SmartLVL 13 Design Guide

(Includes WA supplement)

Edition 1 2019

SmartLVL® 13 Design Guide

Scope of this publication

This Design Guide and Load Tables assist in the selection of SmartLVL® 13 beams for most of the common structural arrangements met in domestic construction.

Methods of developing lateral restraint and providing adequate support, adequate anchorage against wind uplift, and overall structural stability are outside the scope of this publication, however some limited examples have been reproduced within this document.

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

Tilling Timber Pty Ltd have structural engineers at the SmartFrame Design Centre who can be contacted for advice on matters concerning the use of its engineered timber products in timber construction at techsupport@tilling.com.au or on the Techsupport HelpLine 1300 668 690.

Substitution of other products

All load tables in this document are designed using in-grade tested properties of SmartLVL as distributed by Tilling Timber Pty Ltd. Other manufacturer's LVL may have different properties and therefore cannot be designed using these span tables.

Copyright

Certification

As a professional engineer, qualified and experienced in timber engineering, I certify that the use of the SmartLVL members as shown in these tables, and installed in accordance with the provisions of this Design Guide, complies to the National Construction Code (NCC). These span tables have been prepared in accordance with standard engineering principles, the relevant test reports and Australian standards, ie:

- AS 1720.3 Design criteria for timber-framed residential buildings
- AS 1720.1 Timber structures - design methods
- AS 4055 Wind loads for houses
- AS/NZS 4357 Structural laminated veneer lumber
- AS/NZS 4063 Characterisation of structural timber

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1. SmartLVL®

Description

SmartLVL is a structural Laminated Veneer Lumber (LVL) manufactured by toll manufacturers for Tilling Timber to meet the quality controlled process requirements of AS/NZS 4357 - Structural Laminated Veneer Lumber.

Quality

Compliance with process based quality control requirements is third party audited by SAI-Global, and the audits, together with end product testing is used as the basis for Product Certification by SAI -Global as a JAS-ANZ accredited Product Certification body.

JAS-ANZ stands for the government established "Joint Accreditation System of Australia and New Zealand" which exists as the peak organisation for accreditation of Product Certification bodies.

Preservative Treatment options

Stock SmartLVL is H2s (glue line) treated for use South of the Tropic of Capricorn. It can be post- production pressure treated to H2 or H3 to AS/NZS 1604.4.

Short term water repellency

SmartLVL comes with a clear **new generation** short term water repellency H_2O Shield™ to replace the old fashioned wax sealers used by most other LVL manufacturers. H_2O Shield™ is a water-based sealer specifically formulated and exclusively licensed in Australia to Tilling Timber Pty Ltd.

H_2O™ shield offers numerous key benefits:

i) High-penetrating surface treatment
ii) Formulated to repel rain during storage and construction
iii) Includes a biocide/fungicide
iv) Paintable - acrylic and oil based coatings
v) Glueable – using standard construction adhesives between the LVL and wood or plaster products
vi) When transporting or walking on the LVL, it does not become slippery like the wax surface coating
vii) Environmentally friendly

Users will notice that the new sealer absorbs into the wood instead of leaving a film on top of the surfaces, which is the key to its added benefits.

1.1 SmartLVL Design/effective span

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

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

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

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

Design span/Effective span is the distance between -

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

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

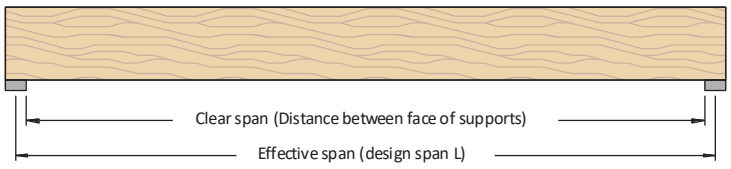
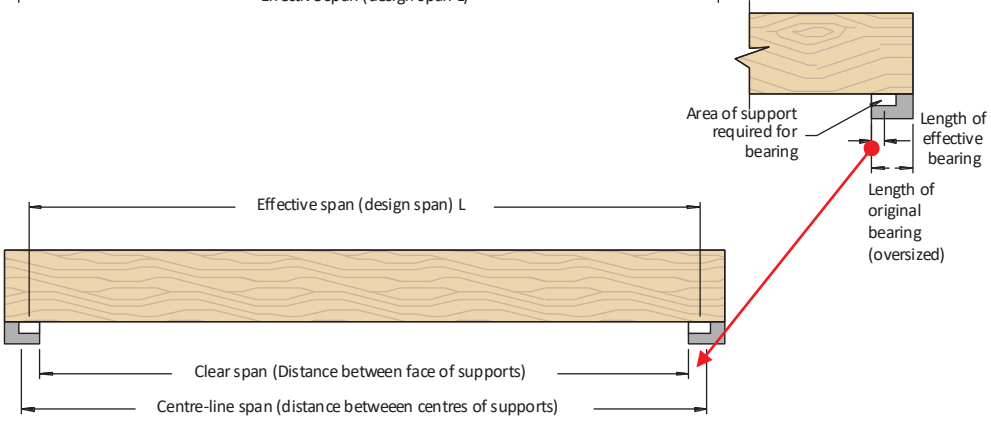


Diagram (b) shows beam where bearings at each end have been oversized. (This is frequently the case for beams that bear onto brickwork or concrete walls where the thickness of the wall is in excess of the area required to give the beam bearing capacity).
To find the correct effective span:

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



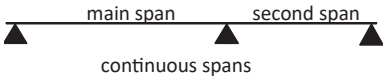
1.2 Continuous spans

For beams continuous over two (2) unequal spans, the design span and the "Resultant Span Description" depend upon the percentage difference between the two spans as shown below:

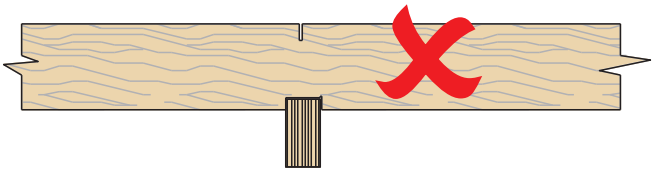
Note, for continuous spans, the Design Span is taken as the distance between the centre of the supports, as shown in **"Design Span"** on page 1 of the Design Guide.

Span Difference %	Effective span	Resultant span Description
10% max	Main span	Continuous
10 - 30%	1.1 x Main span	Continuous
above 30%	Main span	Single

span difference = (main span - second span) x 100
(main span + second span)



continuous spans



1.3 Rip sawing SmartLVL

One of the unique properties of Smart LVL is that it may be ripped through the depth to the smaller section sizes, along the full length of the member, as those given in these span tables without affecting the basic strength properties. It is important that the new members are not cut undersized if the maximum spans in these tables are to be used.

The sawing through the thickness to produce sections of a lesser thickness may decrease the integrity of the SmartLVL and is therefore NOT recommended under any circumstances.

1.4 Double SmartLVL section beams

Beams of 90 and 126 mm thickness can be formed by nail laminating two sections of SmartLVL as follows.

The suggested method of vertical lamination below provides a greater level of fixity between individual components, and with the use of an elastomeric adhesive, also prevents moisture penetration between the laminates.

Designers wishing to create double section 75 mm beams should seek advice from an experienced Engineer or from the techsupport Helpline on 1300 668 690.

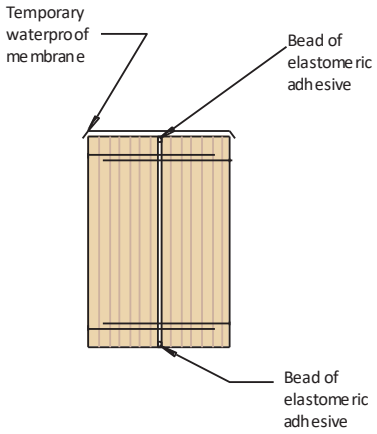
Beam thickness (mm)	Individual section thickness (mm)	Nail Ø (mm)	Minimum nail length (mm)
90	45	3.30	90
126	63	3.30	100

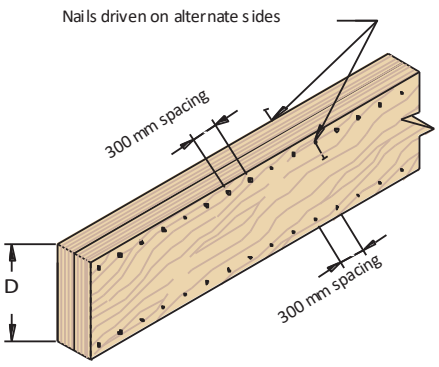
1.4.1 Multiple member laminating of top loaded beams

(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.

