅	5200 ₁₅
	90	6100	5200	4600	4200	3900	3700	7600	6800	6000 ₅	5200 ₁₅	4700 ₂₅	4300 ₃₅
360x65	40	7700	6800	6200	5700	5300	4900	9700	8600	7800	6900 ₅	6200 ₁₅	5700 ₂₀
	90	6500	5600	5000	4600	4300	4000	8200	7200	6500 ₁₀	5700 ₂₀	5100 ₃₅	4600 ₄₅

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

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
395x65	40	8200	7300	6700	6200	5800	5400	10400	9200	8400	7600 ₁₅	6800 ₂₀	6200 ₃₀
	90	6900	6100	5500	5000	4700	4400	8800	7700	7100 ₂₀	6200 ₃₀	5600 ₄₅	5100 ₅₅
425x65	40	8700	7700	7000	6500	6200	5800	10900	9700	8800 ₅	8100 ₂₀	7300 ₃₀	6700 ₄₀
	90	7300	6500	5900	5400	5000	4700	9200	8200	7500 ₂₅	6700 ₄₀	6000 ₅₅	5500 ₇₅
200x80	40	5000	4200	3700	3400	3100	2900	6600	5300	4500	3900	3500	3200
	90	4000	3300	3000	2700	2500	2400	5400	4400	3700	3200	2900	2600
265x80	40	6400	5500	4900	4500	4100	3900	8000	7100	5900	5200	4600	4200
	90	5200	4400	3900	3600	3300	3100	6800	5700	4800	4200	3800	3500
300x80	40	6900	6200	5600	5100	4700	4400	8700	7800	6600	5800	5200	4800
	90	5900	5000	4500	4100	3800	3600	7400	6500	5500	4800	4300 ₅	3900 ₁₀
330x80	40	7400	6600	6100	5600	5200	4800	9300	8300	7300	6400	5800	5300 ₅
	90	6300	5500	4900	4500	4200	3900	8000	7100	6000	5300 ₅	4700 ₁₀	4300 ₂₀
130x85	40	3400	2800	2500	2300	2100	1900	4600	3900	3300	2900	2600	2300
	90	2600	2200	2000	1800	1700	1600	3600	3000	2700	2300	2100	1900
165x85	40	4300	3600	3200	2900	2600	2500	5800	4900	4100	3600	3300	3000
	90	3400	2800	2500	2300	2100	2000	4600	3800	3400	3000	2700	2400
195x85	40	5000	4200	3700	3400	3100	2900	6600	5800	4900	4300	3900	3500
	90	4000	3300	3000	2700	2500	2400	5400	4500	4000	3500	3200	2900
230x85	40	5900	5000	4400	4000	3700	3400	7400	6600	5800	5100	4500	4200
	90	4700	3900	3500	3200	3000	2800	6300	5400	4800	4200	3700	3400
260x85	40	6500	5600	5000	4500	4200	3900	8100	7200	6500	5700	5100	4700
	90	5300	4500	4000	3600	3400	3200	6800	6000	5400	4700	4200	3800
295x85	40	7100	6300	5600	5100	4700	4400	8900	7900	7200	6500	5800	5300
	90	6000	5000	4500	4100	3800	3600	7500	6600	6100	5300	4800 ₅	4300 ₁₀
330x85	40	7700	6800	6200	5700	5300	4900	9700	8500	7800	7200	6500	5900 ₅
	90	6500	5600	5000	4600	4300	4000	8200	7200	6600	5900 ₅	5300 ₁₀	4900 ₂₀
360x85	40	8200	7200	6600	6200	5800	5400	10300	9100	8300	7700	7100 ₅	6500 ₁₀
	90	6900	6100	5500	5000	4700	4400	8700	7700	7000	6500 ₁₀	5800 ₂₀	5300 ₃₀
395x85	40	8700	7700	7100	6600	6200	5900	11000	9700	8900	8300	7800 ₁₀	7100 ₂₀
	90	7400	6500	6000	5500	5100	4800	9300	8200	7600	7000 ₂₀	6400 ₃₀	5800 ₄₀
425x85	40	9200	8200	7500	7000	6600	6200	11500	10300	9400	8800 ₅	8300 ₁₅	7600 ₂₅
	90	7800	6900	6300	5900	5500	5200	9800	8700	8000 ₅	7400 ₂₅	6800 ₃₅	6200 ₅₀

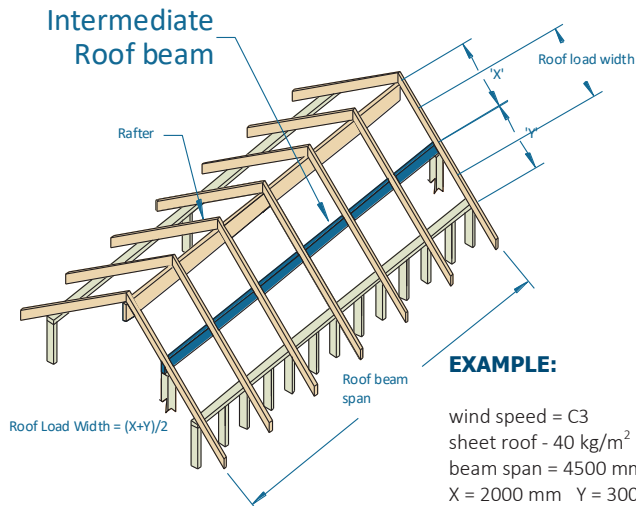
Ridge/Intermediate roof beam AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
195x115	40	5500	4700	4100	3700	3500	3200	7100	6200	5600	5000	4500	4100
	90	4400	3700	3300	3000	2800	2600	5900	5000	4500	4100	3700	3300
230x115	40	6300	5500	4900	4400	4100	3800	8000	7000	6400	5900	5300	4800
	90	5100	4300	3900	3500	3300	3100	6700	5900	5300	4800	4300	3900
260x115	40	6900	6100	5500	5000	4600	4300	8700	7700	7000	6500	6000	5400
	90	5800	4900	4400	4000	3700	3500	7300	6500	5900	5400	4900	4400
295x115	40	7500	6700	6100	5600	5200	4900	9500	8400	7700	7200	6800	6200
	90	6400	5600	5000	4500	4200	4000	8100	7100	6500	6100	5500	5000
330x115	40	8200	7300	6700	6200	5800	5400	10300	9100	8400	7800	7400	6900
	90	6900	6100	5500	5100	4700	4400	8700	7700	7100	6600	6200	5600 ₅
360x115	40	8700	7700	7100	6600	6200	5900	10900	9700	8900	8300	7900	7500
	90	7400	6600	6000	5500	5100	4800	9300	8200	7600	7100	6700 ₅	6100 ₁₅
395x115	40	9300	8300	7600	7100	6700	6400	11600	10400	9500	8900	8400	8000 ₅
	90	7900	7000	6400	6000	5600	5300	10000	8800	8100	7600	7200 ₁₅	6700 ₂₅
425x115	40	9700	8700	8000	7500	7100	6700	12000	10900	10100	9400	8900	8400 ₁₀
	90	8300	7400	6800	6400	6000	5700	10500	9300	8600	8000 ₅	7600 ₂₀	7200 ₃₀

NOTES:

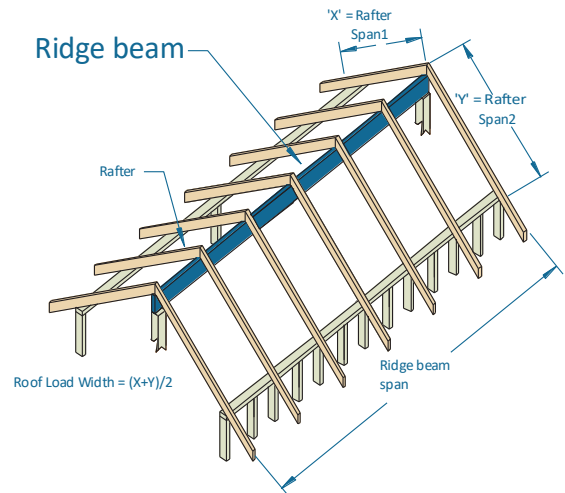
1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 70 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 70 mm at internal supports.
3. rafter spacing up to 1200 mm
4. Not all sizes of SmartLam GL17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Ridge/Intermediate roof beam AS 4055 Classification C1, C2 & C3



EXAMPLE:

wind speed = C3
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

ADOPT:

SmartLam GL17S - 300 x 60 mm

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
200x50	40	3600	2800	2300	2000	1900	1700	3600	2800	2300	2000	1900	1700
	90	3400	2900	2400	2100	1900	1700	3700	2900	2400	2100	1900 ₅	1700 ₁₀
250x50	40	4600	3500	2900	2600	2300	2100	4600	3500	2900	2600	2300 ₅	2100 ₁₅
	90	4300	3600	3000	2600	2400	2200	4800	3600	3000 ₅	2600 ₁₅	2400 ₂₅	2200 ₃₀
200x60	40	4000	3000	2500	2200	2000	1900	4000	3000	2500	2200	2000	1900
	90	3600	3000	2600	2300	2100	1900	4100	3100	2600	2300	2100	1900 ₅
265x60	40	5400	4000	3400	3000	2700	2500	5400	4000	3400	3000	2700 ₅	2500 ₁₀
	90	4800	4000	3500	3100	2800	2500	5600	4100	3500	3100 ₁₀	2800 ₂₀	2500 ₃₀
300x60	40	6200	4500	3800	3400	3100	2800	6200	4500	3800	3400 ₅	3100 ₁₅	2800 ₂₅
	90	5400	4600	4000	3500	3100	2900	6400	4700	4000 ₁₀	3500 ₂₀	3100 ₃₀	2900 ₄₅
330x60	40	6900	5000	4200	3700	3400	3100	6900	5000	4200 ₅	3700 ₁₅	3400 ₂₅	3100 ₃₅
	90	5900	5000	4300	3800	3500	3200	7000	5200 ₅	4300 ₂₀	3800 ₃₀	3500 ₄₅	3200 ₅₅
130x65	40	2900	2200	1900	1600	1500	1400	2900	2200	1900	1600	1500	1400
	90	2400	2000	1800	1600	1500	1400	3000	2300	1900	1700	1500	1400
165x65	40	3700	2800	2400	2100	1900	1700	3700	2800	2400	2100	1900	1700
	90	3100	2600	2300	2100	1900	1800	3800	2900	2500	2200	1900	1800
195x65	40	4400	3300	2800	2500	2300	2100	4400	3300	2800	2500	2300	2100
	90	3600	3100	2700	2500	2300	2100	4600	3500	2900	2600	2300	2100
230x65	40	5300	3900	3300	2900	2700	2500	5300	3900	3300	2900	2700	2500
	90	4300	3600	3200	2900	2700	2500	5500	4100	3400	3000	2700 ₅	2500 ₁₅
260x65	40	6100	4500	3800	3300	3000	2800	6100	4500	3800	3300	3000	2800 ₁₀
	90	4900	4100	3600	3300	3100	2800	6300	4600	3900	3400 ₁₀	3100 ₂₀	2800 ₂₅
295x65	40	6700	5100	4300	3800	3400	3200	6900	5100	4300	3800 ₅	3400 ₁₅	3200 ₂₅
	90	5500	4600	4100	3800	3500	3200	7100	5200	4400 ₁₀	3900 ₂₀	3500 ₃₀	3200 ₄₀
330x65	40	7200	5700	4800	4200	3800	3500	7800	5700	4800	4200 ₁₅	3800 ₂₅	3500 ₃₅
	90	6100	5200	4600	4200	3900	3600	7700	5900 ₅	4900 ₂₀	4300 ₃₀	3900 ₄₅	3600 ₅₅
360x65	40	7700	6200	5200	4600	4200	3900	8600	6200	5200 ₁₀	4600 ₂₀	4200 ₃₅	3900 ₄₅
	90	6500	5600	5000	4600	4300	3900	8200	6400 ₁₀	5400 ₂₅	4700 ₄₀	4300 ₅₅	3900 ₇₅

Single span Ridge/Intermediate roof beam AS 4055 Classification C1, C2 & C3 (Cont'd)

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
395x65	40	8200	6900	5700	5100	4600	4200	9500	6900 ₅	5700 ₂₀	5100 ₃₀	4600 ₄₅	4200 ₅₅
	90	6900	6100	5500	5000	4700	4300	8700	7100 ₂₀	5900 ₃₅	5200 ₅₅	4700 ₈₀	4300 ₉₅
425x65	40	8700	7500	6200	5500	4900	4600	10200	7500 ₁₀	6200 ₂₅	5500 ₄₀	4900 ₅₅	4600 ₇₅
	90	7300	6500	5900	5400	5000	4600	9200	7800 ₃₀	6400 ₄₅	5600 ₇₀	5000 ₉₀	4600 ₁₀₅
200x80	40	4700	3500	3000	2600	2400	2200	4700	3500	3000	2600	2400	2200
	90	4000	3300	3000	2700	2400	2200	4800	3600	3000	2700	2400	2200
265x80	40	6300	4600	3900	3500	3100	2900	6300	4600	3900	3500	3100	2900
	90	5200	4400	3900	3500	3200	2900	6500	4800	4000	3500	3200 ₅	2900 ₁₅
300x80	40	6900	5300	4400	3900	3600	3300	7200	5300	4400	3900	3600 ₅	3300 ₁₀
	90	5900	5000	4500	4000	3600	3300	7400	5400	4600	4000	3600 ₂₀	3300 ₂₅
330x80	40	7400	5800	4900	4300	3900	3600	8000	5800	4900	4300	3900 ₁₀	3600 ₂₀
	90	6300	5500	4900	4400	4000	3700	8000	5900	5000 ₅	4400 ₁₅	4000 ₃₀	3700 ₄₀
130x85	40	3300	2500	2100	1900	1700	1600	3300	2500	2100	1900	1700	1600
	90	2600	2200	2000	1800	1700	1600	3400	2600	2200	1900	1700	1600
165x85	40	4300	3200	2700	2400	2200	2000	4300	3200	2700	2400	2200	2000
	90	3400	2800	2500	2300	2100	2000	4400	3400	2800	2500	2200	2000
195x85	40	5000	3800	3200	2900	2600	2400	5100	3800	3200	2900	2600	2400
	90	4000	3300	3000	2700	2500	2400	5300	4000	3300	2900	2600	2400
230x85	40	5900	4500	3800	3400	3100	2800	6100	4500	3800	3400	3100	2800
	90	4700	3900	3500	3200	3000	2800	6300	4700	3900	3500	3100	2900 ₅
260x85	40	6500	5100	4300	3800	3500	3200	7000	5100	4300	3800	3500	3200
	90	5300	4500	4000	3600	3400	3200	6900	5300	4400	3900	3500 ₅	3200 ₁₅
295x85	40	7100	5800	4900	4300	3900	3600	8000	5800	4900	4300	3900	3600 ₁₀
	90	6000	5000	4500	4100	3800	3600	7500	6000	5000	4400 ₁₀	4000 ₁₅	3700 ₂₅
330x85	40	7700	6600	5500	4800	4400	4100	9000	6600	5500	4800	4400 ₁₀	4100 ₂₀
	90	6500	5600	5000	4600	4300	4000	8100	6800	5600 ₅	5000 ₂₀	4500 ₃₀	4100 ₄₀
360x85	40	8200	7200	6000	5300	4800	4400	9900	7200	6000	5300 ₁₀	4800 ₂₀	4400 ₃₀
	90	6900	6100	5500	5000	4700	4400	8700	7500 ₅	6200 ₁₅	5400 ₂₅	4900 ₄₀	4500 ₅₀
395x85	40	8700	7700	6600	5800	5300	4900	10900	8000	6600 ₅	5800 ₂₀	5300 ₃₀	4900 ₄₀
	90	7400	6500	6000	5500	5100	4800	9300	8200 ₁₀	6700 ₂₅	5900 ₃₅	5400 ₅₀	4900 ₆₅
425x85	40	9200	8200	7100	6300	5700	5200	11500	8700	7100 ₁₅	6300 ₂₅	5700 ₄₀	5200 ₅₀
	90	7800	6900	6300	5900	5500	5200	9800	8700 ₁₅	7300 ₃₀	6400 ₄₅	5800 ₆₀	5300 ₈₅
195x115	40	5500	4500	3800	3300	3000	2800	6000	4500	3800	3300	3000	2800
	90	4400	3700	3300	3000	2800	2600	5900	4600	3900	3400	3100	2800
230x115	40	6300	5300	4400	3900	3600	3300	7200	5300	4400	3900	3600	3300
	90	5100	4300	3900	3500	3300	3100	6700	5400	4600	4000	3600	3300
260x115	40	6900	5900	5000	4400	4000	3700	8200	5900	5000	4400	4000	3700
	90	5800	4900	4400	4000	3700	3500	7300	6100	5200	4500	4100	3800