- Depths up to and including 300 mm: 2 rows of nails as shown above at 300 mm centre
- Depths in excess of 300 mm: 3 rows of nails as shown above at 300 mm centres

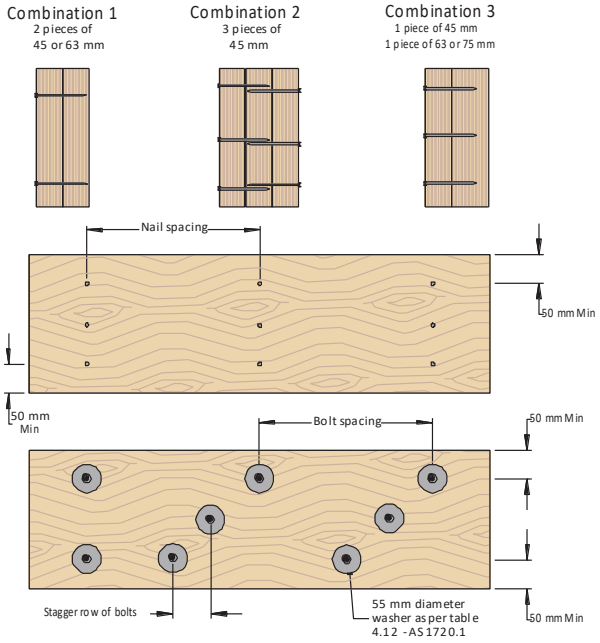




Recommended "during construction" protection from weather for multiple SmartLVL's.

1.4.2 Multiple member laminating of side loaded beams (Non–symmetrical loading)

Maximum floor load width by either outside member (mm)



Combination (see details below)	3.75Φ x 90 mm nails		12 mm Φ bolts	
	2 rows at 300 ctrs	3 rows at 300 ctrs	2 rows at 600 ctrs	2 rows at 300 ctrs
Combination 1 (2/45)	2650	4000	7500	15000
Combination 1 (2/63)	1145	1700	9000	18000
Combination 2 (3/45)	2650	4000	7500	15000
Combination 3 (45+63)	1900	2850	7500	15000
Combination 3 (45+75)	1600	2400	7500	15000

Notes:

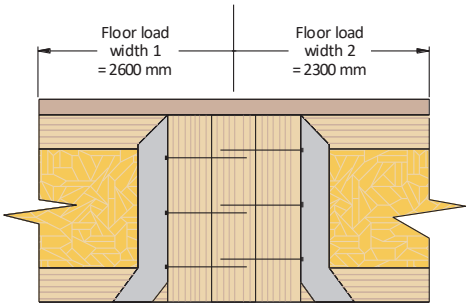
1. Table values are for 40 kg/m^2 floor DL and1.5 kPa floor LL
2. The table values for nails may be doubled for nails at 150 mm centres, and tripled for nails at 100 mm centres
3. The nail schedules shown apply to both sides of a three (3) piece beam
4. Bolts are to be grade 4.6 commercial bolts. Bolt holes are to be a maximum of 13 mm diameter and are to be located NOT less than 50 mm from either edge.
5. 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.

1.4.3 How to use the maximum uniform side load table

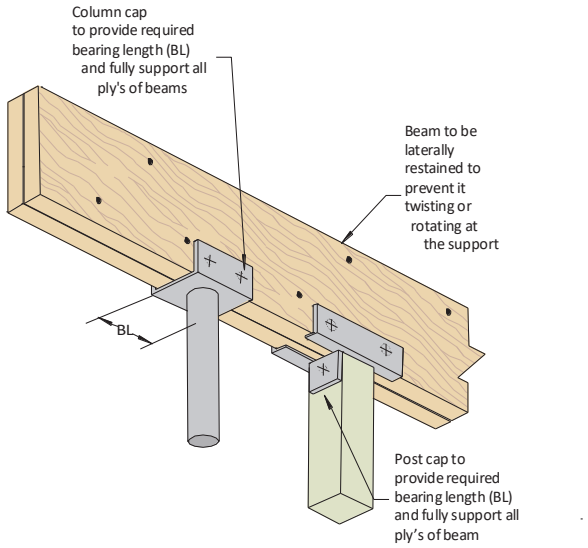
Example: see diagram below

Beam of 2 SmartLVL loaded on both sides (Combination 1)
FLW 1 = 2600 mm, FLW 2 = 2300 mm
Total FLW = 2600 + 2300 = 4900 mm.

1. Use SmartLVL safe load tables to size the two member section to support the FLW of 4900 mm.
2. Choose the larger of the side FLW's carried by the beam, in this case 2600 mm.
3. Enter the table at the "Combination 1" row and scan across to a table value greater than 2600 mm. The first value in the row at 2650 mm is greater than the 2600 mm required, thus adopt 2 rows of 3.75Φ x 90 mm nails at 300 mm centres



1.5 Steel and timber post fixing to SmartLVL



1.6 Fire resistance

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

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

b. Integrity: (the duration for which the element can maintain its integrity to prevent the spread of fire to/ from the compartment)

and

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

and is expressed in that order e.g. 30/30/30. The method for determining the structural component of the Fire Resistance Period for timber (including LVL and Glulam) is laid out in AS 1720.4

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

where:

c = notional charring rate, in mm per minute

δ = timber density of SmartLVL 13 - 520 kg/m^3

Further information on this topic including Design Guides relating to fire safety provisions can be obtained from the Wood Solutions website at www.woodsolutions.com.au.

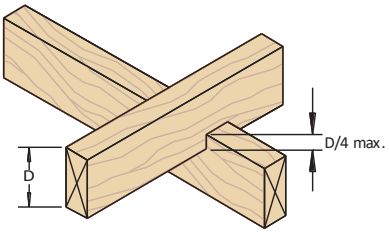
For building in bushfire prone areas, a separate fully impregnated fire resistant SmartLVL FR SaferWood™ is now available within the SmartFrame family of EWP which can be used up to BAL 29. Stock sizes and lengths of SmartLVL FR SaferWood™ are currently limited but all sizes can be purchased as a special order.

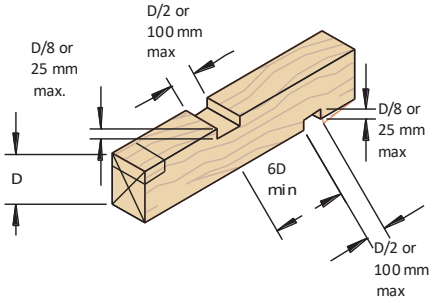
For further information download the SmartLVL FR SaferWood™ Design Guide from www.tilling.com.au or contact SmartFrame Design on 1300 668 690.

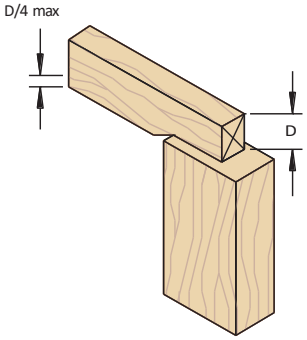
1.7 Cutting and notching SmartLVL Beams, Bearers, Rafters and Joists (as per AS 1684.2)

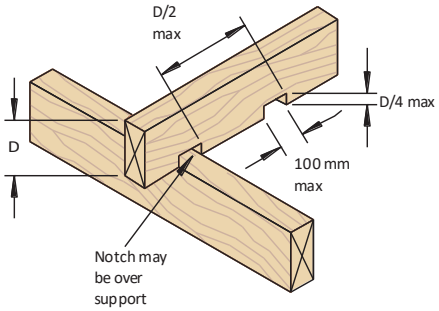
Cutting, notching and drilling recommendations below are reproduced from AS 1684.2:2010 and therefore apply ONLY to components within buildings that fit within the building type and geometric limitations of that standard.

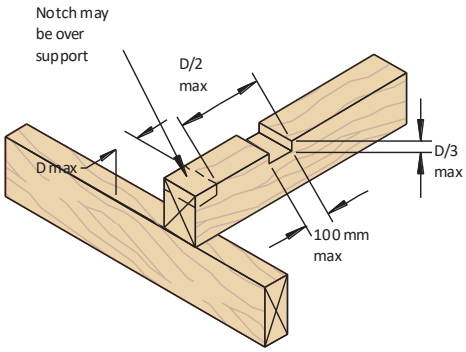
The cutting, notching and drilling of components within structures that do not meet the criteria of AS 1684.2:2010 is outside the scope of this document and should be referred to a an experienced timber engineer or to the techsupport Helpline on 1300 668 690.

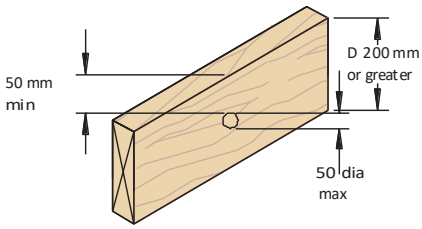




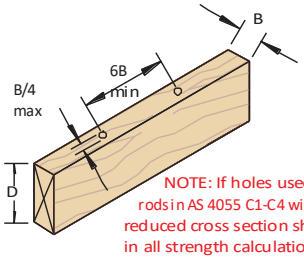




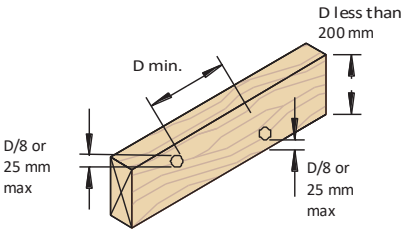




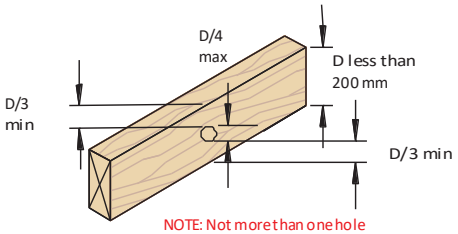
NOTE: Not more than 1 hole per 1800 mm of span



NOTE: If holes used for cyclone rods in AS 4055 C1-C4 wind areas, reduced cross section should be used in all strength calculations

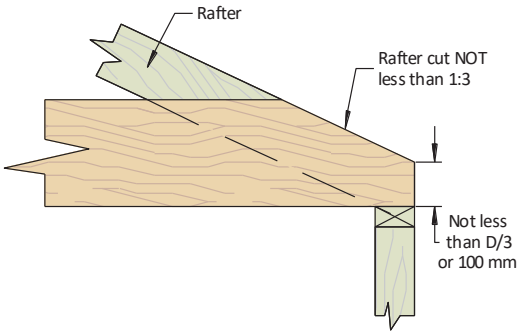


NOTE: Not more than 3 holes per 1800 mm of span

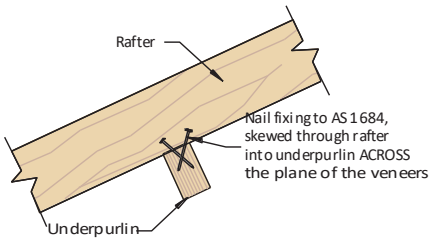


NOTE: Not more than one hole per 1800 mm of span

1.8 Roof construction detailing



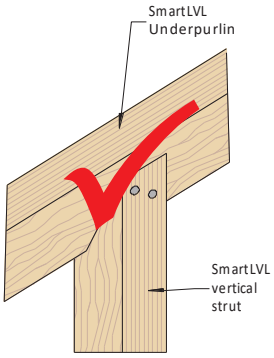
Rafter cut detail - (Roof members only) e.g. Counter, Hanging and Strutting beams.

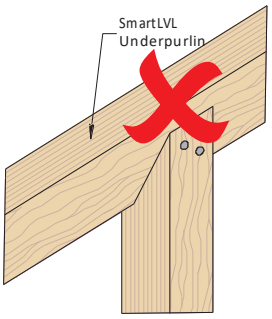


Rafters are NOT to be skew nailed to the underpurlin - with the nails parallel to the direction of the veneers

Rafter underpurlin fixing

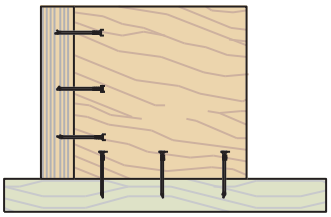
Vertical SmartLVL roof struts



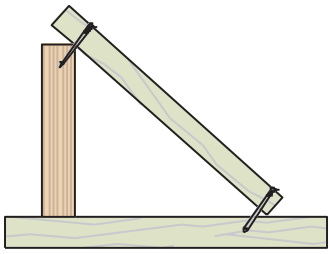


DO NOT cut the birdsmouth in the direction of the SmartLVL veneers

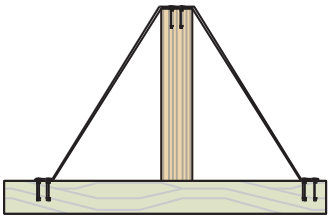
1.9 Lateral restraint of Hanging, Counter, Strutting, Strutting/hanging beams, Strutting/counter beams



(a) Block skew nailed to beam and to support with 3/75 mm skew nails to each member.



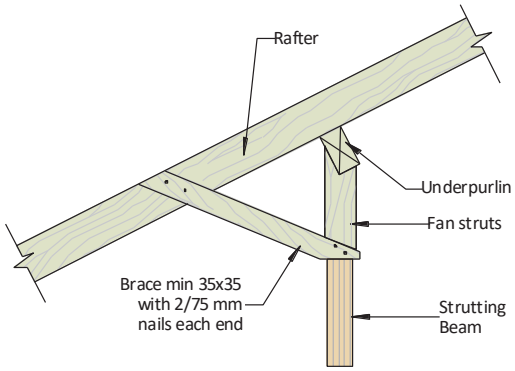
(b) Min 35 x 32 mm tie nailed to top of beam and to support with 2/75 mm nails at each end.



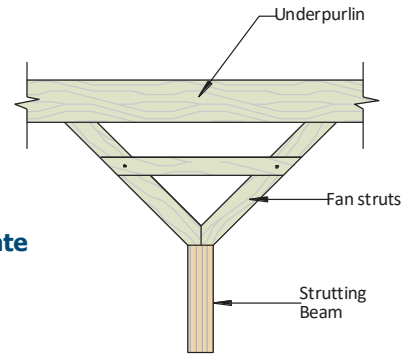
(c) Galvanised strap nailed to support and top of beam with 2/30 x 2.8 mm nails each end and to beam.

Notes:

1. Method used depends upon whether ceiling joists are perpendicular or parallel to the beam.
2. Methods given in (b) and (c) are particularly suitable for restraining strutting beams and strutting/hanging beams at the intermediate points where the beams are supported, as they also permit these beams to be supported up clear of the ceiling joists by packing under at their supports.



Example intermediate lateral restraints



1.10 Chemical resistance

SmartLVL (wood in general) has a definite advantage over steel members when exposed to corrosive environments. Timber and wood products are able to withstand mild acid conditions and are more resistant to degradation.

The behaviour of SmartLVL in chemical environments depends upon a number of factors, including PH and temperature. Wood essentially responds by either swelling (Category S), similar to moisture response, or by chemical degradation (Category D). Damage due to swelling is essentially reversible, but chemical degradation results in breakdown of the wood structure and is non-reversible. Category S agents include alcohol and other polar agents. These agents swell dry wood causing a strength (and stiffness) loss proportional to the swelling.

Category D agents include acids, alkalis and salts and result in a loss of strength and stiffness directly related to the loss of member cross-section. The table below provides a rough guide to performance of SmartLVL in chemical environments.

The effect of chemicals on wood will generally be worsened by increased exposure time, temperature, extremes of pH and chemical concentration. Wood generally offers considerably less resistance to alkalis than acids. Softwoods (includes SmartLVL) generally have better resistance to acids than hardwoods.

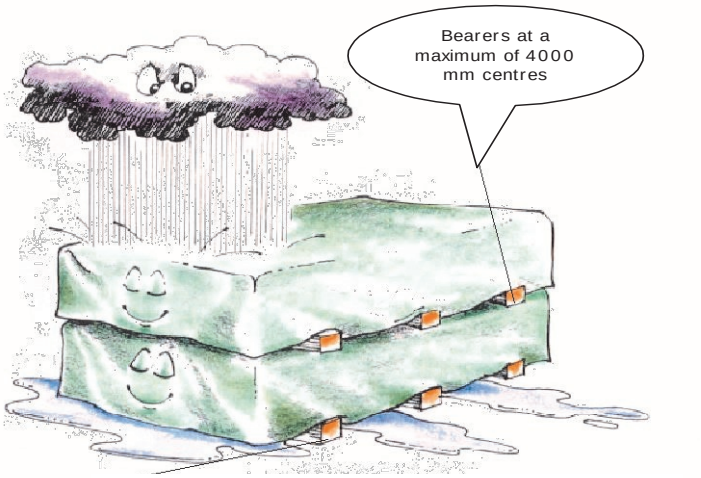
Where there is the possibility of chemical attack on SmartLVL members, designers should seek expert advice.