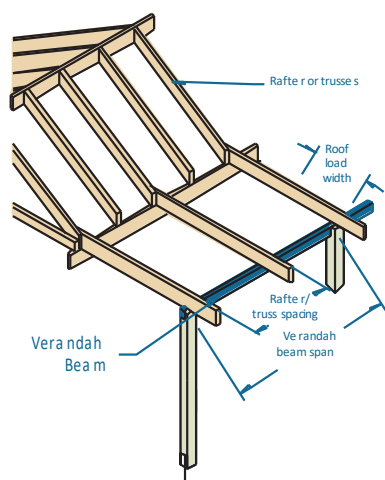
Single span Ridge/Intermediate roof beam AS 4055 Classification C1, C2 & C3 (Cont'd)

Roof load width (mm)		1800	3000	4200	5400	6600	7800	1800	3000	4200	5400	6600	7800
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Ridge/Intermediate beam span (mm)											
		Single span						Continuous span					
295x115	40	7500	6700	5700	5000	4600	4200	9400	6900	5700	5000	4600	4200
	90	6400	5600	5000	4500	4200	4000	8100	7100	5900	5200	4700 ₅	4300 ₁₀
330x115	40	8200	7300	6400	5600	5100	4700	10200	7800	6400	5600	5100	4700 ₅
	90	6900	6100	5500	5100	4700	4400	8700	7700	6500	5800 ₅	5200 ₁₅	4800 ₂₀
360x115	40	8700	7700	7000	6200	5600	5100	10900	8600	7000	6200	5600 ₅	5100 ₁₅
	90	7400	6600	6000	5500	5100	4800	9300	8200	7100	6300 ₁₅	5700 ₂₀	5200 ₃₀
395x115	40	9300	8300	7600	6800	6100	5600	11600	9500	7700	6800 ₅	6100 ₁₅	5600 ₂₅
	90	7900	7000	6400	6000	5600	5300	10000	8800	7800 ₁₀	6900 ₂₀	6200 ₃₀	5700 ₄₀
425x115	40	9700	8700	8000	7300	6600	6100	12000	10300	8200	7300 ₁₀	6600 ₂₀	6100 ₃₀
	90	8300	7400	6800	6400	6000	5700	10500	9300	8400 ₁₅	7400 ₃₀	6700 ₄₀	6100 ₅₀
460x115	40	10300	9200	8500	7900	7100	6600	12000	11200	9000 ₁₀	7900 ₂₀	7100 ₃₀	6600 ₄₀
	90	8800	7800	7200	6700	6400	6100	11100	9900	9100 ₂₅	8000 ₃₅	7200 ₅₀	6600 ₆₅
495x115	40	10800	9700	8900	8300	7700	7100	12000	12000 ₅	9800 ₁₅	8500 ₂₅	7700 ₄₀	7100 ₅₀
	90	9300	8300	7600	7100	6800	6400	11700	10400 ₅	9600 ₃₀	8600 ₄₅	7800 ₆₀	7100 ₈₅

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 35 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 70 mm at internal supports.
3. rafter spacing up to 1200 mm
4. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

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

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

ADOPT:

SmartLam GL17S - 265 x 60

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Single span									
200x50	40	4200	4200	3400	3200	2700	2700	2400	2200	2100	1900
	90	3300	3300	2600	2700	2300	2300	2100	2000	1900	1600
250x50	40	4900	4900	4200	4100	3400	3300	2900	2800	2600	2600
	90	4100	4100	3300	3300	2900	2900	2600	2700	2400	2400
200x60	40	4300	4300	3600	3500	3000	2900	2600	2500	2300	2200
	90	3500	3500	2800	2800	2400	2500	2200	2200	2100	2000
265x60	40	5300	5300	4600	4500	4000	3900	3500	3300	3100	2900
	90	4400	4400	3700	3700	3300	3200	3000	2900	2700	2800
300x60	40	5800	5800	5000	5000	4500	4500	3900	3800	3500	3300
	90	4900	4900	4100	4100	3700	3600	3400	3300	3100	3100
330x60	40	6200	6200	5400	5400	4900	4900	4300	4200	3900	3700
	90	5200	5200	4400	4400	4000	4000	3700	3600	3500	3400
130x65	40	3000	3000	2400	2500	2100	2100	1800	1600	1600	1200
	90	2300	2400	1800	1800	1600	1500	1500	1300	1400	1100
165x65	40	3900	3800	3100	3100	2700	2700	2400	2300	2100	2000
	90	3000	3000	2400	2400	2100	2000	1900	1900	1700	1700
195x65	40	4400	4400	3700	3600	3200	3200	2800	2800	2500	2500
	90	3500	3500	2800	2800	2500	2500	2200	2200	2100	2000
230x65	40	5000	5000	4200	4200	3800	3800	3400	3200	3000	2900
	90	4100	4100	3300	3300	2900	2900	2600	2700	2400	2400
260x65	40	5400	5400	4600	4600	4200	4200	3800	3700	3400	3300
	90	4500	4500	3800	3700	3300	3300	3000	3000	2800	2800
295x65	40	5900	5900	5100	5100	4600	4600	4300	4300	3900	3800
	90	4900	4900	4200	4200	3700	3700	3400	3400	3200	3100
330x65	40	6400	6400	5500	5500	5000	5000	4700	4700	4400	4300
	90	5400	5400	4600	4500	4100	4100	3800	3800	3500	3500

Single span Verandah beam

AS 4055 Classification N1, N2, N3 & N4 (Cont'd)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Single span									
360x65	40	6800	6800	5900	5900	5400	5400	5000	5000	4800	4700
	90	5700	5700	4900	4800	4400	4400	4100	4100	3900	3800
395x65	40	7300	7300	6300	6300	5700	5700	5400	5400	5100	5100
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
425x65	40	7700	7700	6600	6600	6100	6000	5700	5600	5400	5400
	90	6500	6500	5500	5500	5000	5000	4700	4600	4400	4400
200x80	40	4600	4600	4000	3900	3500	3300	3000	2900	2700	2600
	90	3800	3800	3100	3100	2700	2700	2400	2500	2300	2200
265x80	40	5600	5600	4900	4900	4400	4400	4000	3900	3600	3400
	90	4700	4700	4000	4000	3600	3500	3300	3200	3000	3000
300x80	40	6100	6100	5300	5300	4900	4900	4500	4500	4000	3900
	90	5200	5200	4400	4400	4000	4000	3700	3600	3400	3400
330x80	40	6500	6500	5700	5700	5200	5200	4900	4900	4500	4400
	90	5600	5500	4800	4700	4300	4300	4000	4000	3800	3700
165x85	40	4100	4100	3400	3300	3000	3000	2700	2700	2500	2400
	90	3300	3200	2600	2700	2300	2300	2100	2000	1900	1900
195x85	40	4700	4700	4000	4000	3500	3500	3200	3100	2900	2800
	90	3900	3800	3100	3100	2700	2700	2400	2500	2300	2200
230x85	40	5300	5300	4500	4500	4100	4100	3800	3700	3500	3300
	90	4400	4400	3600	3600	3200	3100	2900	2900	2700	2700
260x85	40	5700	5700	4900	4900	4500	4500	4200	4200	3900	3800
	90	4800	4800	4100	4100	3600	3500	3300	3200	3000	3000
295x85	40	6300	6300	5400	5400	4900	4900	4600	4600	4400	4300
	90	5300	5300	4500	4400	4000	4000	3700	3700	3500	3400
330x85	40	6800	6800	5900	5800	5300	5300	5000	5000	4700	4700
	90	5700	5700	4900	4800	4400	4400	4100	4100	3900	3800
360x85	40	7200	7200	6300	6200	5700	5700	5300	5300	5100	5000
	90	6100	6100	5200	5200	4700	4700	4400	4400	4100	4100
395x85	40	7700	7700	6700	6700	6100	6100	5700	5700	5400	5400
	90	6500	6500	5600	5500	5000	5000	4700	4700	4500	4400
425x85	40	8100	8100	7100	7000	6400	6400	6000	6000	5700	5700
	90	6900	6800	5900	5800	5300	5300	5000	4900	4700	4700
165x115	40	4400	4400	3700	3700	3300	3200	3000	3000	2800	2800
	90	3600	3500	2900	2900	2500	2600	2300	2300	2100	2100
195x115	40	5000	5000	4300	4300	3900	3800	3500	3500	3300	3200
	90	4200	4200	3400	3400	3000	3000	2700	2700	2500	2600
230x115	40	5600	5600	4800	4800	4400	4400	4100	4100	3900	3800
	90	4700	4700	4000	4000	3500	3500	3200	3200	3000	3000
260x115	40	6100	6100	5300	5300	4800	4800	4500	4500	4300	4300
	90	5100	5100	4400	4400	4000	3900	3600	3600	3400	3300

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

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Single span									
295x115	40	6700	6700	5800	5800	5300	5300	4900	4900	4700	4700
	90	5600	5600	4800	4800	4400	4300	4100	4100	3800	3800
330x115	40	7200	7200	6300	6200	5700	5700	5400	5400	5100	5100
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
360x115	40	7700	7600	6700	6700	6100	6100	5700	5700	5400	5400
	90	6500	6500	5600	5600	5100	5100	4700	4700	4500	4500
395x115	40	8200	8100	7100	7100	6500	6500	6100	6100	5800	5800
	90	6900	6900	6000	5900	5400	5400	5100	5000	4800	4800
425x115	40	8600	8500	7500	7500	6900	6900	6400	6500	6100	6100
	90	7300	7300	6300	6300	5700	5700	5300	5300	5100	5000

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

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Continuous span									
200x50	40	4800	4800	3400	3300	2800	2800	2300	2200	2100	1600
	90	4300	4300	3200	3100	2600	2600	2200	1700	1700	1500
250x50	40	6000	6000	4200	4200	3500	3400	3000	3000	2700 ₅	2700 ₁₀
	90	5100	5100	4000	3900	3200	3200	2800 ₁₀	2800 ₁₀	2500 ₂₀	2500 ₁₅
200x60	40	5300	5300	3700	3600	3000	3000	2600	2700	2300	2100
	90	4500	4500	3500	3400	2800	2800	2400	2400	2200	1700
265x60	40	6600	6600	4900	4900	4000	4000	3500	3400	3100 ₅	3100 ₅
	90	5600	5600	4600	4500	3700	3700	3300 ₅	3100 ₅	2900 ₁₅	2900 ₁₅
300x60	40	7100	7200	5600	5600	4600	4500	3900 ₅	3900 ₅	3500 ₁₅	3300 ₁₀
	90	6100	6100	5200	5200	4200 ₅	4200 ₅	3700 ₁₅	3600 ₁₅	3300 ₂₅	3200 ₂₅
330x60	40	7500	7700	6200	6100	5000	5000	4300 ₁₅	4300 ₁₀	3900 ₂₅	3800 ₂₀
	90	6500	6500	5600	5600	4700 ₁₅	4600 ₁₀	4000 ₂₅	4000 ₂₅	3600 ₄₀	3300 ₃₀

Continuous span Verandah beam (Cont'd)

AS 4055 Classification N1, N2, N3 & N4

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Continuous span									
130x65	40	3900	3800	2700	2700	2200	2100	1900	1800	1700	1500
	90	3200	3100	2500	2500	2100	2000	1800	1500	1600	1500
165x65	40	4800	4900	3500	3400	2800	2800	2400	2600	2200	2100
	90	4000	4000	3200	3200	2700	2700	2300	2200	2000	2000
195x65	40	5500	5500	4100	4100	3400	3300	2900	2900	2600	2600
	90	4500	4500	3800	3800	3100	3100	2700	2700	2400	2400
230x65	40	6200	6200	4800	4800	4000	3900	3400	3300	3000	3000
	90	5100	5200	4400	4300	3700	3600	3200	3200	2900 ₅	2900 ₅
260x65	40	6700	6700	5500	5500	4500	4400	3900	3800	3500	3400
	90	5600	5600	4800	4700	4200	4200	3600 ₅	3500 ₅	3200 ₁₅	3200 ₁₀
295x65	40	7200	7400	6200	6200	5100	5100	4400 ₅	4400 ₅	3900 ₁₀	3900 ₁₀
	90	6200	6200	5200	5200	4700 ₅	4700	4100 ₁₅	4100 ₁₅	3700 ₂₅	3600 ₂₅
330x65	40	7700	8000	6800	6900	5700	5700	4900 ₁₀	4900 ₁₀	4400 ₂₀	4400 ₂₀
	90	6600	6700	5700	5700	5200 ₁₀	5200 ₁₀	4600 ₂₅	4600 ₂₅	4100 ₃₅	4100 ₃₅
360x65	40	8100	8600	7200	7300	6200 ₁₀	6200 ₁₀	5400 ₂₀	5400 ₂₀	4800 ₃₀	4700 ₃₀
	90	7000	7100	6100	6100	5500 ₁₅	5500 ₁₅	5000 ₃₅	5000 ₃₅	4500 ₅₀	4500 ₅₀
395x65	40	8500	9100	7600	7800	6800 ₁₅	6800 ₁₅	5900 ₃₀	5800 ₃₀	5300 ₄₀	5300 ₄₅
	90	7400	7600	6500	6500	5900 ₂₀	5900 ₂₀	5500 ₄₅	5500 ₄₅	4900 ₆₀	4900 ₆₀
425x65	40	8900	9600	7900	8300	7300 ₂₅	7300 ₂₅	6300 ₄₀	6300 ₃₅	5700 ₅₀	5600 ₅₀
	90	7700	8100	6800	6800	6200 ₂₅	6200 ₃₀	5800 ₅₅	5800 ₅₀	5300 ₈₅	5300 ₈₅
200x80	40	5800	5800	4300	4300	3500	3400	3000	3000	2700	2700
	90	4800	4800	4000	4000	3300	3200	2800	2800	2500	2600
265x80	40	6900	7000	5700	5700	4700	4600	4000	4000	3600	3500
	90	5900	5900	5000	5100	4300	4300	3700	3700	3400 ₅	3300
300x80	40	7400	7600	6500	6500	5300	5300	4600	4500	4100	4100 ₅
	90	6500	6500	5500	5600	4900	4900	4200 ₅	4200 ₅	3800 ₁₅	3700 ₁₀
330x80	40	7800	8200	7000	7100	5800	5800	5000	5000	4500 ₁₀	4500 ₁₀
	90	6800	6900	5900	6000	5400	5400	4700 ₁₅	4600 ₁₀	4200 ₂₅	4200 ₂₅
195x85	40	5800	5800	4700	4700	3800	3800	3300	3200	2900	2900
	90	4800	4900	4100	4100	3600	3500	3100	3100	2800	2800
230x85	40	6500	6600	5600	5500	4500	4500	3900	3900	3500	3400
	90	5500	5500	4600	4600	4200	4200	3700	3600	3300	3200
260x85	40	7000	7100	6100	6100	5100	5100	4400	4400	4000	3900
	90	6000	6000	5100	5100	4600	4600	4100	4100	3700	3600
295x85	40	7500	7800	6700	6700	5800	5800	5000	5100	4500	4500
	90	6500	6600	5600	5600	5100	5100	4700 ₅	4600 ₅	4200 ₁₅	4200 ₁₅
330x85	40	8100	8500	7100	7300	6500	6500	5600	5600	5000 ₁₀	5000 ₁₀
	90	7000	7100	6100	6100	5500	5500	5100 ₁₀	5200 ₁₀	4700 ₂₅	4600 ₂₀
360x85	40	8400	9000	7500	7800	7000	7100	6100 ₁₀	6100 ₁₀	5500 ₂₀	5500 ₂₀
	90	7400	7600	6500	6500	5900	5900	5500 ₁₅	5500 ₁₅	5100 ₃₀	5100 ₃₀

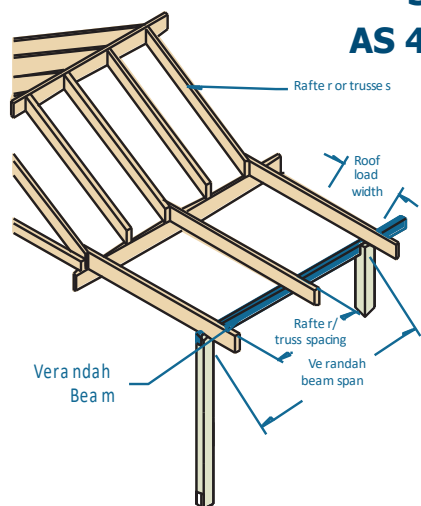
Continuous span Verandah beam AS 4055 Classification N1, N2, N3 & N4

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Continuous span									
395x85	40	9000	9600	7900	8400	7400	7600 ₅	6700 ₁₅	6700 ₁₅	6100 ₃₀	6000 ₂₅
	90	7800	8100	6800	6900	6300 ₅	6300 ₅	5900 ₂₅	5900 ₂₅	5600 ₄₀	5600 ₄₀
425x85	40	9400	10100	8300	8800	7700 ₅	8000 ₅	7300 ₂₅	7200 ₂₅	6500 ₃₅	6500 ₃₅
	90	8100	8600	7100	7300	6600 ₁₀	6600 ₁₀	6200 ₃₀	6200 ₃₀	5900 ₅₀	5900 ₅₀
230x115	40	6900	7000	6000	6000	5300	5300	4600	4500	4100	4100
	90	5900	5900	5000	5000	4500	4500	4200	4200	3800	3700
260x115	40	7400	7600	6500	6600	6000	5900	5200	5200	4600	4600
	90	6400	6400	5500	5500	4900	5000	4600	4600	4300	4300
295x115	40	7900	8300	7100	7200	6500	6600	5900	5800	5200	5200
	90	6900	7000	6000	6000	5400	5500	5100	5100	4800	4800
330x115	40	8400	9000	7500	7800	7000	7100	6600	6600	5900	5800
	90	7400	7600	6500	6500	5900	5900	5500	5500	5200 ₅	5200 ₅
360x115	40	8900	9500	7900	8400	7400	7600	7000	7100	6400 ₅	6400 ₅
	90	7700	8100	6900	6900	6300	6300	5900	5900	5600 ₁₀	5600 ₁₀
395x115	40	9400	10200	8300	8900	7800	8200	7400	7600	7000 ₁₅	7000 ₁₅
	90	8200	8700	7200	7400	6700	6700	6300 ₅	6300 ₅	6000 ₂₀	6000 ₂₀
425x115	40	9900	10700	8700	9300	8100	8600	7700 ₅	8100 ₅	7400 ₂₀	7600 ₂₀
	90	8600	9100	7600	7800	7000	7100	6600 ₁₀	6700 ₁₀	6300 ₂₅	6300 ₂₀

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 35 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 70 mm at internal supports.
3. Restraint value for slenderness calculations is 1200 mm
4. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

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

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

ADOPT:

SmartLam GL17S – 300 x 60

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum verandah span (mm)									
		Single span									
200x50	40	3900	3700	2700	2600	2200	2100	1800	1500	1600	NS
	90	3300	3300	2600	2700	2200	2100	1900	1500	1600	NS
250x50	40	4900	4800	3400	3200	2700	2700	2400	2300	2100	1600
	90	4100	4100	3300	3300	2800	2700	2400	2300	2100	1700
200x60	40	4200	4100	2900	2800	2400	2300	2000	1800	1800	1400
	90	3500	3500	2800	2800	2400	2300	2100	1900	1800	1500
265x60	40	5300	5300	4000	3800	3200	3100	2800	2700	2500	2400
	90	4400	4400	3700	3700	3200	3100	2800	2700	2500	2400
300x60	40	5800	5800	4500	4400	3700	3500	3100	3000	2800	2700
	90	4900	4900	4100	4100	3700	3500	3200	3000	2800	2700
330x60	40	6200	6200	5000	4900	4000	3900	3500	3300	3100	3000
	90	5200	5200	4400	4400	4000	3900	3500	3400	3100	3000
165x65	40	3900	3800	2700	2700	2300	2100	1900	1600	1700	1300
	90	3000	3000	2400	2400	2100	2000	1900	1700	1700	1300
195x65	40	4400	4400	3300	3100	2700	2600	2300	2200	2000	1700
	90	3500	3500	2800	2800	2500	2500	2200	2200	2100	1900
230x65	40	5000	5000	3900	3700	3100	3000	2700	2600	2400	2300
	90	4100	4100	3300	3300	2900	2900	2600	2700	2400	2400
260x65	40	5400	5400	4400	4300	3600	3400	3100	3000	2700	2700
	90	4500	4500	3800	3700	3300	3300	3000	3000	2800	2700
295x65	40	5900	5900	5000	5000	4100	3900	3500	3400	3100	3000
	90	4900	4900	4200	4200	3700	3700	3400	3400	3200	3000
330x65	40	6400	6400	5500	5500	4600	4500	3900	3800	3500	3400
	90	5400	5400	4600	4500	4100	4100	3800	3800	3500	3400
360x65	40	6800	6800	5900	5900	5000	5000	4300	4200	3800	3700
	90	5700	5700	4900	4800	4400	4400	4100	4100	3900	3800
395x65	40	7300	7300	6300	6300	5500	5400	4800	4800	4200	4100
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200 ₅	4200 ₁₅
425x65	40	7700	7700	6600	6600	5900	5800	5100	5100	4600	4500
	90	6500	6500	5500	5500	5000	5000	4700	4600	4400	4400 ₁₀

Single span Verandah beam AS 4055 Classification C1, C2 & 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 (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Single span									
200x80	40	4600	4600	3500	3300	2800	2700	2400	2300	2100	2000
	90	3800	3800	3100	3100	2700	2700	2400	2300	2200	2100
265x80	40	5600	5600	4600	4600	3700	3600	3200	3100	2800	2800
	90	4700	4700	4000	4000	3600	3500	3200	3100	2900	2800
300x80	40	6100	6100	5200	5200	4200	4100	3700	3500	3200	3100
	90	5200	5200	4400	4400	4000	4000	3700	3500	3300	3100
330x80	40	6500	6500	5700	5600	4700	4700	4000	3900	3600	3400
	90	5600	5500	4800	4700	4300	4300	4000	3900	3600	3500
195x85	40	4700	4700	3800	3600	3000	2900	2600	2600	2400	2200
	90	3900	3800	3100	3100	2700	2700	2400	2500	2300	2200
230x85	40	5300	5300	4500	4400	3600	3500	3100	3000	2800	2700
	90	4400	4400	3600	3600	3200	3100	2900	2900	2700	2700
260x85	40	5700	5700	4900	4900	4100	4000	3600	3400	3200	3000
	90	4800	4800	4100	4100	3600	3500	3300	3200	3000	3000
295x85	40	6300	6300	5400	5400	4700	4700	4000	3900	3600	3400
	90	5300	5300	4500	4400	4000	4000	3700	3700	3500	3400
330x85	40	6800	6800	5900	5800	5200	5200	4500	4500	4000	3900
	90	5700	5700	4900	4800	4400	4400	4100	4100	3900	3800
360x85	40	7200	7200	6300	6200	5700	5600	4900	4900	4400	4300
	90	6100	6100	5200	5200	4700	4700	4400	4400	4100	4100
395x85	40	7700	7700	6700	6700	6100	6100	5400	5300	4900	4900
	90	6500	6500	5600	5500	5000	5000	4700	4700	4500	4400
425x85	40	8100	8100	7100	7000	6400	6400	5800	5700	5200	5200
	90	6900	6800	5900	5800	5300	5300	5000	4900	4700	4700
395x85	40	7700	7700	6700	6700	6100	6100	5400	5300	4900	4900
	90	6500	6500	5600	5500	5000	5000	4700	4700	4500	4400
425x85	40	8100	8100	7100	7000	6400	6400	5800	5700	5200	5200
	90	6900	6800	5900	5800	5300	5300	5000	4900	4700	4700
195x115	40	5000	5000	4300	4300	3600	3400	3100	2900	2700	2700
	90	4200	4200	3400	3400	3000	3000	2700	2700	2500	2600
230x115	40	5600	5600	4800	4800	4200	4100	3700	3500	3300	3100
	90	4700	4700	4000	4000	3500	3500	3200	3200	3000	3000
260x115	40	6100	6100	5300	5300	4800	4800	4100	4000	3700	3500
	90	5100	5100	4400	4400	4000	3900	3600	3600	3400	3300
295x115	40	6700	6700	5800	5800	5300	5300	4700	4700	4200	4100
	90	5600	5600	4800	4800	4400	4300	4100	4100	3800	3800

Single span Verandah beam AS 4055 Classification C1, C2 & 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 (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Single span									
330x115	40	7200	7200	6300	6200	5700	5700	5300	5200	4700	4700
	90	6100	6100	5200	5200	4700	4700	4400	4400	4200	4200
360x115	40	7700	7600	6700	6700	6100	6100	5700	5700	5100	5100
	90	6500	6500	5600	5600	5100	5100	4700	4700	4500	4500
395x115	40	8200	8100	7100	7100	6500	6500	6100	6100	5600	5600
	90	6900	6900	6000	5900	5400	5400	5100	5000	4800	4800
425x115	40	8600	8500	7500	7500	6900	6900	6400	6500	6100	6000
	90	7300	7300	6300	6300	5700	5700	5300	5300	5100	5000

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

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Continuous span									
200x50	40	3900	3800	2700	2700	2200	1700	1600	1400	1500	NS
	90	3900	3900	2800	2800	2200	2000	1700	1400	1500	1000
250x50	40	4900	4900	3400	3300	2800	2800	2300	1900	1900 ₅	1900 ₅
	90	4900	4900	3500	3400	2800 ₁₀	2800 ₁₀	2400 ₂₀	1900	1900 ₂₀	1900 ₂₀
200x60	40	4300	4200	3000	3000	2400	2400	2100	1600	1600	1300
	90	4300	4200	3000	3000	2500	2600	2100	1600	1600	1400
265x60	40	5700	5600	4000	4000	3200	3100	2800 ₅	2800 ₅	2400 ₁₀	1900
	90	5600	5600	4000	4000	3300 ₅	3200	2800 ₁₅	2800 ₂₀	2500 ₂₅	2500 ₂₅
300x60	40	6400	6400	4500	4500	3700	3600	3200 ₁₅	3200 ₁₅	2600 ₂₀	2800 ₂₅
	90	6100	6100	4500	4500	3700 ₁₅	3600 ₁₅	3200 ₃₀	3200 ₃₀	2600 ₃₅	2900 ₄₅
330x60	40	7100	7000	5000	5000	4000 ₁₀	4000 ₁₀	3500 ₂₀	3300 ₂₀	3100 ₃₅	3000 ₃₀
	90	6500	6500	5000 ₅	5000 ₅	4100 ₂₅	4100 ₂₅	3600 ₄₀	3300 ₃₅	3200 ₅₅	3000 ₅₀

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

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx8 (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Continuous span									
130x65	40	3100	3100	2200	2100	1700	1500	1500	1300	1400	NS
	90	3200	3100	2200	2100	1800	1700	1500	1400	1400	NS
165x65	40	4000	4000	2800	2800	2200	2200	2000	1600	1600	1400
	90	4000	4000	2800	2800	2300	2200	2000	1900	1600	1400
195x65	40	4700	4700	3300	3200	2700	2700	2300	2200	2100	1600
	90	4500	4500	3400	3300	2700	2800	2300	2200	2100	1600
230x65	40	5600	5500	3900	3900	3200	3200	2800	2800	2400	2400
	90	5100	5200	4000	3900	3200	3200	2800 ₅	2800 ₅	2400 ₁₅	2500 ₁₅
260x65	40	6300	6300	4400	4400	3600	3500	3100	3100	2800 ₁₀	2800 ₁₀
	90	5600	5600	4500	4400	3600 ₅	3600 ₅	3200 ₁₅	3100 ₁₅	2800 ₂₅	2800 ₃₀
295x65	40	7200	7100	5000	5000	4100	4100	3500 ₁₅	3400 ₁₀	3200 ₂₀	3100 ₂₀
	90	6200	6200	5100	5100	4100 ₁₅	4100 ₁₅	3600 ₃₀	3500 ₂₅	3200 ₄₀	3200 ₄₀
330x65	40	7700	8000	5600	5600	4600 ₁₀	4500 ₁₀	4000 ₂₅	3900 ₂₀	3600 ₃₅	3300 ₃₀
	90	6600	6700	5700 ₅	5700 ₅	4700 ₂₅	4600 ₂₅	4000 ₄₀	4000 ₄₀	3600 ₅₅	3300 ₄₅
360x65	40	8100	8600	6100	6100	5000 ₁₅	5000 ₁₅	4300 ₃₀	4300 ₃₀	3900 ₄₅	3400 ₃₅
	90	7000	7100	6100 ₁₀	6100 ₁₅	5100 ₃₅	5100 ₃₅	4400 ₅₀	4400 ₅₀	3900 ₇₅	3700 ₆₀
395x65	40	8500	9100	6700	6700 ₁₀	5500 ₂₅	5500 ₂₅	4800 ₄₀	4700 ₄₀	4200 ₅₅	4200 ₅₅
	90	7400	7600	6500 ₂₀	6500 ₂₀	5600 ₄₅	5600 ₄₅	4800 ₇₀	4700 ₆₅	4300 ₉₅	4300 ₉₅
425x65	40	8900	9600	7300 ₁₅	7200 ₁₅	5900 ₃₅	5900 ₃₅	5100 ₅₀	5100 ₅₀	4600 ₇₅	4600 ₇₅
	90	7700	8100	6800 ₂₀	6800 ₂₅	6000 ₅₅	5900 ₅₅	5200 ₉₀	5200 ₉₀	4600 ₁₀₅	4600 ₁₀₅
200x80	40	4900	5000	3500	3400	2800	2800	2400	2400	2200	1700
	90	4800	4800	3500	3400	2800	2800	2500	2600	2200	1700
265x80	40	6600	6600	4600	4600	3700	3700	3200	3100	2900	2900
	90	5900	5900	4600	4600	3800	3700	3300 ₅	3200	2900 ₁₅	2900 ₁₅
300x80	40	7400	7500	5200	5200	4200	4200	3700	3600	3300 ₁₀	3200 ₁₀
	90	6500	6500	5200	5200	4300 ₅	4300 ₅	3700 ₁₅	3600 ₁₅	3300 ₂₅	3200 ₂₅
330x80	40	7800	8200	5800	5700	4700	4600	4000 ₁₀	4000 ₁₀	3600 ₂₀	3300 ₁₅
	90	6800	6900	5800	5700	4700 ₁₀	4600 ₁₀	4100 ₂₅	4100 ₂₅	3700 ₄₀	3300 ₃₀
195x85	40	5400	5400	3800	3700	3100	3100	2700	2700	2300	2200
	90	4800	4900	3800	3800	3100	3100	2700	2700	2400	2400
230x85	40	6400	6400	4500	4400	3600	3600	3200	3100	2800	2800
	90	5500	5500	4500	4500	3700	3600	3200	3200	2800 ₅	2900 ₅
260x85	40	7000	7200	5100	5100	4100	4100	3600	3500	3200	3100
	90	6000	6000	5100	5100	4200	4200	3600 ₅	3500 ₅	3200 ₁₅	3100 ₁₀
295x85	40	7500	7800	5800	5700	4700	4600	4000	4000	3600 ₁₀	3500 ₁₀
	90	6500	6600	5600	5600	4800 ₅	4700	4100 ₁₅	4100 ₁₅	3700 ₂₅	3600 ₂₅
330x85	40	8100	8500	6400	6400	5200	5300	4500 ₁₀	4500 ₁₀	4100 ₂₀	4000 ₂₀
	90	7000	7100	6100	6100	5300 ₁₀	5300 ₁₀	4600 ₂₅	4600 ₂₅	4100 ₃₅	4100 ₄₀
360x85	40	8500	9000	7000	7000	5700 ₅	5700 ₅	5000 ₂₀	4900 ₂₀	4400 ₃₀	4400 ₃₀
	90	7400	7600	6500	6500	5800 ₂₀	5700 ₂₀	5000 ₃₅	5000 ₃₅	4500 ₅₀	4500 ₅₀