Agent category	Chemical agent	Mode of attack	Damage - reversible or permanent	Severity - (loss of strength and/or stiffness)
Neutral	Non-polar liquids such as petroleum hydrocarbons	None	Negligible	Negligible
S (swelling)	Alcohol and other polar solvents	Swelling	Reversible	Proportional to volumetric swelling
D (degrading)	Inorganic acids	Hydrolysis of cellulose	Permanent	Slight to moderate
D	Organic acids such as: Formic, acetic, propionic and lactic acid	Hydrolysis of cellulose	Permanent	Slight (pH 3-6)
D	Alkalis such as: sodium, calcium and magnesium hydroxide	De-lignification of wood and dissolving of hemicellulose	Permanent	Moderate (pH > 9.5) Severe (pH > 11)
D	Salts (considered as weak acids)	Hydrolysis of cellulose	Permanent	Slight

Table reference Williamson T.G. 2002 APA Engineered Wood Handbook

1.11 Storage and handling of SmartLVL

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



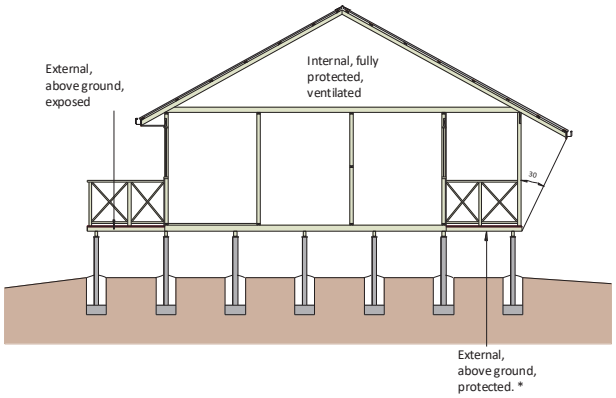
Use bearers to keep stacked material away from damp surfaces. Align bearer vertically

1.12 Durability and exposure to moisture

SmartLVL is manufactured from softwood veneers which have a durability rating of class 4, which is the same rating as some Ash type Eucalypts. Untreated SmartLVL should not be used where the equilibrium moisture content is likely to remain above 20% for an extended period.

Untreated SmartLVL is suitable in the ***internal, fully protected, ventilated*** and the ***external above ground, protected*** zones of the structure as shown below. Untreated SmartLVL is not suitable for ***external above ground, exposed*** or humid indoor conditions, such as swimming pool enclosures.

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).

1.12.1 Moisture effects on LVL

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

SmartLVL is supplied WITH a new generation short term construction water repellent (H_2O Shield™) and once framed into a structure may be exposed to the weather for a limited time (usually not greater than 3 months) without negative affect, BUT, it may exhibit some effects of this exposure such as swelling and checking (especially at cut ends), depending upon the weather conditions.

While offering significant water short term repellency comparable to wax coatings, the H_2O Shield™ does NOT totally WATER PROOF the LVL. While the products will withstand normal exposure, excessive exposure during distribution, storage or construction may lead to dimensional changes that affect serviceability. These changes include cupping, bowing or expansion to dimensions to beyond the specified tolerance of the product in the "as-manufactured" condition.

Individual members of a vertically laminated multi member may exhibit some cupping if water becomes trapped between the laminates. This cupping produces more of a visual and possible fixity problem rather than being structurally significant. If not properly dried out, this moisture between laminated members may lead to decay. To prevent this effect, use construction details as shown on page 2.

As an organic material, mould and mildew may grow on untreated wood products if moisture is present. Prolonged periods of high moisture may also support the growth of wood decay fungi The H_2O Shield™ does provide some resistance to mould and fungi attack, but it is NOT equivalent to H3 treatment.

In critical applications where dimensional change due to moisture exposure is to be absolutely minimised (e.g. truss applications in wet humid conditions) it is recommended that the remedial H_2O shield available from Tilling Timber in spray cans (or bulk for airless spray guns) be used to recoat any cut ends or notches etc.

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

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

1. Approx. moisture content at 21^{0}C

1.12.2 Dimensional change

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

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

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

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

Where:
ΔD = change in dimension
D_i = Initial dimension
S = Shrinkage coefficient = approximately 6%
MC_i = Initial moisture content
MC_f = final moisture content
FSP = fibre saturation point approximately 28%

HOWEVER, these dimensional effects are quite variable. Thickness swell in LVL is erratic along the length because of the densification of the lap joints during manufacture tends to "relieve" when saturated and the total swell in sections containing two (2) laps can be as much as 3 mm.

1.12.3 Change in characteristic strengths

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

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

Where:
P= Characteristic property at moisture content
P_{12} = same Characteristic property at 12% moisture content
P_g = same Characteristic property for Green wood
M_p = Intersection moisture content = 24% for Doug Fir

1.12 Durability and exposure to moisture (Cont'd)

The APPROXIMATE affect upon key Characteristic Properties of LVL by changes in MC are outlined in the table below:

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

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

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

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

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

Once covered, the SmartLVL will ultimately dry and re-equilibrate to the ambient humidity conditions, but some expansion or swelling will remain after re-drying. The thickness swelling in laps will never fully shrink back and a large piece of LVL can have a final thickness variation along the length of 3-4 mm.

1.12.4 Design for durability

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

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

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

iv. The use of drip edges or other devices which provide a path for free moisture flow away from the timber beam.

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

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

Allow for thermal expansion/contraction in the joint design.

1.12.5 Post-Production treatment

SmartLVL is supplied glue-line H2S* treated or can be supplied either LOSP treated or Tru-Core® treated to either H2 or H3 hazard class levels, as per AS/NZS 1604.4. (Tru-Core® is a registered trade mark of Kop-Coat Australia PTY Limited)

To maintain effective treatment it is a requirement that any cuts, notches or penetrations made in post production treated LVL be painted with a suitable "brush/spray on" preservative.

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

Hazard class selection guide

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

† The timber species in SmartLVL are not susceptible to Lyctid Borer attack
* H2S treatment is only suitable South of the Tropic of Capricorn

A more comprehensive Hazard Class Table is available in AS/NZS 1604.4, but it is **NOT** recommended that SmartLVL be used in end uses with exposures requiring treatment in excess of H3.

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

Post treatment protection may include:

(i) Protectadeck ™ high density water proof joist/ bearer cover or malthoid capping

and

(ii) An impervious membrane such as regularly maintained painting or staining

(iii) Construction detailing to prevent water entrapment.

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

1.12.6 Fasteners for H3 LVL

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

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

1.12.7 Painting of treated SmartLVL

1. General

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

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

2. LOSP Treated

Wait until excess solvents have evaporated and timber is dry. The pressure of the solvent (white spirits) from the LOSP treatment may affect the drying and hardening of paints if there has been insufficient evaporation time after the treatment. It is strongly recommended that the treated timber is left to recondition for at least 7 days in the end use situation before painting.

One coat of premium quality primer as a minimum should be applied to all surfaces prior to erection of beam and to any cuts or holes drilled. If the first coat of primer, sealant paint or stain fails to dry or adhere within the time expected, do not proceed to any further coats until the first coat has achieved satisfactory dryness and adhesion. If the first coat fails to dry it may be necessary to strip back to bare timber and allow it to weather for another week or two.

a. Paint

Exterior solid colour acrylic finish. One coat of oil based primer followed by one or two coats of the exterior acrylic finish as required.

or

Exterior solid colour oil based enamel. One coat of oil based primer followed by one coat of oil based under-coat (if required) then two coats of the oil based enamel.

b. Stains

Exterior semi-transparent or solid colour penetrating oil based stain or similar. Two or three coats of the stain as required or recommended by the manufacturer.

Water based stains and un-pigmented sealants, oil or water repellents are NOT recommended.

3. Tru-Core® Treated

1. The wood must be dry and clean prior to applying any finish coating. If initial cleaning of the treated wood is needed, it is recommended that the project be cleaned with a deck cleaning product and allow to fully dry.
2. At this time, a clear water repellent may be added to the project. If applied, allow 8 weeks prior to the application of a semi-transparent stain or paint
3. If no water repellent is added, an oil based stain can be 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:

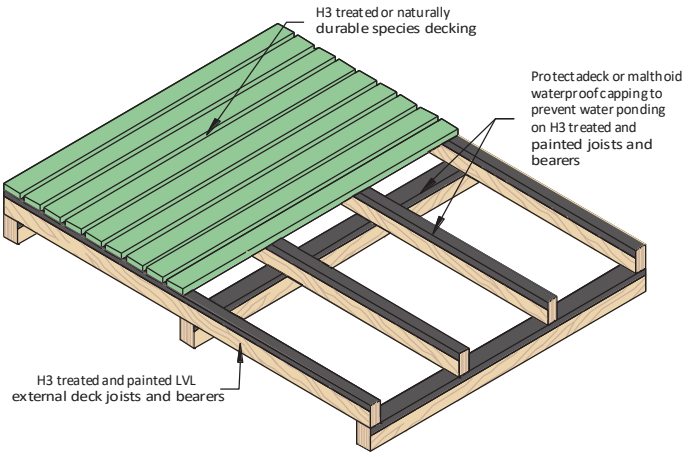
    i. The typical brown colour of the Copper Quat treated wood will naturally weather to a grey colour over long-term exposure to the sun

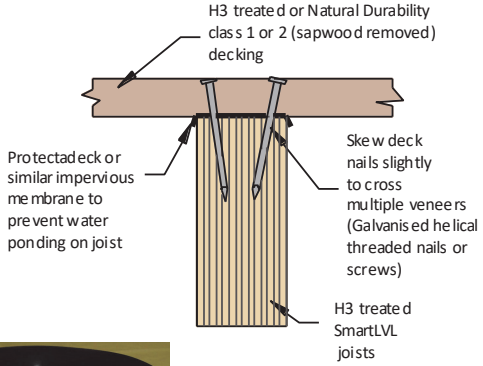
    ii. The Azole treated wood has no colouration so it will naturally weather to a grey colour over long-term exposure to the sun.

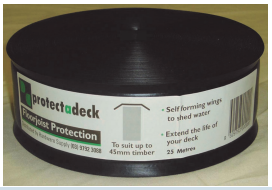
Users must always conduct their own tests on coatings in inconspicuous areas of the project to determine acceptability of colour, adhesion and appearance.

1.12.8 H3 Deck bearers and joists

H3 Treated Deck joists and bearers are a common application for treated SmartLVL. The diagram demonstrates the minimum construction detailing for H3 treated joists and bearers. Failure to follow these guidelines may render treatment warranties void.
It is recommended that deck nails be slightly skewed as per the detail below.







Recommended proprietary top protection for joists and bearers

1.13 SmartLVL hanger details

Given the high load carrying capacity of SmartLVL, it is essential that the connection of SmartLVL to other structural members is considered carefully, with the industry practice of simple skew or end nailing of SmartLVL not recommended for anything but the lightest loads.

The list below contains the common light to medium duty SmartLVL framing brackets stocked by Tilling Timber. Member connections requiring capacities greater than those listed below can be designed by your own Engineer or SmartFrame Engineers, but any non-standard connection system designed by your own engineer or SmartFrame Engineers may take some time to have fabricated.

Framing bracket code	Fixing to SUPPORTING beam	Design Capacity $\emptyset N_j$ (kN) $1.2G+1.5Q_f$ (DL + FLL) JD4	Fixing to SUPPORTED beam	Wind Uplift (k_1 = 1.14) Design Capacity $\emptyset N_j$ (kN) $1.2G+1.5Q_f$ (DL + RLL) for Joint group			
				JD5	JD4	JD3	Max.
FB3590, FB4290	8 Nails 4 Screws	4.6 6.1	4 nails 2 screws	3.2 3.5	3.7 5.0	5.3 5.0	6.0 5.0
FB35120, FB42120	12 Nails 6 Screws	6.4 9.1	6 nails 4 screws	4.7 7.1	5.7 10.0	7.9 10.0	9.0 10.0
FB35140, FB42140	16 Nails 6 Screws	8.4 9.1	8 nails 4 screws	6.2 7.1	7.5 10.0	10.6 10.0	12.0 10.0
FB35180, FB42180	20 Nails 8 Screws	10.3 12.1	10 nails 6 Screws	7.4 10.6	8.9 15.0*	12.4 15.0*	15.0* 15.0*
FB42220	26 Nails 10 Screws	13.1 14.2	13 nails 8 Screws	9.5 14.2	11.3 15.0*	15.0* 15.0*	15.0* 15.0*
FB60130	12 Nails 4 screws	6.4 6.1	3 nails 7 nails 4 screws	2.4 5.4 7.1	2.8 6.6 10.0	3.9 9.3 10.0	4.5 10.5 10.0
FB65170	18 Nails 6 screws	9.3 9.1	6 nails 11 nails 6 screws	4.7 8.1 10.6	5.7 9.8 15.0*	7.9 13.6 15.0*	9.0 15.0* 15.0*
FB90200	26 Nails 10 Screws	12.9 14.2	3 nails 13 nails 8 screws	2.4 9.6 14.2	2.8 11.6 15.0*	3.9 15.0* 15.0*	4.5 15.0* 15.0*
LVSIA (Horizontal) LVSIA (Vertical)	6 screws 6 screws	8.2 5.8	1 screw 6 screws	1.0	1.4 8.6	1.8 13.3	1.8 13.3
Pryda JHS (pair)	16 Nails 16/8g x 25 mm type 17 screws	15.0 17.9	16 Nails 16 Screws	23.8 33.7	28.3 40.0	29.8 40.0	29.8 40
MiTek SPH180 (pair)	4 MSA1430 screws‡ 8 MSA1430 screws‡	11.4 20.9	4 MSA1430 screws 8 MSA1430 screws	13.3 24.5	18.8 34.6	20.4 37.8	20.4 37.8
MiTek SPH220 (pair)	5 MSA1430 screws‡ 10 MSA1430 screws‡	13.4 25.6	5 MSA1430 screws 10 MSA1430 screws	15.7 30.0	22.1 42.3	25.5 46.0	25.5 46.0
Dunnings Girder brackets	4 nails‡ 6 nails‡	6.2 9.4	4 nails ‡ 6 nails ‡	8.4 12.6	10.2 15.4	14.4 21.6	14.4 21.6

‡ in each face of joist hanger

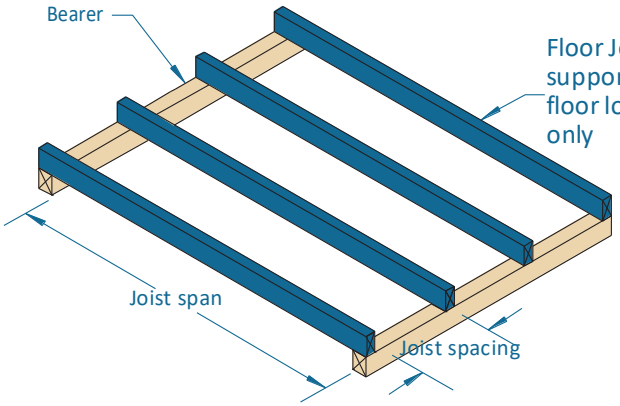
Notes:

1. For this table, SmartLVL has been given a uniform JD4 Joint Strength Group. For more detailed calculations of joint strength group in particular planes contact the Techsupport Helpline on 1300 668 690
2. The above tabulated capacities are for a minimum beam thickness of 35 mm.
3. For all Pryda FB, LVSIA and JHS brackets - Nails :Pryda 35 x 3.15 galvanised Pryda Timber Connection nails or equivalent, Screws: No 12 Type 17 x 35 mm
4. MSA1430 are MiTek No 14 Type 17 x 30 mm screws
5. Wind uplift capacities apply to designs in accordance with AS/NZS 1170:2002
6. Pryda FB Framing Bracket capacity has been limited to 15.0 kN shown *
7. These capacities apply directly for joints in houses and on secondary beams in other structures. For joints on primary beams in structures other than houses, reduce the capacity by 0.85/0.95 = 0.89
8. For FB65170 brackets, wind uplift dead load values have been reduced due to a shorter end distance on the supported beam compared to the other brackets.
9. Multiple Laminated Supporting Beams - Fasteners with longer lengths are required when Joist Hangers are fixed into a multiple laminated supporting beam. For double laminates, use 65 long nails or screws. Alternatively, for double or triple laminated supporting beams, additional fixings may be provided at hanger locations to laminate plies. Seek advice from the Engineer.