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

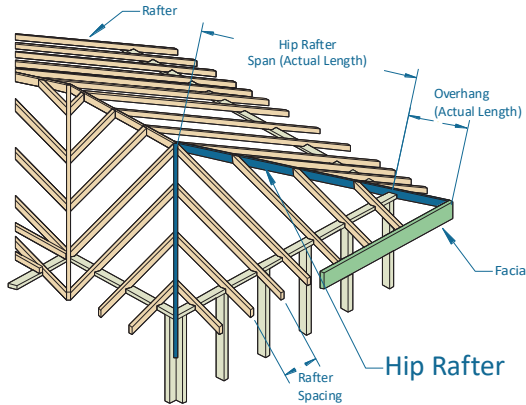
Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended verandah span (mm)									
		Continuous span									
395x85	40	9000	9600	7700	7700	6300 ₁₅	6300 ₁₅	5400 ₂₅	5400 ₂₅	4900 ₄₀	4800 ₄₀
	90	7800	8100	6800	6900	6300 ₃₀	6300 ₃₀	5500 ₄₅	5500 ₄₅	4900 ₆₅	4900 ₆₅
425x85	40	9400	10100	8300 ₅	8300 ₅	6800 ₂₀	6800 ₂₀	5900 ₃₅	5800 ₃₅	5200 ₅₀	5200 ₄₅
	90	8100	8600	7100 ₅	7300 ₅	6600 ₃₅	6600 ₃₅	5900 ₅₅	5900 ₅₅	5300 ₈₅	5300 ₈₅
195x115	40	6200	6200	4400	4400	3600	3500	3100	3100	2800	2800
	90	5200	5200	4400	4400	3600	3600	3200	3100	2800	2800
230x115	40	6900	7000	5200	5200	4200	4200	3700	3600	3300	3200
	90	5900	5900	5000	5000	4300	4300	3700	3600	3300	3300
260x115	40	7400	7600	5900	5900	4800	4800	4100	4100	3700	3600
	90	6400	6400	5500	5500	4800	4800	4200	4200	3800	3700
295x115	40	7900	8300	6700	6700	5500	5400	4700	4700	4200	4200
	90	6900	7000	6000	6000	5400	5500	4800 ₅	4700	4300 ₁₀	4300 ₁₀
330x115	40	8400	9000	7500	7500	6100	6100	5300	5300	4800 ₁₀	4700 ₅
	90	7400	7600	6500	6500	5900	5900	5300 ₁₀	5300 ₁₀	4800 ₂₀	4700 ₂₀
360x115	40	8900	9500	7900	8200	6700	6700	5800 ₅	5700 ₅	5200 ₁₅	5200 ₁₅
	90	7700	8100	6900	6900	6300	6300	5800 ₂₀	5800 ₂₀	5200 ₃₀	5200 ₃₀
395x115	40	9400	10200	8300	8900	7300	7300	6300 ₁₅	6300 ₁₀	5700 ₂₅	5600 ₂₅
	90	8200	8700	7200	7400	6700 ₅	6700 ₁₀	6300 ₃₀	6300 ₂₅	5700 ₄₀	5700 ₄₀
425x115	40	9900	10700	8700	9300	7900 ₁₀	7900 ₁₀	6800 ₂₀	6800 ₂₀	6100 ₃₀	6000 ₃₀
	90	8600	9100	7600	7800	7000 ₁₀	7100 ₁₅	6600 ₃₅	6700 ₃₅	6200 ₅₀	6100 ₅₀

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 35 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 70 mm at internal supports.
3. Restraint value for slenderness calculations is 1200 mm
4. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Hip rafter - sheet and tile roof

AS 4055 Classification N1, N2, N3, N4, C1, C2 & C3



EXAMPLE:

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

Enter column at (N1,N2 & N3) wind speed, 600 mm rafter spacing and read down to span equal to or greater than 4500 mm for a 40 kg/m² roof load

ADOPT:

SmartLam GL17S - 265 x 60

Wind speed		N1, N2, N3 & N4				C1, C2 & C3			
Rafter spacing (mm)		600		1200		600		1200	
Member size (GL17S) DxB (mm)	Roof & ceiling mass (kg/m²)	Maximum recommended rafter span + overhang span (mm)							
		Span	Overhang	Span	Overhang	Span	Overhang	Span	Overhang
200x50	40	4000	650	4000	550	3700	650	3700	550
	90	3500	550	3500	450	3500	550	3500	450
250x50	40	4600	850	4600	750	4200	800	4200	750
	90	4000	700	4000	600	4000	700	4000	600
200x60	40	4100	750	4100	650	3800	750	3800	650
	90	3600	650	3600	550	3600	650	3600	550
265x60	40	4900	900	4900	950	4500	900	4500	900
	90	4300	850	4300	750	4300	850	4300	750
300x60	40	5300	1050	5300	1050	4900	900	4900	900
	90	4600	900	4600	850	4600	900	4600	850
330x60	40	5600	1100	5600	1100	5200	1000	5200	1000
	90	4900	900	4900	900	4900	900	4900	900
130x65	40	3200	600	3200	600	3000	600	3000	600
	90	2900	500	2900	550	2900	500	2900	550
165x65	40	3700	700	3700	700	3500	700	3500	700
	90	3300	650	3300	650	3300	650	3300	650
195x65	40	4100	800	4100	800	3800	750	3800	750
	90	3700	700	3700	700	3700	700	3700	700
230x65	40	4600	900	4600	900	4200	800	4200	800
	90	4000	800	4000	800	4000	800	4000	800
260x65	40	4900	900	4900	900	4600	900	4600	900
	90	4400	800	4400	800	4400	800	4400	800
295x65	40	5300	1050	5300	1050	4900	900	4900	900
	90	4700	900	4700	900	4700	900	4700	900
330x65	40	5700	1100	5700	1100	5300	1050	5300	1050
	90	5000	1000	5000	1000	5000	1000	5000	1000
360x65	40	6000	1200	6000	1200	5600	1100	5600	1100
	90	5300	1050	5300	1050	5300	1050	5300	1050
395x65	40	6400	1200	6400	1200	5900	1100	5900	1100
	90	5600	1100	5600	1100	5600	1100	5600	1100
425x65	40	6600	1300	6600	1300	6100	1200	6100	1200
	90	5900	1100	5800	1150	5800	1150	5900	1100
200x80	40	4400	800	4400	850	4100	800	4100	800
	90	3800	750	3800	650	3800	750	3800	650
265x80	40	5200	1000	5200	1000	4800	950	4800	950
	90	4500	900	4500	900	4500	900	4500	900
300x80	40	5600	1100	5600	1100	5200	1000	5200	1000
	90	4900	900	4900	900	4900	900	4900	900
330x80	40	5900	1100	5900	1100	5500	1100	5500	1100
	90	5200	1000	5200	1000	5200	1000	5200	1000

Hip rafter - sheet and tile roof

AS 4055 Classification N1, N2, N3, N4, C1, C2 & C3

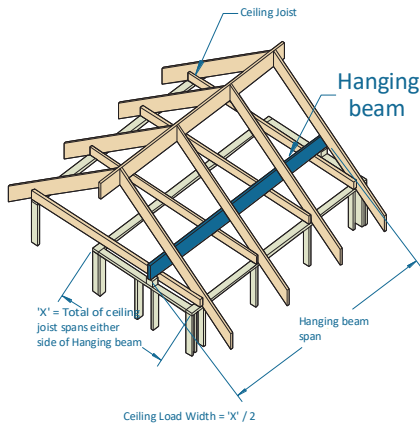
Wind speed		N1, N2, N3 & N4				C1, C2 & C3			
Rafter spacing (mm)		600		1200		600		1200	
Member size (GL17S) Dx B (mm)	Roof & ceiling mass (kg/m ²)	Maximum recommended rafter span + overhang span (mm)							
		Span	Overhang	Span	Overhang	Span	Overhang	Span	Overhang
130x85	40	3400	600	3400	600	3200	600	3200	600
	90	3000	600	3000	600	3000	600	3000	600
165x85	40	4000	800	4000	800	3700	700	3700	700
	90	3500	700	3500	700	3500	700	3500	700
195x85	40	4400	800	4400	800	4000	800	4000	800
	90	3900	700	3900	700	3900	700	3900	700
230x85	40	4800	950	4800	950	4500	900	4500	900
	90	4300	850	4300	850	4300	850	4300	850
260x85	40	5200	1000	5200	1000	4800	950	4800	950
	90	4600	900	4600	900	4600	900	4600	900
295x85	40	5600	1100	5600	1100	5200	1000	5200	1000
	90	4900	900	4900	900	4900	900	4900	900
330x85	40	6000	1200	6000	1200	5600	1100	5600	1100
	90	5300	1050	5300	1050	5300	1050	5300	1050
360x85	40	6300	1250	6300	1250	5900	1100	5900	1100
	90	5600	1100	5600	1100	5600	1100	5600	1100
395x85	40	6700	1300	6700	1300	6200	1200	6200	1200
	90	5900	1100	5900	1100	5900	1100	5900	1100
425x85	40	7000	1400	7000	1400	6500	1300	6500	1300
	90	6200	1200	6200	1200	6200	1200	6200	1200

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a batten spacing of 900 mm
3. Minimum Backspan = 200 % of overhang
4. Maximum Birdsmouth depth = 30 % of depth
5. End bearing length = 35 at end supports . 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 GL 17S in this table are stocked in each state. Please check with your supplier before ordering
8. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Hanging beam supporting ceiling loads only

AS 4055 Classification N1, N2, N3 & N4



ceiling mass - 20 kg/m²

EXAMPLE:

Wind speed = N3

X = 5000 mm

Ceiling load width = X/2 = 5000/2 = 2500 mm

Hanging beam span = 4200 mm

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

ADOPT:

SmartLam GL17S - 200 x 60

Ceiling load width (mm)	1800	2400	3000	3600	4200	4800
Member size (GL17S) Dx B (mm)	Maximum recommended Hanging beam span (mm)					
200x50	4700	4400	4100	3900	3700	3600
250x50	5500	5200	4900	4600	4400	4200
200x60	4900	4600	4300	4100	3900	3700
265x60	6000	5600	5300	5000	4800	4600
300x60	6500	6100	5800	5500	5300	5100
330x60	6900	6500	6200	5900	5600	5400
130x65	3700	3400	3100	2900	2700	2600
165x65	4400	4100	3800	3600	3400	3300
195x65	5000	4600	4300	4100	3900	3800
230x65	5600	5200	4900	4700	4400	4300
265x65	6200	5800	5400	5200	4900	4700
295x65	6700	6200	5900	5600	5300	5100
330x65	7200	6800	6400	6100	5800	5600
360x65	7700	7200	6800	6500	6200	5900
200x80	5200	4800	4600	4400	4200	4000
265x80	6300	5900	5600	5300	5100	4900
300x80	6800	6400	6100	5800	5600	5400
330x80	7300	6900	6500	6200	6000	5800
130x85	3900	3700	3400	3200	3000	2800
165x85	4700	4300	4100	3900	3700	3600
195x85	5300	4900	4600	4400	4200	4000
230x85	5900	5500	5200	5000	4700	4500
295x85	7100	6600	6200	5900	5700	5500
330x85	7600	7100	6800	6400	6200	5900
360x85	8100	7600	7200	6800	6600	6300

Hanging beam supporting ceiling loads only AS 4055 Classification C1, C2 & C3

Ceiling mass - 20 kg/m²

Ceiling load width (mm)	1800	2400	3000	3600	4200	4800
Member size (GL17S) Dx B (mm)	Maximum recommended Hanging beam span (mm)					
<i>200x50</i>	<i>4500</i>	<i>3900</i>	<i>3500</i>	<i>3200</i>	<i>3000</i>	<i>2800</i>
<i>250x50</i>	<i>5500</i>	<i>4900</i>	<i>4400</i>	<i>4000</i>	<i>3700</i>	<i>3500</i>
<i>200x60</i>	<i>4900</i>	<i>4300</i>	<i>3800</i>	<i>3500</i>	<i>3200</i>	<i>3000</i>
<i>265x60</i>	<i>6000</i>	<i>5600</i>	<i>5100</i>	<i>4600</i>	<i>4300</i>	<i>4000</i>
<i>300x60</i>	<i>6500</i>	<i>6100</i>	<i>5700</i>	<i>5200</i>	<i>4800</i>	<i>4500</i>
<i>330x60</i>	<i>6900</i>	<i>6500</i>	<i>6200</i>	<i>5800</i>	<i>5300</i>	<i>5000</i>
130x65	3700	3200	2800	2600	2400	2200
165x65	4400	4000	3600	3300	3000	2800
195x65	5000	4600	4300	3900	3600	3400
230x65	5600	5200	4900	4600	4200	3900
265x65	6200	5800	5400	5200	4900	4500
295x65	6700	6200	5900	5600	5300	5100
330x65	7200	6800	6400	6100	5800	5600
360x65	7700	7200	6800	6500	6200	5900
<i>200x80</i>	<i>5200</i>	<i>4800</i>	<i>4400</i>	<i>4000</i>	<i>3700</i>	<i>3500</i>
<i>265x80</i>	<i>6300</i>	<i>5900</i>	<i>5600</i>	<i>5300</i>	<i>4900</i>	<i>4600</i>
<i>300x80</i>	<i>6800</i>	<i>6400</i>	<i>6100</i>	<i>5800</i>	<i>5600</i>	<i>5200</i>
<i>330x80</i>	<i>7300</i>	<i>6900</i>	<i>6500</i>	<i>6200</i>	<i>6000</i>	<i>5700</i>
130x85	3900	3600	3300	3000	2700	2500
165x85	4700	4300	4100	3800	3500	3200
195x85	5300	4900	4600	4400	4100	3800
230x85	5900	5500	5200	5000	4700	4500
265x85	6500	6100	5800	5500	5300	5000
295x85	7100	6600	6200	5900	5700	5500
330x85	7600	7100	6800	6400	6200	5900
360x85	8100	7600	7200	6800	6600	6300

NOTES:

1. D = member depth, B = member breadth, NS = not suitable
2. The above table was based on a maximum ceiling mass of 20 kg/m²
3. Minimum bearing length = 70 mm at end supports
4. Restraint value for slenderness calculations is 1500 mm
5. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in Italics are for a Natural Durability class 3 Hardwood GL17S

Counter beam supporting hanging beam

AS 4055 Classification N1, N2, N3 & N4

Ceiling mass - 20 kg/m²

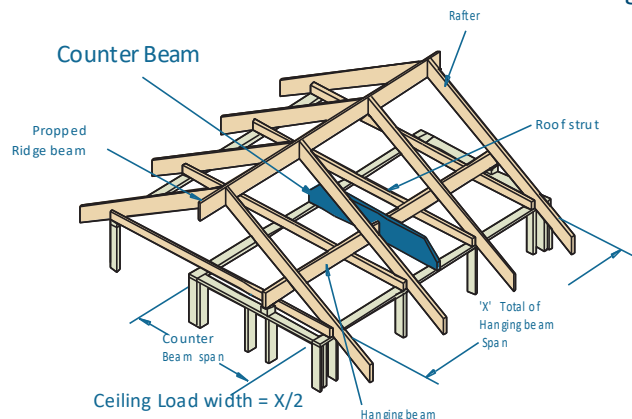
EXAMPLE:

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

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

ADOPT:

SmartLam GL17S - 200 x 60



Ceiling load width (mm)	600	1800	2400	3000	3600	4200	4800	5400	6600
Member size (GL17S) DxB (mm)	Maximum recommended Counter beam span (mm)								
200x50	6500	5400	5100	4900	4700	4500	4400	4200	4000
250x50	7400	6300	6000	5700	5500	5300	5200	5000	4800
200x60	6600	5600	5300	5100	4900	4700	4600	4400	4200
265x60	7900	6800	6400	6200	5900	5800	5600	5500	5200
300x60	8500	7400	7000	6700	6500	6300	6100	6000	5700
330x60	9000	7800	7500	7200	6900	6700	6500	6400	6100
130x65	5300	4200	3900	3600	3400	3300	3100	3000	2800
165x65	6200	5100	4800	4500	4300	4100	4000	3800	3600
195x65	6900	5700	5400	5100	4900	4800	4600	4500	4200
230x65	7700	6400	6100	5800	5600	5400	5200	5100	4800
260x65	8300	7000	6600	6300	6100	5900	5700	5600	5300
295x65	9000	7600	7200	6900	6600	6400	6200	6100	5800
330x65	9700	8200	7800	7500	7200	7000	6800	6600	6300
360x65	10200	8700	8300	7900	7600	7400	7200	7000	6700
395x65	10800	9300	8800	8500	8200	7900	7700	7500	7200
425x65	11200	9800	9300	8900	8600	8300	8100	7900	7600
200x80	6800	5900	5600	5400	5200	5000	4900	4700	4500
265x80	8100	7100	6800	6500	6300	6100	5900	5800	5600
300x80	8700	7700	7300	7100	6800	6700	6500	6300	6100
330x80	9200	8200	7800	7500	7300	7100	6900	6800	6500
165x85	6500	5400	5100	4800	4600	4500	4300	4200	3900
195x85	7200	6000	5700	5400	5200	5100	4900	4800	4600
230x85	8000	6800	6400	6100	5900	5700	5500	5400	5200
260x85	8600	7300	7000	6700	6400	6200	6000	5900	5600
295x85	9300	8000	7600	7300	7000	6800	6600	6500	6200
330x85	9900	8600	8200	7900	7600	7400	7200	7000	6700
360x85	10500	9100	8700	8300	8100	7800	7600	7400	7100
395x85	11000	9700	9200	8900	8600	8400	8100	8000	7600
425x85	11500	10200	9700	9300	9000	8800	8600	8400	8000

Counter beam supporting Hanging beam AS 4055 Classification C1, C2 and C3

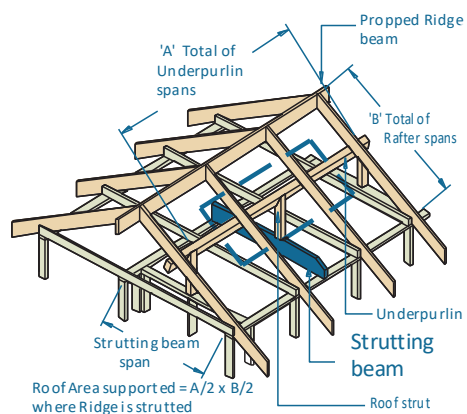
Ceiling mass - 20 kg/m²

Ceiling load width (mm)	600	1800	2400	3000	3600	4200	4800	5400	6600
Member size (GL17S) DxB (mm)	Maximum recommended Counter beam span (mm)								
<i>200x50</i>	<i>6500</i>	<i>4600</i>	<i>4000</i>	<i>3600</i>	<i>3300</i>	<i>3000</i>	<i>2800</i>	<i>2700</i>	<i>2400</i>
<i>250x50</i>	<i>7400</i>	<i>5700</i>	<i>5000</i>	<i>4400</i>	<i>4100</i>	<i>3800</i>	<i>3500</i>	<i>3300</i>	<i>3000</i>
<i>200x60</i>	<i>6600</i>	<i>5000</i>	<i>4400</i>	<i>3900</i>	<i>3600</i>	<i>3300</i>	<i>3100</i>	<i>2900</i>	<i>2600</i>
<i>265x60</i>	<i>7900</i>	<i>6600</i>	<i>5700</i>	<i>5200</i>	<i>4700</i>	<i>4400</i>	<i>4100</i>	<i>3900</i>	<i>3500</i>
<i>300x60</i>	<i>8500</i>	<i>7400</i>	<i>6500</i>	<i>5800</i>	<i>5300</i>	<i>4900</i>	<i>4600</i>	<i>4400</i>	<i>4000</i>
<i>330x60</i>	<i>9000</i>	<i>7800</i>	<i>7100</i>	<i>6400</i>	<i>5900</i>	<i>5400</i>	<i>5100</i>	<i>4800</i>	<i>4300</i>
130x65	5300	3700	3200	2900	2600	2400	2300	2100	1900
165x65	6200	4700	4100	3700	3300	3100	2900	2700	2500
195x65	6900	5600	4800	4300	4000	3700	3400	3200	2900
230x65	7700	6400	5700	5100	4700	4300	4000	3800	3400
260x65	8300	7000	6400	5800	5300	4900	4600	4300	3900
295x65	9000	7600	7200	6500	6000	5500	5200	4900	4400
330x65	9700	8200	7800	7300	6700	6200	5800	5500	4900
360x65	10200	8700	8300	7900	7300	6700	6300	5900	5400
395x65	10800	9300	8800	8500	8000	7400	6900	6500	5900
425x65	11200	9800	9300	8900	8600	7900	7400	7000	6400
<i>200x80</i>	<i>6800</i>	<i>5800</i>	<i>5000</i>	<i>4500</i>	<i>4100</i>	<i>3800</i>	<i>3600</i>	<i>3400</i>	<i>3000</i>
<i>265x80</i>	<i>8100</i>	<i>7100</i>	<i>6600</i>	<i>5900</i>	<i>5400</i>	<i>5000</i>	<i>4700</i>	<i>4400</i>	<i>4000</i>
<i>300x80</i>	<i>8700</i>	<i>7700</i>	<i>7300</i>	<i>6700</i>	<i>6100</i>	<i>5700</i>	<i>5300</i>	<i>5000</i>	<i>4600</i>
<i>330x80</i>	<i>9200</i>	<i>8200</i>	<i>7800</i>	<i>7400</i>	<i>6700</i>	<i>6200</i>	<i>5900</i>	<i>5500</i>	<i>5000</i>
165x85	6500	5400	4700	4200	3800	3500	3300	3100	2800
195x85	7200	6000	5500	4900	4500	4200	3900	3700	3300
230x85	8000	6800	6400	5800	5300	4900	4600	4400	3900
260x85	8600	7300	7000	6600	6000	5600	5200	4900	4400
295x85	9300	8000	7600	7300	6800	6300	5900	5600	5000
330x85	9900	8600	8200	7900	7600	7000	6600	6200	5600
360x85	10500	9100	8700	8300	8100	7700	7200	6800	6200
395x85	11000	9700	9200	8900	8600	8400	7900	7400	6700
425x85	11500	10200	9700	9300	9000	8800	8500	8000	7300

NOTES:

1. D = member depth, B = member breadth, NS = not suitable
2. The above table was based on a maximum ceiling mass of 20 kg/m²
3. Minimum bearing length = 70 mm at end supports
4. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

wind speed = N3
 sheet roof = 20 kg/m²
 total of underpurlin span 'A' = 5000 mm
 total of rafter span 'B' = 4200 mm
 roof area supported = $(A/2) \times (B/2)$
 = $(5000/2) \times (4200/2)$
 = 5250000 mm² (convert to m²)
 = 5250000/1000000 = 5.25 m²

strutting beam span = 4500 mm

Enter column at 6m² roof area supported and read down to a span greater than or equal to 4500 mm

ADOPT: SmartLam GL 17S - 200 x 60

Roof area supported (m ²)		2	4	6	8	10	12
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting beam span (mm)					
200x50	20	5800	5100	4200	3200	2500	2100
	60	4900	3900	3200	2700	2200	1800
250x50	20	7100	6200	5700	5000	4000	3300
	60	6000	5000	4400	3900	3400	2800
200x60	20	6200	5400	4800	3800	3000	2500
	60	5200	4200	3500	3000	2600	2200
265x60	20	7600	6800	6200	5800	5400	4500
	60	6600	5600	4900	4500	4100	3800
300x60	20	8300	7500	6900	6500	6100	5800
	60	7300	6200	5600	5100	4800	4500
330x60	20	8900	8100	7500	7000	6600	6300
	60	7800	6800	6100	5600	5200	4900
195x65	20	6200	5500	4900	4500	3700	3100
	60	5300	4200	3500	3100	2700	2500
230x65	20	7300	6400	5700	5300	5000	4300
	60	6100	5100	4500	3900	3500	3200
260x65	20	8100	7100	6400	5900	5600	5300
	60	6800	5700	5000	4600	4200	3900
295x65	20	8900	7900	7200	6700	6300	5900
	60	7600	6400	5700	5200	4900	4600
330x65	20	9600	8600	7900	7400	6900	6600
	60	8300	7100	6300	5800	5400	5100
360x65	20	10200	9200	8500	7900	7500	7100
	60	8900	7600	6800	6300	5900	5600
395x65	20	10800	9900	9200	8600	8100	7800
	60	9600	8300	7400	6900	6400	6100
200x50	20	5800	5100	4200	3200	2500	2100
	60	4900	3900	3200	2700	2200	1800
250x50	20	7100	6200	5700	5000	4000	3300
	60	6000	5000	4400	3900	3400	2800
200x60	20	6200	5400	4800	3800	3000	2500
	60	5200	4200	3500	3000	2600	2200
265x60	20	7600	6800	6200	5800	5400	4500
	60	6600	5600	4900	4500	4100	3800
300x60	20	8300	7500	6900	6500	6100	5800
	60	7300	6200	5600	5100	4800	4500
330x60	20	8900	8100	7500	7000	6600	6300
	60	7800	6800	6100	5600	5200	4900

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

Roof area supported (m ²)		2	4	6	8	10	12
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting beam span (mm)					
195x85	20	6800	5900	5300	4900	4600	4100
	60	5700	4700	4000	3500	3100	2900
230x85	20	7700	6800	6200	5700	5400	5100
	60	6500	5500	4900	4400	4000	3700
260x85	20	8400	7500	6900	6400	6000	5700
	60	7300	6100	5500	5000	4700	4400
295x85	20	9200	8300	7600	7100	6700	6400
	60	8000	6900	6100	5600	5300	5000
330x85	20	9900	9000	8400	7900	7400	7100
	60	8800	7600	6800	6300	5900	5600
360x85	20	10500	9600	9000	8500	8000	7700
	60	9400	8200	7400	6800	6400	6000
395x85	20	11100	10300	9700	9100	8700	8300
	60	10100	8800	8000	7400	7000	6600
425x85	20	11700	10800	10200	9700	9200	8900
	60	10600	9400	8500	7900	7400	7100

Strutting beam supporting underpurlins AS 4055 Classification C1, C2 & C3

Roof area supported (m ²)		2	4	6	8	10	12
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting beam span (mm)					
200x50	20	5600	2800	1800	1100	NS	NS
	60	4900	3000	2000	1400	NS	NS
250x50	20	7100	4400	2900	2200	1300	NS
	60	6000	4800	3200	2400	1800	1100
200x60	20	6200	3300	2200	1700	NS	NS
	60	5200	3600	2400	1800	1200	NS
265x60	20	7600	6000	3900	2900	2300	1700
	60	6600	5600	4300	3200	2500	2100
300x60	20	8300	7500	5000	3800	3000	2500
	60	7300	6200	5500	4100	3300	2700
330x60	20	8900	8100	6200	4600	3600	3000
	60	7800	6800	6100	5000	4000	3300
195x65	20	6200	4100	2700	2000	1600	1000
	60	5300	4200	3000	2200	1800	1400
230x65	20	7300	5700	3800	2800	2300	1900
	60	6100	5100	4100	3100	2500	2000
260x65	20	8100	7100	4800	3600	2900	2400
	60	6800	5700	5000	4000	3200	2600
295x65	20	8900	7900	6300	4700	3700	3100
	60	7600	6400	5700	5100	4100	3400
330x65	20	9600	8600	7800	5900	4700	3900
	60	8300	7100	6300	5800	5100	4200
360x65	20	10200	9200	8500	7000	5600	4600
	60	8900	7600	6800	6300	5900	5000
395x65	20	10800	9900	9200	8500	6700	5600
	60	9600	8300	7400	6900	6400	6100

Strutting beam supporting underpurlins AS 4055 Classification C1, C2 & C3

Roof area supported (m ²)		2	4	6	8	10	12
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting beam span (mm)					
<i>200x80</i>	20	6500	4500	3000	2200	1800	1300
	60	5500	4600	3200	2400	1900	1600
<i>265x80</i>	20	7900	7200	5300	3900	3100	2600
	60	7000	6000	5400	4300	3400	2800
<i>300x80</i>	20	8600	7900	6800	5100	4000	3300
	60	7700	6700	6000	5500	4400	3600
<i>330x80</i>	20	9100	8400	7900	6100	4900	4000
	60	8200	7200	6600	6100	5300	4400
	60	9500	8400	7700	7200	6800	6500
195x85	20	6800	5400	3600	2700	2100	1800
	60	5700	4700	3900	2900	2300	1900
230x85	20	7700	6800	5000	3700	3000	2500
	60	6500	5500	4900	4000	3200	2700
260x85	20	8400	7500	6400	4800	3800	3200
	60	7300	6100	5500	5000	4100	3400
295x85	20	9200	8300	7600	6100	4900	4100
	60	8000	6900	6100	5600	5300	4400
330x85	20	9900	9000	8400	7700	6100	5100
	60	8800	7600	6800	6300	5900	5500
360x85	20	10500	9600	9000	8500	7400	6100
	60	9400	8200	7400	6800	6400	6000
395x85	20	11100	10300	9700	9100	8700	7300
	60	10100	8800	8000	7400	7000	6600
425x85	20	11700	10800	10200	9700	9200	8500
	60	10600	9400	8500	7900	7400	7100

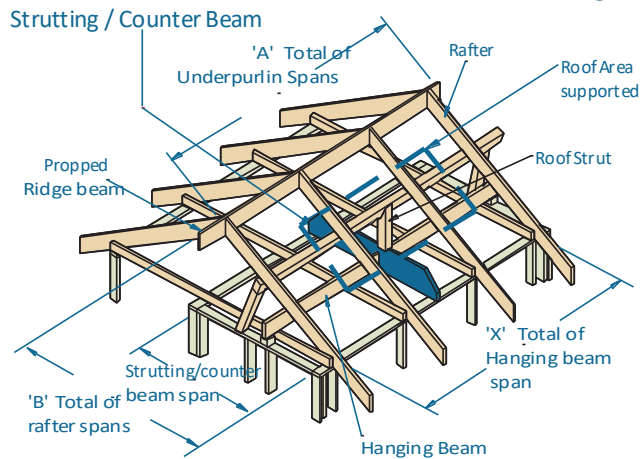
NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 70 mm at end supports.
3. Restraint value for slenderness calculations is 1500 mm
4. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Strutting/counter beam supporting underpurlins & hanging beam

AS 4055 Classification N1, N2, N3 & N4

Ceiling mass - 20 kg/m²



Roof Area supported = $A/2 \times B/2$ Counter/Strutting beam spacing = $X/2$

EXAMPLE:

wind speed = N3
 sheet roof = 40kg/m²
 total of underpurlin span 'A' = 5000 mm
 total of rafter span 'B' = 4200 mm
 roof area supported = $(A/2) \times (B/2)$
 = $(5000/2) \times (4200/2)$
 = 5250000 mm² (convert to m²)
 = 5250000/1000000 = 5.25 m²
 total of hanging beam span 'X' = 4500 mm
 effective beam spacing = $'X' / 2 = 4500 / 2 = 2250$ mm
 strutting/counter beam span = 4500 mm

Enter column at 3600 mm effective beam spacing, 6m² roof area supported and read down to a span greater than or equal to 4500 mm

ADOPT: SmartLam GL17S - 300 x 60

Effective beam spacing (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) DxH (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Counter beam span (mm)											
200x50	40	4200	3700	3000	2200	1800	1400	3800	3500	3000	2300	1800	1500
	90	3700	3000	2600	2000	1600	1300	3500	2900	2500	1900	1600	1300
250x50	40	5000	4500	4200	3500	2800	2300	4500	4200	4000	3500	2800	2300
	90	4500	3900	3500	3000	2500	2100	4200	3800	3400	3000	2400	2000
200x60	40	4400	3900	3600	2700	2100	1700	4000	3700	3400	2800	2200	1800
	90	3900	3300	2800	2300	1900	1600	3700	3100	2700	2300	1900	1600
265x60	40	5500	5000	4700	4400	3800	3100	5000	4600	4400	4200	3900	3200
	90	5000	4400	4000	3700	3300	2800	4600	4200	3800	3600	3200	2700
300x60	40	6000	5500	5200	4900	4600	4100	5400	5100	4900	4600	4400	4200
	90	5500	4900	4400	4100	3900	3500	5100	4600	4300	4000	3800	3400
330x60	40	6400	6000	5600	5300	5100	4800	5800	5500	5300	5000	4800	4700
	90	6000	5300	4800	4500	4200	4000	5500	5000	4600	4400	4100	3900
165x65	40	3900	3400	2900	2300	1800	1500	3500	3100	2800	2400	1900	1500
	90	3400	2600	2200	1900	1700	1400	3100	2500	2100	1900	1600	1400
195x65	40	4400	4000	3600	3300	2600	2200	4000	3700	3400	3100	2700	2200
	90	4000	3300	2800	2500	2200	1900	3700	3100	2700	2400	2200	1900
230x65	40	5100	4600	4200	4000	3700	3000	4600	4300	4000	3800	3600	3100
	90	4600	4000	3600	3200	2900	2600	4300	3800	3400	3100	2800	2600
260x65	40	5600	5100	4700	4400	4200	3900	5000	4700	4400	4200	4000	3900
	90	5100	4400	4000	3700	3400	3100	4700	4200	3900	3600	3300	3100
295x65	40	6200	5700	5300	5000	4700	4500	5500	5200	4900	4700	4500	4300
	90	5700	5000	4500	4200	3900	3700	5200	4700	4300	4000	3800	3600
330x65	40	6700	6200	5800	5500	5200	5000	6000	5700	5400	5200	5000	4800
	90	6200	5500	5000	4600	4400	4100	5700	5200	4800	4500	4200	4000
360x65	40	7200	6600	6300	5900	5600	5400	6400	6100	5800	5600	5400	5200
	90	6600	5900	5400	5000	4700	4500	6100	5600	5200	4900	4600	4400
395x65	40	7700	7200	6700	6400	6100	5900	6900	6500	6300	6000	5800	5600
	90	7200	6400	5900	5500	5200	4900	6500	6000	5600	5300	5000	4800
425x65	40	8100	7600	7200	6800	6500	6300	7200	6900	6600	6400	6200	6000
	90	7600	6800	6300	5900	5500	5300	6900	6400	6000	5600	5400	5100

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

Ceiling mass - 20 kg/m²

Effective beam spacing (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Counter beam span (mm)											
200x80	40	4700	4300	3900	3600	2900	2400	4300	4000	3700	3500	2900	2400
	90	4300	3700	3200	2800	2500	2100	4000	3500	3100	2700	2500	2100
265x80	40	5800	5400	5000	4700	4500	4200	5300	5000	4700	4500	4300	4200
	90	5400	4700	4300	4000	3700	3600	5000	4500	4100	3900	3700	3500
300x80	40	6400	5900	5600	5300	5000	4800	5800	5500	5200	5000	4800	4600
	90	5900	5300	4800	4500	4200	4000	5500	5000	4600	4300	4100	3900
330x80	40	6800	6400	6000	5700	5500	5300	6200	5900	5600	5400	5200	5000
	90	6400	5700	5300	4900	4600	4400	5900	5400	5000	4700	4500	4300
195x85	40	4800	4300	3900	3700	3400	2800	4300	4000	3700	3500	3300	2900
	90	4300	3700	3200	2800	2600	2300	4000	3500	3100	2700	2500	2300
230x85	40	5400	4900	4600	4300	4100	3900	4900	4600	4300	4100	3900	3700
	90	4900	4300	3900	3600	3200	3000	4600	4100	3700	3400	3200	2900
260x85	40	5900	5500	5100	4800	4500	4300	5400	5000	4800	4500	4300	4200
	90	5500	4800	4300	4000	3800	3600	5000	4500	4200	3900	3700	3500
295x85	40	6500	6000	5700	5400	5100	4900	5900	5600	5300	5100	4900	4700
	90	6100	5400	4900	4500	4300	4000	5600	5100	4700	4400	4100	4000
330x85	40	7100	6600	6200	5900	5600	5400	6400	6100	5800	5600	5400	5200
	90	6600	5900	5400	5000	4700	4500	6100	5600	5200	4900	4600	4400
360x85	40	7600	7100	6700	6400	6100	5800	6800	6500	6200	6000	5800	5600
	90	7100	6400	5800	5500	5100	4900	6500	6000	5600	5300	5000	4800
395x85	40	8100	7600	7200	6900	6600	6300	7300	7000	6700	6500	6200	6000
	90	7600	6900	6300	5900	5600	5300	7000	6400	6000	5700	5400	5200
425x85	40	8500	8000	7700	7300	7000	6800	7700	7400	7100	6900	6600	6400
	90	8000	7300	6800	6300	6000	5700	7400	6800	6400	6100	5800	5600

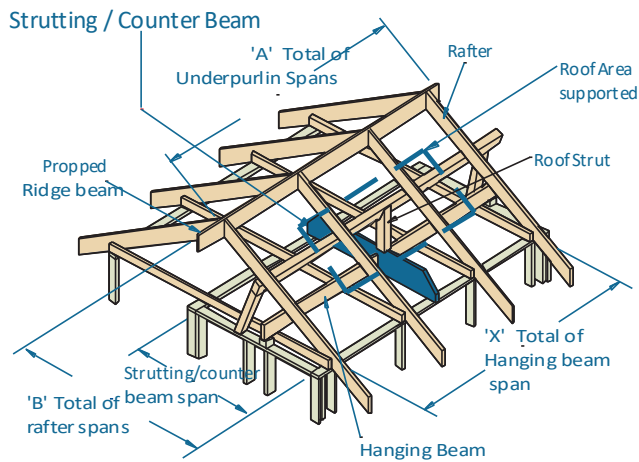
NOTES:

1. D = member depth, B = member breadth, NS = not suitable
2. Minimum bearing length = 70 mm at end supports
3. The above table was based on a maximum ceiling mass of 20 kg/m²
4. Restraint value for slenderness calculations is 1500 mm
5. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Strutting/counter beam supporting underpurlins & hanging beam

AS 4055 Classification C1, C2 & C3

Ceiling mass - 20 kg/m²



Roof Area supported = $A/2 \times B/2$ Counter/Strutting beam spacing = $X/2$

EXAMPLE:

wind speed = N3
 sheet roof = 40kg/m²
 total of underpurlin span 'A' = 5000 mm
 total of rafter span 'B' = 4200 mm
 roof area supported = $(A/2) \times (B/2)$
 = $(5000/2) \times (4200/2)$
 = 5250000 mm² (convert to m²)
 = 5250000/1000000 = 5.25 m²
 total of hanging beam span 'X' = 4500 mm
 effective beam spacing = $'X' / 2 = 4500 / 2 = 2250$ mm
 strutting/counter beam span = 4500 mm

Enter column at 3600 mm effective beam spacing, 6m² roof area supported and read down to a span greater than or equal to 4500 mm

ADOPT: SmartLam GL17S - 300 x 60

Effective beam spacing (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Counter beam span (mm)											
200x50	40	4200	3000	1900	1400	1100	NS	3800	3100	2000	1400	1100	NS
	90	3700	2900	2000	1500	1200	1000	3500	2800	2000	1500	1200	1000
250x50	40	5000	4500	3100	2300	1800	1500	4500	4200	3200	2300	1800	1500
	90	4500	3900	3100	2400	1900	1600	4200	3800	3000	2300	1900	1600
200x60	40	4400	3600	2400	1700	1400	1100	4000	3700	2400	1700	1400	1100
	90	3900	3300	2400	1800	1400	1200	3700	3100	2300	1800	1400	1200
265x60	40	5500	5000	4200	3100	2500	2000	5000	4600	4400	3200	2500	2100
	90	5000	4400	4000	3100	2500	2100	4600	4200	3800	3100	2500	2100
300x60	40	6000	5500	5200	4000	3200	2600	5400	5100	4900	4100	3200	2700
	90	5500	4900	4400	4000	3200	2700	5100	4600	4300	3900	3200	2700
330x60	40	6400	6000	5600	4900	3900	3200	5800	5500	5300	5000	3900	3200
	90	6000	5300	4800	4500	3900	3300	5500	5000	4600	4400	3800	3200
165x65	40	3900	3200	2000	1500	1200	1000	3500	3100	2100	1500	1200	1000
	90	3400	2600	2100	1600	1300	1000	3100	2500	2100	1600	1300	1000
195x65	40	4400	4000	2900	2100	1700	1400	4000	3700	3000	2200	1700	1400
	90	4000	3300	2800	2200	1800	1500	3700	3100	2700	2200	1800	1500
230x65	40	5100	4600	4100	3000	2400	2000	4600	4300	4000	3100	2400	2000
	90	4600	4000	3600	3100	2500	2100	4300	3800	3400	3000	2400	2000
260x65	40	5600	5100	4700	3900	3100	2500	5000	4700	4400	4000	3100	2600
	90	5100	4400	4000	3700	3100	2600	4700	4200	3900	3600	3100	2600
295x65	40	6200	5700	5300	5000	4000	3300	5500	5200	4900	4700	4000	3300
	90	5700	5000	4500	4200	3900	3400	5200	4700	4300	4000	3800	3300
330x65	40	6700	6200	5800	5500	5000	4100	6000	5700	5400	5200	5000	4200
	90	6200	5500	5000	4600	4400	4100	5700	5200	4800	4500	4200	4000
360x65	40	7200	6600	6300	5900	5600	4900	6400	6100	5800	5600	5400	5000
	90	6600	5900	5400	5000	4700	4500	6100	5600	5200	4900	4600	4400
395x65	40	7700	7200	6700	6400	6100	5900	6900	6500	6300	6000	5800	5600
	90	7200	6400	5900	5500	5200	4900	6500	6000	5600	5300	5000	4800
425x65	40	8100	7600	7200	6800	6500	6300	7200	6900	6600	6400	6200	6000
	90	7600	6800	6300	5900	5500	5300	6900	6400	6000	5600	5400	5100

Strutting/counter beam supporting underpurlins & hanging beam

AS 4055 Classification C1, C2 & C3

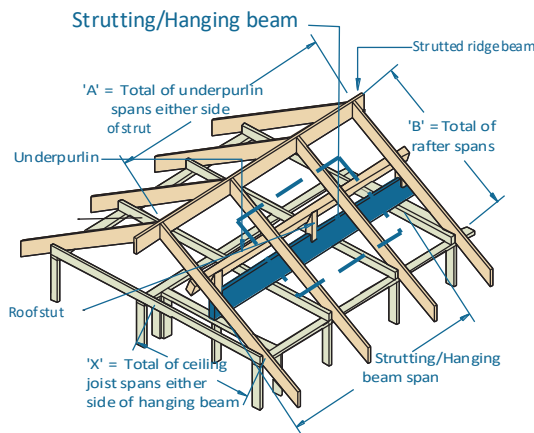
Ceiling mass - 20 kg/m²

Effective beam spacing (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Counter beam span (mm)											
200x80	40	4700	4300	3200	2300	1900	1500	4300	4000	3300	2400	1900	1500
	90	4300	3700	3100	2400	1900	1600	4000	3500	3100	2400	1900	1600
265x80	40	5800	5400	5000	4200	3300	2700	5300	5000	4700	4300	3400	2800
	90	5400	4700	4300	4000	3400	2800	5000	4500	4100	3900	3300	2800
300x80	40	6400	5900	5600	5300	4300	3500	5800	5500	5200	5000	4400	3600
	90	5900	5300	4800	4500	4200	3600	5500	5000	4600	4300	4100	3500
330x80	40	6800	6400	6000	5700	5200	4300	6200	5900	5600	5400	5200	4400
	90	6400	5700	5300	4900	4600	4300	5900	5400	5000	4700	4500	4200
195x85	40	4800	4300	3800	2800	2200	1800	4300	4000	3700	2900	2300	1900
	90	4300	3700	3200	2800	2300	1900	4000	3500	3100	2700	2300	1900
230x85	40	5400	4900	4600	4000	3100	2600	4900	4600	4300	4100	3200	2600
	90	4900	4300	3900	3600	3200	2700	4600	4100	3700	3400	3200	2700
260x85	40	5900	5500	5100	4800	4000	3300	5400	5000	4800	4500	4100	3400
	90	5500	4800	4300	4000	3800	3400	5000	4500	4200	3900	3700	3400
295x85	40	6500	6000	5700	5400	5100	4300	5900	5600	5300	5100	4900	4400
	90	6000	5400	4900	4500	4300	4000	5600	5100	4700	4400	4100	4000
330x85	40	7100	6600	6200	5900	5600	5400	6400	6100	5800	5600	5400	5200
	90	6600	5900	5400	5000	4700	4500	6100	5600	5200	4900	4600	4400
360x85	40	7600	7100	6700	6400	6100	5800	6800	6500	6200	6000	5800	5600
	90	7100	6400	5800	5500	5100	4900	6500	6000	5600	5300	5000	4800
395x85	40	8100	7600	7200	6900	6600	6300	7300	7000	6700	6500	6200	6000
	90	7600	6900	6300	5900	5600	5300	7000	6400	6000	5700	5400	5200
425x85	40	8500	8000	7700	7300	7000	6800	7700	7400	7100	6900	6600	6400
	90	8000	7300	6800	6300	6000	5700	7400	6800	6400	6100	5800	5600

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 70 mm at end supports
3. The above table was based on a maximum ceiling mass of 20 kg/m²
4. Restraint value for slenderness calculations is 1500 mm
5. Not all sizes of SmartLam GL 1S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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



Ceiling mass - 20 kg/m²

EXAMPLE:

wind speed = N3

sheet roof = 40 kg/m²

A = 5000 mm, B = 4200 mm

roof area supported = (A/2) x (B/2)

= (5000/2) x (4200/2)

= 5250000 mm² (convert to m²)

= 5250000/1000000 = 5.25 m²

strutting/hanging beam span = 4200 mm

ceiling joist span ('X') = 4400 mm

ceiling load width = ('X' / 2) = 4400/2 = 2200 mm

Enter column at 3600 mm ceiling load width, 6 m² roof area supported and read down to a span greater than or equal to 4200 mm

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

ADOPT: SmartLam GL17S - 265 x 60

Ceiling load width (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Hanging beam span (mm)											
200x50	20	4300	4000	3800	3500	2900	2400	3700	3500	3300	3100	2700	2400
	60	3900	3400	2900	2600	2300	1900	3500	3000	2700	2500	2200	1900
250x50	20	5100	4800	4500	4300	4100	3700	4400	4200	4100	3900	3800	3500
	60	4700	4200	3800	3600	3300	2900	4200	3800	3600	3300	3100	2900
200x60	20	4500	4200	3900	3700	3400	2900	3900	3700	3600	3400	3200	2800
	60	4100	3600	3200	2900	2600	2300	3700	3300	2900	2700	2500	2200
265x60	20	5600	5300	5000	4800	4600	4400	4800	4600	4500	4300	4200	4100
	60	5200	4600	4300	4000	3800	3600	4600	4300	4000	3800	3600	3400
300x60	20	6100	5800	5500	5300	5100	4900	5300	5100	5000	4800	4700	4600
	60	5700	5200	4800	4500	4200	4000	5100	4700	4400	4200	4000	3900
330x60	20	6600	6300	6000	5800	5600	5400	5700	5500	5300	5200	5100	4900
	60	6200	5600	5200	4900	4600	4400	5400	5100	4800	4600	4400	4200
195x65	20	4600	4200	4000	3800	3600	3400	3900	3700	3600	3400	3200	3100
	60	4100	3600	3200	2900	2600	2400	3700	3300	2900	2700	2500	2300
230x65	20	5200	4900	4600	4400	4200	4000	4400	4300	4100	4000	3800	3700
	60	4800	4200	3900	3600	3300	3100	4200	3900	3600	3400	3100	2900
260x65	20	5700	5400	5100	4900	4700	4500	4900	4700	4500	4400	4300	4100
	60	5300	4700	4300	4000	3800	3600	4600	4300	4000	3800	3600	3400
295x65	20	6300	5900	5700	5400	5200	5000	5400	5200	5000	4900	4700	4600
	60	5800	5300	4900	4500	4300	4100	5100	4800	4500	4300	4100	3900
330x65	20	6800	6500	6200	6000	5700	5600	5900	5700	5500	5400	5200	5100
	60	6400	5800	5400	5000	4800	4500	5600	5300	5000	4700	4500	4300
360x65	20	7300	7000	6700	6400	6200	6000	6300	6100	5900	5800	5600	5500
	60	6900	6300	5800	5500	5200	4900	6000	5700	5400	5100	4900	4700
395x65	20	7800	7500	7200	6900	6700	6500	6700	6500	6400	6200	6100	5900
	60	7400	6800	6300	5900	5600	5400	6500	6100	5800	5500	5300	5100
425x65	20	8200	7900	7600	7400	7100	6900	7100	6900	6700	6600	6400	6300
	60	7800	7200	6700	6300	6000	5800	6800	6500	6200	5900	5700	5500

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

Ceiling mass - 20 kg/m²

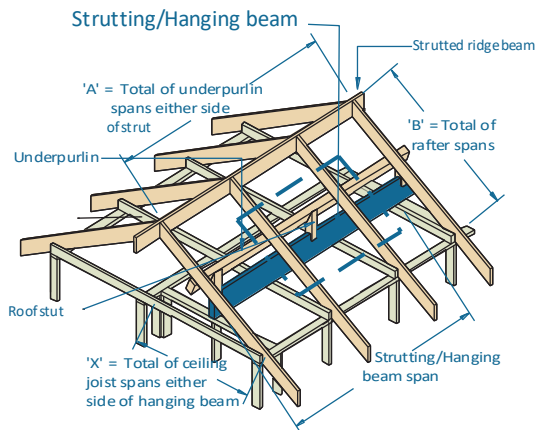
Ceiling load width (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) Dx B (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Hanging beam span (mm)											
200x80	20	4800	4500	4300	4100	3900	3700	4200	4000	3800	3700	3600	3400
	60	4400	3900	3600	3200	3000	2700	3900	3600	3300	3000	2800	2600
265x80	20	5900	5600	5400	5200	5000	4800	5100	5000	4800	4700	4500	4400
	60	5500	5000	4600	4300	4100	3900	4900	4600	4300	4100	3900	3800
300x80	20	6500	6200	5900	5700	5500	5300	5600	5500	5300	5200	5000	4900
	60	6100	5600	5200	4900	4600	4400	5400	5100	4800	4600	4400	4200
330x80	20	7000	6700	6400	6200	6000	5800	6100	5900	5700	5600	5500	5300
	60	6600	6000	5600	5300	5000	4800	5800	5500	5200	5000	4800	4600
195x85	20	4900	4500	4300	4100	3900	3700	4200	4000	3800	3700	3600	3400
	60	4500	3900	3600	3200	3000	2700	3900	3600	3300	3000	2800	2600
230x85	20	5500	5200	4900	4700	4500	4300	4700	4600	4400	4300	4100	4000
	60	5100	4600	4200	3900	3700	3500	4500	4200	3900	3700	3500	3300
260x85	20	6100	5700	5500	5200	5000	4800	5200	5000	4900	4700	4600	4500
	60	5600	5100	4700	4400	4100	3900	5000	4600	4400	4100	3900	3800
295x85	20	6700	6300	6100	5800	5600	5400	5700	5600	5400	5200	5100	5000
	60	6200	5700	5200	4900	4700	4400	5500	5100	4900	4600	4400	4200
330x85	20	7200	6900	6600	6400	6200	6000	6200	6100	5900	5700	5600	5500
	60	6800	6200	5800	5400	5200	4900	6000	5600	5300	5100	4900	4700
360x85	20	7700	7400	7100	6900	6600	6400	6700	6500	6300	6200	6000	5900
	60	7300	6700	6300	5900	5600	5400	6400	6100	5800	5500	5300	5100
395x85	20	8200	7900	7600	7400	7200	7000	7100	7000	6800	6600	6500	6400
	60	7800	7200	6800	6400	6100	5800	6900	6500	6200	6000	5700	5500
425x85	20	8700	8400	8100	7800	7600	7400	7500	7300	7200	7000	6900	6700
	60	8300	7700	7200	6800	6500	6200	7300	6900	6600	6300	6100	5900

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum ceiling mass of 20 kg/m²
3. Minimum bearing length = 70 mm at end supports
4. Restraint value for slenderness calculations is 1500 mm
5. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

Strutting/Hanging beam AS 4055 classification C1, C2 & C3

Ceiling mass - 20 kg/m²



Roof Area Supported = $A/2 \times B/2$ Ceiling Load width = $X/2$

EXAMPLE:

wind speed = N3
sheet roof = 40 kg/m²
A = 5000 mm, B = 4200 mm
roof area supported = $(A/2) \times (B/2)$
= $(5000/2) \times (4200/2)$
= 5250000 mm² (convert to m²)
= 5250000/1000000 = 5.25 m²
strutting/hanging beam span = 4200 mm
ceiling joist span ('X') = 4400 mm
ceiling load width = $[X / 2] = 4400/2 = 2200$ mm

Enter column at 3600 mm ceiling load width, 6 m² roof area supported and read down to a span greater than or equal to 4200 mm

ADOPT: SmartLam GL17S - 250 x 60

Ceiling load width (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Hanging beam span (mm)											
200x50	20	3600	3600	2500	1900	1200	NS	2500	2500	2400	1800	1200	NS
	60	3600	3200	2200	1700	NS	NS	2500	2600	2100	1600	NS	NS
250x50	20	4400	4500	3800	2900	2400	1800	3100	3200	3200	2800	2300	1700
	60	4500	4200	3400	2600	2100	1200	3200	3200	3200	2500	2000	1200
200x60	20	3900	4000	3000	2300	1800	1300	2700	2800	2800	2200	1800	1200
	60	4000	3600	2600	2000	1500	NS	2800	2900	2500	1900	1400	NS
265x60	20	5100	5200	5000	3900	3200	2700	3600	3700	3700	3700	3100	2600
	60	5200	4600	4300	3400	2800	2300	3700	3800	3800	3300	2700	2300
300x60	20	5800	5800	5500	4900	4000	3400	4100	4100	4200	4200	3900	3300
	60	5700	5200	4800	4400	3500	3000	4100	4200	4300	4200	3400	2900
330x60	20	6400	6300	6000	5800	4800	4100	4500	4500	4600	4600	4600	4000
	60	6200	5600	5200	4900	4300	3600	4600	4600	4700	4600	4100	3500
195x65	20	4300	4200	3400	2800	2200	1900	3000	3100	3100	2700	2200	1800
	60	4100	3600	3200	2400	1900	1600	3100	3100	2900	2400	1900	1600
230x65	20	5100	4900	4400	3800	3100	2600	3600	3600	3600	3600	3000	2600
	60	4800	4200	3900	3300	2700	2300	3600	3700	3600	3200	2600	2200
260x65	20	5700	5400	5100	4500	3900	3300	4000	4100	4100	4100	3800	3200
	60	5300	4700	4300	4000	3400	2900	4100	4200	4000	3800	3300	2800
295x65	20	6300	5900	5700	5400	4900	4200	4600	4600	4600	4700	4700	4100
	60	5800	5300	4900	4500	4300	3700	4600	4700	4500	4300	4100	3600
330x65	20	6800	6500	6200	6000	5700	5200	5100	5100	5200	5200	5200	5000
	60	6400	5800	5400	5000	4800	4500	5100	5200	5000	4700	4500	4300
360x65	20	7300	7000	6700	6400	6200	6000	5600	5600	5600	5700	5600	5500
	60	6900	6300	5800	5500	5200	4900	5600	5700	5400	5100	4900	4700
395x65	20	7800	7500	7200	6900	6700	6500	6100	6100	6200	6200	6100	5900
	60	7400	6800	6300	5900	5600	5400	6200	6100	5800	5500	5300	5100
425x65	20	8200	7900	7600	7400	7100	6900	6600	6600	6600	6600	6400	6300
	60	7800	7200	6700	6300	6000	5800	6600	6500	6200	5900	5700	5500

Strutting/Hanging beam AS 4055 classification C1, C2 & C3

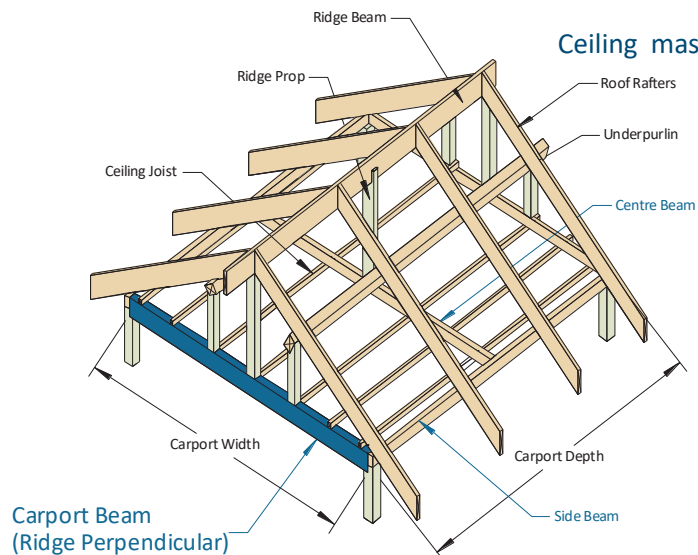
Ceiling mass - 20 kg/m²

Ceiling load width (mm)		1800						3600					
Roof area supported (m ²)		2	4	6	8	10	12	2	4	6	8	10	12
Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Maximum recommended Strutting/Hanging beam span (mm)											
200x80	20	4500	4500	3900	3000	2400	2000	3200	3200	3200	2900	2400	2000
	60	4400	3900	3400	2600	2100	1800	3200	3300	3300	2600	2100	1700
265x80	20	5900	5600	5400	5100	4200	3500	4200	4200	4300	4300	4000	3400
	60	5500	5000	4600	4300	3700	3100	4200	4300	4300	4100	3600	3000
300x80	20	6500	6200	5900	5700	5300	4500	4700	4800	4800	4800	4900	4300
	60	6100	5600	5200	4900	4600	3900	4800	4900	4800	4600	4400	3800
330x80	20	6900	6700	6400	6200	6000	5400	5200	5200	5300	5300	5400	5100
	60	6600	6000	5600	5300	5000	4700	5300	5300	5200	5000	4800	4600
195x85	20	4900	4500	3900	3400	2900	2400	3500	3500	3500	3400	2800	2400
	60	4500	3900	3600	3100	2500	2100	3500	3600	3300	3000	2500	2100
230x85	20	5500	5200	4900	4300	3800	3400	4100	4100	4100	4200	3800	3300
	60	5100	4600	4200	3900	3500	2900	4100	4200	3900	3700	3400	2900
260x85	20	6100	5700	5500	5200	4600	4200	4600	4600	4700	4700	4600	4100
	60	5600	5100	4700	4400	4100	3700	4600	4600	4400	4100	3900	3700
295x85	20	6700	6300	6100	5800	5600	5100	5200	5300	5300	5200	5100	5000
	60	6200	5700	5200	4900	4700	4400	5300	5100	4900	4600	4400	4200
330x85	20	7200	6900	6600	6400	6200	6000	5800	5900	5900	5700	5600	5500
	60	6800	6200	5800	5400	5200	4900	5900	5600	5300	5100	4900	4700
360x85	20	7700	7400	7100	6900	6600	6400	6400	6400	6300	6200	6000	5900
	60	7300	6700	6300	5900	5600	5400	6400	6100	5800	5500	5300	5100
395x85	20	8200	7900	7600	7400	7200	7000	7000	6900	6800	6600	6500	6400
	60	7800	7200	6800	6400	6100	5800	6900	6500	6200	6000	5700	5500
425x85	20	8700	8400	8100	7800	7600	7400	7500	7300	7200	7000	6900	6700
	60	8300	7700	7200	6800	6500	6200	7300	6900	6600	6300	6100	5900

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum ceiling mass of 20 kg/m²
3. Minimum bearing length = 70 mm at end supports
4. Restraint value for slenderness calculations is 1500 mm
5. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
6. Sizes in *italics* are for a Natural Durability class 3 Hardwood GL17S

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



EXAMPLE:

wind speed = N3
sheet roof - 20 kg/m²
Carport side depth 5300 mm
Carport beam span 4800 mm

Enter span table at carport depth of 5400 mm, and read down to a span equal to or greater than 4800 mm for a 20 kg/m² roof

ADOPT:

SmartLam GL17S - 250 x 50

Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
200x50	20	4400	4300	4300	4300	4200
	70	3700	3600	3600	3600	3500
250x50	20	5100	5100	5000	5000	5000
	70	4300	4300	4200	4200	4200
200x60	20	4500	4500	4500	4400	4400
	70	3800	3800	3700	3700	3700
265x60	20	5500	5500	5400	5400	5400
	70	4700	4600	4600	4600	4500
300x60	20	6000	6000	5900	5900	5900
	70	5100	5100	5000	5000	5000
330x60	20	6400	6400	6300	6300	6300
	70	5500	5400	5400	5400	5300
195x65	20	4600	4600	4500	4500	4500
	70	3800	3800	3800	3700	3700
230x65	20	5200	5100	5100	5100	5000
	70	4300	4300	4300	4200	4200
260x65	20	5700	5600	5600	5500	5500
	70	4800	4700	4700	4600	4600
295x65	20	6200	6100	6100	6000	6000
	70	5200	5200	5100	5100	5000
330x65	20	6700	6600	6600	6500	6500
	70	5700	5600	5600	5500	5500
360x65	20	7100	7100	7000	7000	6900
	70	6000	6000	5900	5900	5800
395x65	20	7600	7500	7500	7400	7400
	70	6500	6400	6300	6300	6200
200x80	20	4800	4800	4700	4700	4700
	70	4100	4000	4000	4000	3900
265x80	20	5800	5800	5800	5700	5700
	70	5000	4900	4900	4900	4800
300x80	20	6400	6300	6300	6200	6200
	70	5500	5400	5400	5300	5300
330x80	20	6800	6700	6700	6600	6600
	70	5800	5800	5700	5700	5700

Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
195x85	20	4900	4800	4800	4800	4700
	70	4100	4100	4000	4000	4000
230x85	20	5500	5400	5400	5400	5300
	70	4600	4600	4500	4500	4500
260x85	20	6000	5900	5900	5800	5800
	70	5100	5000	5000	4900	4900
295x85	20	6500	6500	6400	6400	6300
	70	5500	5500	5400	5400	5400
330x85	20	7100	7000	7000	6900	6900
	70	6000	6000	5900	5900	5800
360x85	20	7500	7400	7400	7300	7300
	70	6400	6300	6300	6200	6200
395x85	20	8000	7900	7900	7800	7800
	70	6800	6800	6700	6700	6600
195x115	20	5200	5200	5100	5100	5000
	70	4400	4300	4300	4300	4200
230x115	20	5800	5800	5700	5700	5700
	70	4900	4900	4900	4800	4800
260x115	20	6300	6300	6300	6200	6200
	70	5400	5400	5300	5300	5200
295x115	20	6900	6900	6800	6800	6700
	70	5900	5900	5800	5800	5700
330x115	20	7500	7400	7400	7300	7300
	70	6400	6400	6300	6300	6200
360x115	20	7900	7900	7800	7800	7700
	70	6800	6800	6700	6700	6600
395x115	20	8400	8400	8300	8300	8200
	70	7300	7200	7200	7100	7100

Carport beam—Ridge perpendicular AS 4055 classification C1, C2 and C3

Ceiling mass - 20 kg/m²

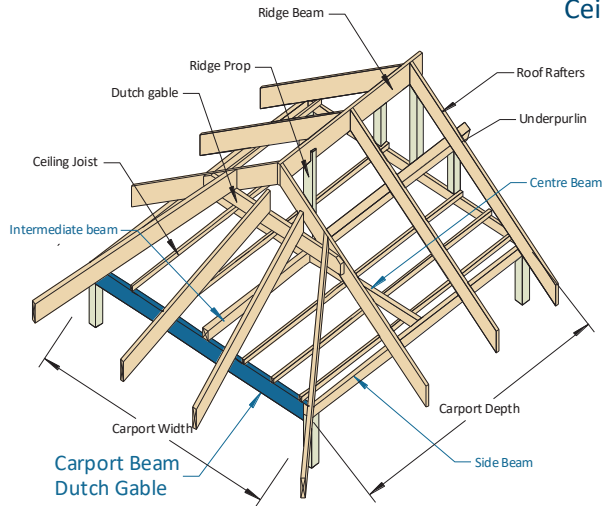
Member size (GL 17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)					Member size (GL 17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)				
		5200	5400	5600	5800	6000			5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)							Maximum recommended carport beam span (mm)				
200x50	20	4200	4100	4000	4000	3900	195x85	20	4900	4800	4800	4800	4700
	70	3700	3600	3600	3600	3500		70	4100	4100	4000	4000	4000
250x50	20	5100	5100	5000	5000	4900	230x85	20	5500	5400	5400	5400	5300
	70	4300	4300	4200	4200	4200		70	4600	4600	4500	4500	4500
200x60	20	4500	4500	4400	4300	4300	260x85	20	6000	5900	5900	5800	5800
	70	3800	3800	3700	3700	3700		70	5100	5000	5000	4900	4900
265x60	20	5500	5500	5400	5400	5400	295x85	20	6500	6500	6400	6400	6300
	70	4700	4600	4600	4600	4500		70	5500	5500	5400	5400	5400
300x60	20	6000	6000	5900	5900	5900	330x85	20	7100	7000	7000	6900	6900
	70	5100	5100	5000	5000	5000		70	6000	6000	5900	5900	5800
330x60	20	6400	6400	6300	6300	6300	360x85	20	7500	7400	7400	7300	7300
	70	5500	5400	5400	5400	5300		70	6400	6300	6300	6200	6200
195x65	20	4600	4600	4500	4500	4500	395x85	20	8000	7900	7900	7800	7800
	70	3800	3800	3800	3700	3700		70	6800	6800	6700	6700	6600
230x65	20	5200	5100	5100	5100	5000	195x115	20	5200	5200	5100	5100	5000
	70	4300	4300	4300	4200	4200		70	4400	4300	4300	4300	4200
260x65	20	5700	5600	5600	5500	5500	230x115	20	5800	5800	5700	5700	5700
	70	4800	4700	4700	4600	4600		70	4900	4900	4900	4800	4800
295x65	20	6200	6100	6100	6000	6000	260x115	20	6300	6300	6300	6200	6200
	70	5200	5200	5100	5100	5000		70	5400	5400	5300	5300	5200
330x65	20	6700	6600	6600	6500	6500	295x115	20	6900	6900	6800	6800	6700
	70	5700	5600	5600	5500	5500		70	5900	5900	5800	5800	5700
360x65	20	7100	7100	7000	7000	6900	330x115	20	7500	7400	7400	7300	7300
	70	6000	6000	5900	5900	5800		70	6400	6400	6300	6300	6200
395x65	20	7600	7500	7500	7400	7400	360x115	20	7900	7900	7800	7800	7700
	70	6500	6400	6300	6300	6200		70	6800	6800	6700	6700	6600
200x80	20	4800	4800	4700	4700	4700	395x115	20	8400	8400	8300	8300	8200
	70	4100	4000	4000	4000	3900		70	7300	7200	7200	7100	7100
265x80	20	5800	5800	5800	5700	5700							
	70	5000	4900	4900	4900	4800							
300x80	20	6400	6300	6300	6200	6200							
	70	5500	5400	5400	5300	5300							
330x80	20	6800	6700	6700	6600	6600							
	70	5800	5800	5700	5700	5700							

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum ceiling mass of 20 kg/m²
3. Minimum bearing length = 70 mm at end supports
4. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S

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

Ceiling mass - 20 kg/m²



EXAMPLE:

wind speed = N3
sheet roof - 20 kg/m²
Carport side depth 5300 mm
Carport beam span 4800 mm

Enter span table at carport depth of 5400 mm, and read down to a span equal to or greater than 4800 mm for a 20 kg/m² roof

ADOPT:

SmartLam GL17S - 250 x 50

Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)					Member size (GL17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)										
		5200	5400	5600	5800	6000			5200	5400	5600	5800	6000						
		Maximum recommended carport beam span (mm)							Maximum recommended carport beam span (mm)										
200x50	20	4600	4500	4500	4500	4400	195x85	20	5100	5100	5000	5000	5000						
	70	4000	3900	3900	3900	3900		70	4500	4400	4400	4400	4300						
250x50	20	5300	5300	5300	5200	5200	230x85	20	5700	5700	5600	5600	5600						
	70	4700	4600	4600	4600	4500		70	5000	5000	4900	4900	4900						
200x60	20	4700	4700	4700	4600	4600	260x85	20	6200	6200	6200	6100	6100						
	70	4100	4100	4100	4000	4000		70	5500	5400	5400	5400	5300						
265x60	20	5800	5700	5700	5600	5600	295x85	20	6800	6800	6700	6700	6600						
	70	5100	5000	5000	5000	4900		70	6000	6000	5900	5900	5800						
300x60	20	6300	6200	6200	6100	6100	330x85	20	7300	7300	7300	7200	7200						
	70	5600	5500	5500	5400	5400		70	6500	6500	6400	6400	6300						
330x60	20	6700	6600	6600	6600	6500	360x85	20	7800	7700	7700	7600	7600						
	70	5900	5900	5900	5800	5800		70	6900	6900	6800	6800	6700						
195x65	20	4800	4800	4700	4700	4700	395x85	20	8300	8200	8200	8100	8100						
	70	4200	4200	4100	4100	4100		70	7400	7300	7300	7200	7200						
230x65	20	5400	5400	5300	5300	5300	195x115	20	5400	5400	5300	5300	5300						
	70	4700	4700	4700	4600	4600		70	4800	4700	4700	4700	4600						
260x65	20	5900	5900	5800	5800	5700	230x115	20	6100	6000	6000	5900	5900						
	70	5200	5100	5100	5100	5000		70	5400	5300	5300	5200	5200						
295x65	20	6500	6400	6400	6300	6300	260x115	20	6600	6600	6500	6500	6400						
	70	5700	5600	5600	5500	5500		70	5900	5800	5800	5700	5700						
330x65	20	7000	6900	6900	6800	6800	295x115	20	7200	7100	7100	7000	7000						
	70	6200	6100	6100	6000	6000		70	6400	6300	6300	6300	6200						
360x65	20	7400	7400	7300	7300	7200	330x115	20	7700	7700	7600	7600	7600						
	70	6600	6500	6400	6400	6300		70	6900	6900	6800	6800	6700						
395x65	20	7900	7900	7800	7800	7700	360x115	20	8200	8100	8100	8100	8000						
	70	7000	6900	6900	6800	6800		70	7400	7300	7200	7200	7100						
200x80	20	5000	5000	4900	4900	4900	395x115	20	8700	8700	8600	8600	8500						
	70	4400	4400	4300	4300	4300		70	7900	7800	7700	7700	7600						
265x80	20	6100	6000	6000	6000	5900													
	70	5400	5400	5300	5300	5200													
300x80	20	6600	6600	6500	6500	6400							330x80	20	7000	7000	6900	6900	6900
	70	5900	5800	5800	5800	5700													
330x80	20	7000	7000	6900	6900	6900													
	70	6300	6200	6200	6200	6100													

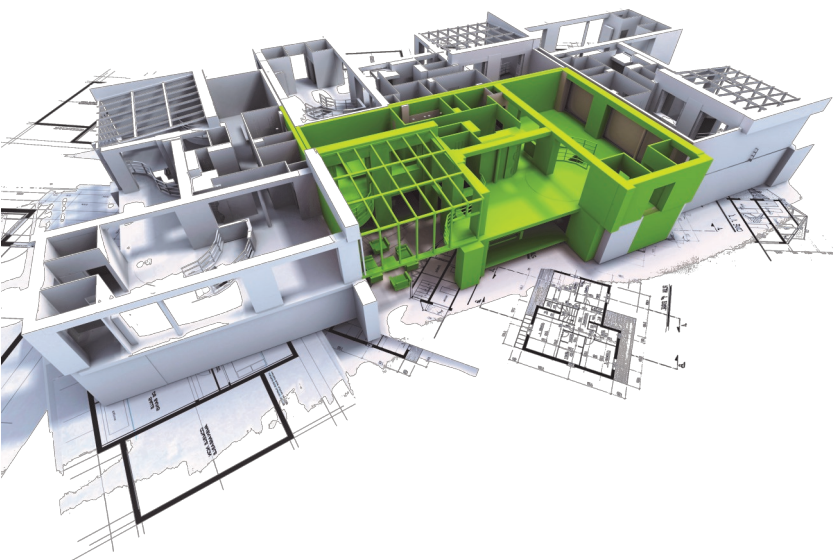
Carport beam - Hip and Dutch Gable over opening AS 4055 classification C1, C2 and C3

Ceiling mass - 20 kg/m²












Member size (GL 17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)					Member size (GL 17S) DxB (mm)	Roof mass (kg/m ²)	Carport Depth (side)				
		5200	5400	5600	5800	6000			5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)							Maximum recommended carport beam span (mm)				
200x50	20	4600	4500	4500	4500	4400	195x85	20	5100	5100	5000	5000	5000
	70	4000	3900	3900	3900	3900		70	4500	4400	4400	4400	4300
250x50	20	5300	5300	5300	5200	5200	230x85	20	5700	5700	5600	5600	5600
	70	4700	4600	4600	4600	4500		70	5000	5000	4900	4900	4900
200x60	20	4700	4700	4700	4600	4600	260x85	20	6200	6200	6200	6100	6100
	70	4100	4100	4100	4000	4000		70	5500	5400	5400	5400	5300
265x60	20	5800	5700	5700	5600	5600	295x85	20	6800	6800	6700	6700	6600
	70	5100	5000	5000	5000	4900		70	6000	6000	5900	5900	5800
300x60	20	6300	6200	6200	6100	6100	330x85	20	7300	7300	7300	7200	7200
	70	5600	5500	5500	5400	5400		70	6500	6500	6400	6400	6300
330x60	20	6700	6600	6600	6600	6500	360x85	20	7800	7700	7700	7600	7600
	70	5900	5900	5900	5800	5800		70	6900	6900	6800	6800	6700
195x65	20	4800	4800	4700	4700	4700	395x85	20	8300	8200	8200	8100	8100
	70	4200	4200	4100	4100	4100		70	7400	7300	7300	7200	7200
230x65	20	5400	5400	5300	5300	5300	195x115	20	5400	5400	5300	5300	5300
	70	4700	4700	4700	4600	4600		70	4800	4700	4700	4700	4600
260x65	20	5900	5900	5800	5800	5700	230x115	20	6100	6000	6000	5900	5900
	70	5200	5100	5100	5100	5000		70	5400	5300	5300	5200	5200
295x65	20	6500	6400	6400	6300	6300	260x115	20	6600	6600	6500	6500	6400
	70	5700	5600	5600	5500	5500		70	5900	5800	5800	5700	5700
330x65	20	7000	6900	6900	6800	6800	295x115	20	7200	7100	7100	7000	7000
	70	6200	6100	6100	6000	6000		70	6400	6300	6300	6300	6200
360x65	20	7400	7400	7300	7300	7200	330x115	20	7700	7700	7600	7600	7600
	70	6600	6500	6400	6400	6300		70	6900	6900	6800	6800	6700
395x65	20	7900	7900	7800	7800	7700	360x115	20	8200	8100	8100	8100	8000
	70	7000	6900	6900	6800	6800		70	7400	7300	7200	7200	7100
200x80	20	5000	5000	4900	4900	4900	395x115	20	8700	8700	8600	8600	8500
	70	4400	4400	4300	4300	4300		70	7900	7800	7700	7700	7600
265x80	20	6100	6000	6000	6000	5900							
	70	5400	5400	5300	5300	5200							
300x80	20	6600	6600	6500	6500	6400							
	70	5900	5800	5800	5800	5700							
330x80	20	7000	7000	6900	6900	6900							
	70	6300	6200	6200	6200	6100							

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum ceiling mass of 20 kg/m²
3. Minimum bearing length = 70 mm at end supports
4. Not all sizes of SmartLam GL 17S in this table are stocked in each state. Please check with your supplier before ordering
5. Sizes in *Italics* are for a Natural Durability class 3 Hardwood GL17S



SMARTFRAME Design Library

Design Library Contents	Interactive	Printable	PC
Specifications software			
Technical Support			
Design Guides (PDF)			
Technical Illustrations			
Fixing Details			

Never before has so much user-friendly computer power you been unleashed into the hands of building industry professionals to allow the design and detailing of engineered timber products. This software, in conjunction with the SmartFrame Design Centre and Smart-Frame Engineered Wood products themselves, combines to form the most sophisticated structural timber option ever available to the Australian market.

The Smart Frame Engineered Timber Solution represents an entirely new and revolutionary concept in the delivery of the 21st century technology and service to the building industry.

Available from:

Head Office Victoria

31-45 Orchard Street,
Kilsyth Vic 3137

email: sales@tilling.com.au

Phone +61 3 9725 0222

Fax +61 3 9725 3045

New South Wales

109 Kurrajong Avenue,
Mt Druitt, NSW 2770

email: nswsales@tilling.com.au

Phone +61 2 9677 2600

Fax +61 2 9677 2500

Queensland

84 Magnesium Drive,
Crestmead QLD 4132

email: qldsales@tilling.com.au

Phone +61 7 3440 5400

Fax +61 7 3440 5444

Western Australia

10 Cartwright Drive
Forrestdale WA 6112

email: wasales@tilling.com.au

Phone +61 8 9399 1609

Fax +61 8 9399 1065

South Australia

5-9 Woomera Ave
Edinburgh SA 5111

email: sasales@tilling.com.au

Phone +61 8 8345 1966

Fax +61 8 8345 1977

Sales 1800 33 77 03

Technical support 1300 668 690

© 2018 Tilling Timber Pty Ltd ABN 92 004 621 121 Date of publication August 2018 SmartFrame is a Registered Trademark of Tilling Timber