2. Index of Span Tables

Floor joists supporting floor loads only

Floor mass - 40 kg/m^2



EXAMPLE:

domestic floor loads
single span
joist spacing = 450 mm
joist span = 3500 mm

Enter single span table at 450 mm in joist spacing column, read down to a span equal to or greater than 3500 mm

ADOPT:

SmartLVL 13 - 170x45

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

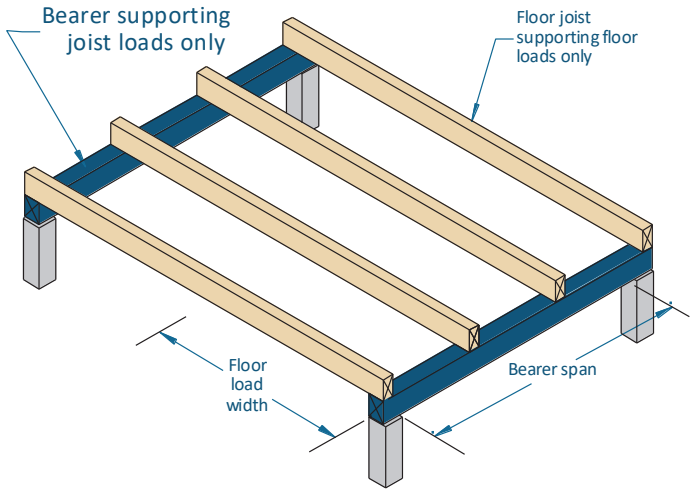
Joist spacing (mm)	300	450	600	300	450	600
Member size DxB (mm)	Maximum recommended span (mm)					
	Single span			Continuous span		
90x45	2000	1700	1600	2500	2000	1900
130x45	3500	2600	2400	4200	3200	2800
150x45	4000	3100	2800	4600	3800	3300
170x45	4400	3600	3300	5100	4400	3800
200x45	5000	4300	3900	5800	5200	4600
240x45	5700	5100	4700	6600	6000	5600
300x45	6700	6100	5700	7800	7100	6600
360x45	7600	7000	6500	9000	8100	7500
400x45	8200	7600	7000	10200	8700	8100
90x63	2400	2000	1800	3100	2300	2100
130x63	3900	3000	2700	4500	3600	3200
150x63	4300	3600	3200	5000	4300	3800
170x63	4800	4100	3700	5500	5000	4300
200x63	5400	4900	4400	6300	5700	5200
240x63	6200	5600	5200	7200	6500	6000
300x63	7200	6600	6100	8500	7700	7200
360x63	8100	7600	7100	8200	8800	8200
400x63	8700	8100	7600	11100	9500	8900
450x63	9400	8800	8300	12000	9900	9700
300x75	7400	6900	6400	8900	8000	7500
400x75	8900	8400	8000	11600	9900	9200

NOTES:

1. Spans are suitable for solid timber, particle board and ply flooring. floor sheeting glued and nailed to joists will improve floor rigidity. Where heavy overlay material is to be applied, such as a mortar bed tiled or slate floor, the permanent load allowance should be increased to 1.2 kPa. A reduction of joist spacing may be used to accommodate this extra permanent load. A satisfactory result can be achieved by adopting the maximum spans for 600 mm and 450 mm spacing but installing the joists at 450 and 300 mm spacing respectively
2. For beams which are continuous over two unequal spans, the design span and the 'resultant span description' depend upon the percentage span differences between the two spans as shown on page 2
3. D = member depth, B = member breadth, NS = not suitable.
4. End bearing lengths = 45 mm at end supports and 63 mm at internal supports for continuous members
5. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Single span floor bearers supporting floor loads only

Floor mass - 40 kg/m^2



EXAMPLE:

single span bearer = 4000 mm
floor load width = 6000 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:

SmartLVL 13 - 2/360 x 45

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

Floor load width (mm)	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600
Member size DxB (mm)	Maximum recommended bearer span (mm)									
	Single span									
2/90x45	2000	1700	1500	1400	1300	1300	1200	1100	1100	1100
2/130x45	2800	2500	2200	2100	1900	1800	1700	1700	1600	1500
2/150x45	3300	2900	2600	2400	2200	2100	2000	1900	1900	1800
2/170x45	3700	3200	2900	2700	2500	2400	2300	2200	2100	2000
2/200x45	4100	3700	3500	3200	3000	2800	2700	2600	2500	2400
2/240x45	4700	4300	4000	3800	3600	3400	3200	3100	3000	2900
2/300x45	5500	5000	4700	4400	4200	4100	3900	3800	3700	3600
2/360x45	6300	5800	5400	5100	4900	4700	4500	4400	4200	4100
2/400x45	6800	6200	5800	5500	5200	5000	4900	4700	4600	4500
90x63	1700	1500	1400	1300	1200	1100	1100	1000	1000	NS
130x63	2500	2200	2000	1800	1700	1600	1500	1500	1400	1400
150x63	2900	2500	2300	2100	2000	1900	1800	1700	1600	1600
170x63	3300	2900	2600	2400	2300	2100	2000	1900	1900	1800
200x63	3800	3400	3100	2800	2700	2500	2400	2300	2200	2100
240x63	4300	3900	3700	3400	3200	3000	2900	2800	2700	2600
300x63	5100	4600	4300	4100	3900	3700	3600	3500	3300	3200
360x63	5800	5300	4900	4700	4500	4300	4100	4000	3900	3800
400x63	6300	5700	5300	5100	4800	4600	4500	4300	4200	4100
450x63	6800	6200	5800	5500	5300	5100	4900	4700	4600_5	4500_{10}
300x75	5300	4800	4500	4300	4100	3900	3800	3600	3500	3400
400x75	6500	6000	5600	5300	5000	4800	4700	4500	4400	4300

Continuous span floor bearers supporting floor loads only

Floor mass - 40 kg/m^2

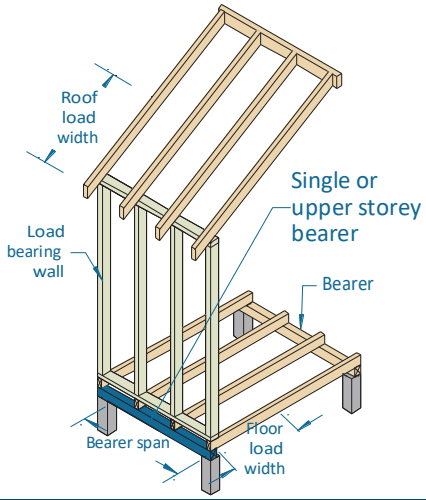
Loadings: permanent - self weight + 40 kg/m^2 +0.5 kPa of the live load, live load - 1.5 kPa or floor point load of 1.8 kN

Floor load width (mm)	1200	1800	2400	3000	3600	4200	4800	5400	6000	6600
Member size DxB (mm)	Maximum recommended bearer span (mm)									
	Continuous span									
2/90x45	2500	2200	2000	1800	1700	1600	1500	1500	1400	1300
2/130x45	3600	3100	2800	2600	2500	2300	2200	2100	2000	2000
2/150x45	4000	3600	3300	3000	2800	2700	2600	2500	2400	2300
2/170x45	4400	3900	3700	3400	3200	3100	2900	2800	2700	2600
2/200x45	4900	4500	4100	3900	3700	3600	3400	3300	3200	3000
2/240x45	5600	5100	4800	4500	4300	4100	4000	3800	3700	3600_{10}
2/300x45	6600	6000	5600	5300	5100	4900	4700	4500_{10}	4400_{20}	4300_{30}
2/360x45	7500	6900	6400	6100	5800	5600_{5}	5400_{15}	5200_{25}	5100_{40}	4900_{60}
2/400x45	8100	7400	6900	6600	6300	6000_{15}	5800_{25}	5600_{35}	5500_{60}	5300_{75}
90x63	2200	1900	1700	1600	1500	1400	1300	1300	1200	1100
130x63	3200	2800	2500	2300	2200	2100	2000	1800	1700	1600
150x63	3600	3200	2900	2700	2500	2400	2300	2100	2000	1900
170x63	4000	3600	3300	3100	2900	2700	2600	2400	2300	2200
200x63	4500	4100	3800	3600	3400	3200	3000	2800	2700_{5}	2600_{10}
240x63	5200	4700	4400	4100	3900	3800	3600_{10}	3400_{15}	3200_{25}	3100_{30}
300x63	6100	5500	5100	4900	4600_{5}	4500_{20}	4300_{30}	4200_{50}	4000_{65}	3800_{75}
360x63	7000	6300	5900	5600_{5}	5300_{20}	5100_{35}	4900_{65}	4800_{80}	4600_{90}	4500_{105}
400x63	7500	6800	6400	6000_{15}	5800_{30}	5500_{55}	5300_{75}	5200_{90}	5000_{105}	4900_{120}
450x63	8200	7500	7000_{5}	6600_{25}	6300_{50}	6000_{75}	5800_{90}	5600_{110}	5500_{125}	5300_{140}
300x75	6300	5800	5400	5100	4800	4600_{5}	4500_{15}	4300_{25}	4200_{35}	4100_{55}
400x75	7800	7100	6600	6300	6000_{15}	5800_{30}	5600_{50}	5400_{70}	5200_{85}	5100_{95}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum DL of 40 kg/m^2+ 0.5 kPa of LL, floor live load of 1.5 kPa, floor point load of 1.8 kN
3. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports
4. Restraint value for slenderness calculations is 600 mm (floor joist centres at 600 mm max)
5. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering

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



Floor mass - 40 kg/m^2

EXAMPLE:

sheet roof - 40 kg/m^2
roof load width = 1950 mm
bearer span = 3000 mm (single span)
floor load width = 2200 mm

Enter single span table at 2400 mm in floor load width column, 4500 roof load width column, read down to a span equal to or greater than 3000 mm in the 40 kg/m^2 row.

ADOPT:

SmartLVL 13—2/240x45

Single span

Floor load width (mm)		1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended single span floor bearer supporting single storey load bearing wall span (mm)								
2/90x45	40	1500	1300	1200	1300	1200	1100	1100	1000	1000
	90	1300	1100	1000	1200	1000	NS	1000	NS	NS
2/130x45	40	2100	1900	1700	1900	1700	1600	1600	1500	1400
	90	2000	1600	1400	1800	1500	1400	1500	1400	1300
2/150x45	40	2500	2200	2000	2200	2000	1900	1800	1700	1600
	90	2300	1900	1700	2100	1800	1600	1800	1600	1500
2/170x45	40	2800	2500	2300	2500	2300	2100	2100	2000	1900
	90	2600	2100	1900	2300	2000	1800	2000	1800	1700
2/200x45	40	3300	2900	2700	2900	2700	2500	2500	2300	2200
	90	3000	2500	2200	2700	2400	2100	2400	2100	2000
2/240x45	40	3800	3500	3200	3500	3200	3000	3000	2800	2700
	90	3600	3000	2700	3300	2800	2600	2800	2600	2400
2/300x45	40	4500	4100	3900	4100	3900	3700	3700	3500	3300
	90	4300	3700	3300	4000	3600	3200	3600	3200	3000
2/360x45	40	5200	4700	4400	4700	4500	4200	4200	4000	3900
	90	4900	4300	3900	4600	4100	3800	4100	3800	3600
2/400x45	40	5600	5100	4800	5100	4800	4600	4500	4400	4200
	90	5300	4600	4200	4900	4400	4100	4400	4100	3900
90x63	40	1300	1100	1000	1100	1000	1000	NS	NS	NS
	90	1200	1000	NS	1100	NS	NS	NS	NS	NS
130x63	40	1900	1700	1500	1700	1500	1400	1400	1300	1300
	90	1700	1400	1300	1600	1300	1200	1400	1200	1100
150x63	40	2200	1900	1800	1900	1800	1600	1600	1500	1500
	90	2000	1700	1500	1800	1600	1400	1600	1400	1300
170x63	40	2500	2200	2000	2200	2000	1900	1800	1700	1700
	90	2300	1900	1700	2100	1800	1600	1800	1600	1500
200x63	40	2900	2600	2400	2600	2400	2200	2200	2100	2000
	90	2700	2200	2000	2400	2100	1900	2100	1900	1700
240x63	40	3500	3100	2800	3100	2800	2700	2600	2500	2400
	90	3200	2700	2400	2900	2500	2300	2500	2300	2100
300x63	40	4200	3800	3600	3800	3600	3300	3300	3100	3000
	90	3900	3300	3000	3600	3200	2800	3200	2900	2600
360x63	40	4800	4400	4100	4400	4100	3900	3800	3700	3600
	90	4500	3900	3600	4200	3700	3400	3700	3400	3200
400x63	40	5100	4700	4400	4700	4400	4200	4200	4000	3900
	90	4900	4200	3900	4500	4000	3700	4100	3700	3500_5
450x63	40	5600	5100	4800	5100	4800	4600	4500	4400	4200
	90	5300	4600	4200	4900	4400	4100	4400	4100_5	3900_{10}
300x75	40	4300	4000	3700	4000	3700	3500	3500	3300	3100
	90	4100	3500	3100	3800	3300	3000	3400	3000	2800
400x75	40	5400	4900	4600	4900	4600	4400	4300	4200	4000
	90	5100	4400	4000	4700	4200	3900	4200	3900	3700

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

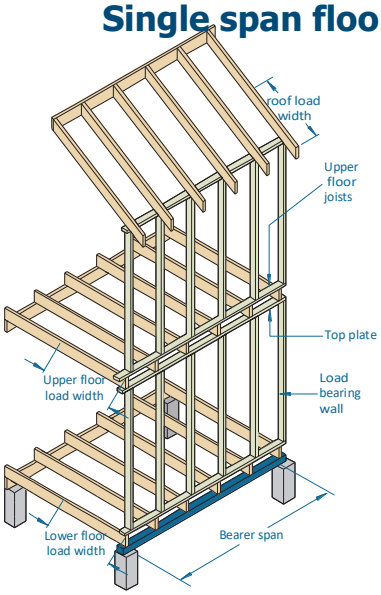
Continuous span

Floor load width (mm)		1200			2400			4800		
Roof load width (mm)		1500	4500	7500	1500	4500	7500	1500	4500	7500
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Continuous span floor bearer supporting single storey load bearing wall span (mm)								
2/90x45	40	1900	1700	1600	1700	1600	1500	1400	1300	1300
	90	1800	1500	1300	1600	1400	1300	1400	1200	1100
2/130x45	40	2800	2500	2300	2500	2300	2100	2000	1900	1900
	90	2600	2200	1900	2300	2000	1800	2000	1800	1700
2/150x45	40	3200	2900	2700	2800	2600	2500	2400	2300	2200
	90	3000	2500	2200	2700	2300	2100	2300	2100	1900
2/170x45	40	3600	3300	3000	3200	3000	2800	2700	2600	2500
	90	3400	2800	2500	3100	2700	2400	2600	2400	2200
2/200x45	40	4100	3800	3600	3700	3500	3300	3200	3000	2900
	90	3900	3400	3000	3600	3100	2800	3100	2800	2600
2/240x45	40	4700	4300	4100	4300	4000	3800	3700	3600	3500
	90	4500	3900	3600	4100	3700	3400_{5}	3700	3400_{5}	3100_{20}
2/300x45	40	5600	5100	4800	5000	4800	4500	4400_{10}	4300_{15}	4100_{20}
	90	5300	4600	4200_{15}	4900	4400	4100_{25}	4300_{15}	4000_{25}	3800_{60}
2/360x45	40	6400	5900	5500	5800	5500	5200_{5}	5100_{25}	4900_{30}	4700_{40}
	90	6000	5300	4900_{30}	5600	5000_{15}	4700_{45}	5000_{30}	4600_{50}	4400_{85}
2/400x45	40	6900	6400	6000	6300	5900	5600_{10}	5500_{35}	5300_{45}	5100_{60}
	90	6500	5700_{10}	5300_{45}	6000	5500_{25}	5100_{70}	5400_{40}	5000_{70}	4800_{100}
90x63	40	1700	1500	1400	1500	1400	1300	1200	1200	1100
	90	1600	1300	1200	1400	1200	1100	1200	1100	1000
130x63	40	2500	2200	2000	2200	2000	1900	1800	1700	1700
	90	2300	1900	1700	2100	1800	1600	1800	1600	1400
150x63	40	2900	2600	2400	2500	2300	2200	2100	2000	1900
	90	2700	2200	2000	2400	2100	1900	2000	1900	1700
170x63	40	3300	2900	2700	2900	2600	2500	2400	2300	2200
	90	3000	2500	2200	2700	2400	2100	2300	2100	1900_{5}
200x63	40	3800	3400	3200	3400	3100	2900	2800	2700	2600_{5}
	90	3600	3000	2700	3200	2800	2500_{10}	2700	2500_{10}	2200_{25}
240x63	40	4300	4000	3700	3900	3700	3500	3400_{15}	3200_{20}	3100_{25}
	90	4100	3600	3200_{20}	3800	3300_{10}	3000_{35}	3300_{20}	3000_{30}	2700_{55}
300x63	40	5100	4700	4400	4600	4400	4200_{15}	4100_{45}	3900_{60}	3800_{65}
	90	4800	4200_{15}	3900_{55}	4500	4000_{30}	3700_{75}	4000_{55}	3700_{75}	3400_{100}
360x63	40	5800	5400	5100_{15}	5300	5000_{15}	4800_{35}	4700_{75}	4500_{80}	4300_{90}
	90	5500	4900_{30}	4500_{80}	5100_{10}	4600_{55}	4300_{100}	4500_{80}	4200_{100}	4000_{135}
400x63	40	6300	5800	5500_{25}	5700_{10}	5400_{25}	5200_{50}	5000_{90}	4900_{100}	4700_{105}
	90	6000	5300_{45}	4800_{95}	5500_{20}	5000_{70}	4600_{115}	4900_{90}	4600_{115}	4400_{155}
450x63	40	6900	6400_{10}	6000_{35}	6300_{20}	5900_{35}	5600_{70}	5500_{105}	5300_{115}	5100_{125}
	90	6500_{5}	5700_{70}	5300_{115}	6000_{30}	5500_{90}	5100_{135}	5400_{110}	5000_{135}	4800_{175}
300x75	40	5300	4900	4600	4800	4600	4300	4200_{25}	4100_{30}	4000_{35}
	90	5000	4400	4100_{30}	4700	4200_{15}	3900_{45}	4100_{30}	3900_{45}	3700_{85}
400x75	40	6600	6100	5700_{10}	6000	5700_{10}	5400_{25}	5300_{65}	5100_{75}	4900_{85}
	90	6200	5500_{25}	5000_{75}	5800_{5}	5200_{45}	4900_{90}	5100_{75}	4800_{90}	4500_{125}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on total ground floor mass of 40 kg/m^2 + 0.5 kPa of LL, wall mass of 37 kg/m^2, floor live load of 1.5 kPa, floor point load of 1.8 kN
3. The above table was based on a wall height of 2700 mm
4. End bearing lengths = 70 mm at end supports and 90 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 70 mm at end supports and 90 mm at internal supports.
5. Restraint value for slenderness calculations is 600 mm
6. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering

Single span floor bearer supporting double storey load bearing wall - sheet and tile roof



EXAMPLE:

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

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

ADOPT:

SmartLVL 13 - 2/300x45

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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended floor bearer supporting double loadbearing wall span (mm)											
		Single span											
2/90x45	40	1100	1100	1000	1000	1000	NS	1000	1000	NS	NS	NS	NS
	90	1100	1000	NS	1000	NS	NS	1000	NS	NS	NS	NS	NS
2/130x45	40	1600	1500	1500	1500	1400	1400	1500	1400	1400	1400	1300	1300
	90	1600	1400	1300	1400	1300	1200	1500	1300	1200	1400	1300	1200
2/150x45	40	1900	1800	1700	1700	1600	1600	1700	1700	1600	1600	1600	1500
	90	1800	1600	1500	1700	1500	1400	1700	1500	1400	1600	1500	1400
2/170x45	40	2200	2000	1900	2000	1900	1800	2000	1900	1800	1800	1800	1700
	90	2100	1800	1700	1900	1700	1600	1900	1700	1600	1800	1700	1600
2/200x45	40	2500	2400	2300	2300	2200	2100	2300	2200	2100	2200	2100	2000
	90	2400	2200	2000	2300	2100	1900	2300	2100	1900	2100	2000	1800
2/240x45	40	3100	2900	2700	2800	2700	2600	2800	2700	2600	2600	2500	2400
	90	2900	2600	2400	2700	2500	2300	2700	2500	2300	2500	2400	2200
2/300x45	40	3800	3600	3400	3500	3300	3200	3500	3400	3200	3300	3100	3000
	90	3700	3300	3000	3400	3100	2900	3400	3100	2900	3200	3000	2800
2/360x45	40	4300	4100	4000	4000	3900	3800	4100	3900	3800	3800	3700	3600
	90	4200	3800	3600	3900	3700	3500	4000	3700	3500	3800	3600	3300
2/400x45	40	4700	4500	4300	4400	4200	4100	4400	4200	4100	4200	4000	3900
	90	4500	4200	3900	4300	4000	3800	4300	4000	3800	4100	3800	3700
90x63	40	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	90	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
130x63	40	1500	1400	1300	1300	1300	1200	1300	1300	1200	1200	1200	1100
	90	1400	1200	1100	1300	1200	1100	1300	1200	1100	1200	1100	1000
150x63	40	1700	1600	1500	1500	1500	1400	1500	1500	1400	1400	1400	1300
	90	1600	1400	1300	1500	1400	1300	1500	1400	1300	1400	1300	1200
170x63	40	1900	1800	1700	1700	1700	1600	1800	1700	1600	1600	1600	1500
	90	1800	1600	1500	1700	1500	1400	1700	1500	1400	1600	1500	1400
200x63	40	2300	2100	2000	2100	2000	1900	2100	2000	1900	1900	1900	1800
	90	2200	1900	1800	2000	1800	1700	2000	1800	1700	1900	1700	1600
240x63	40	2700	2600	2400	2500	2400	2300	2500	2400	2300	2300	2200	2100
	90	2600	2300	2100	2400	2200	2000	2400	2200	2000	2300	2100	2000
300x63	40	3400	3200	3000	3100	3000	2800	3100	3000	2900	2900	2800	2700
	90	3300	2900	2700	3000	2700	2600	3000	2800	2600	2800	2600	2500
360x63	40	4000	3800	3600	3700	3600	3400	3700	3600	3400	3500	3400	3200
	90	3800	3500	3200	3600	3300	3100	3600	3300	3100	3400	3200	3000_5
400x63	40	4300	4100	3900	4000	3900	3700	4000	3900	3800	3800	3700	3600
	90	4200	3800	3600	3900	3600	3400_5	3900	3700	3400_5	3700	3500_5	3300_{15}
450x63	40	4700	4500	4300	4400	4200	4100	4400	4200	4100	4200_5	4000_5	3900_{10}
	90	4500	4200	3900_5	4300	4000_5	3800_{15}	4300	4000_5	3800_{15}	4100_5	3800_{10}	3700_{25}
300x75	40	3600	3400	3200	3300	3100	3000	3300	3200	3000	3100	3000	2900
	90	3500	3100	2800	3200	2900	2700	3200	2900	2700	3000	2800	2600
400x75	40	4500	4300	4100	4200	4000	3900	4200	4000	3900	4000	3900	3800
	90	4300	4000	3700	4100	3800	3600	4100	3800	3600	3900	3700	3500_5

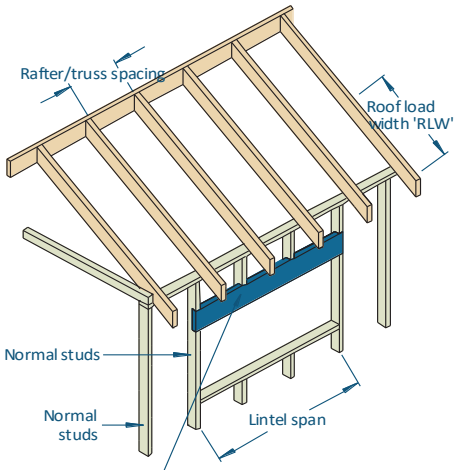
Continuous span floor bearer supporting double storey load bearing wall - sheet & tile roof

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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended floor bearer supporting double loadbearing wall span (mm)											
		Continuous span											
2/90x45	40	1500	1400	1400	1400	1300	1300	1400	1300	1300	1300	1200	1200
	90	1500	1300	1200	1400	1200	1100	1300	1200	1100	1300	1200	1100
2/130x45	40	2200	2100	2000	2000	1900	1900	2000	1900	1800	1900	1800	1700
	90	2100	1900	1800	2000	1800	1700	1900	1800	1700	1800	1700	1600
2/150x45	40	2600	2400	2300	2400	2300	2200	2300	2200	2100	2200	2100	2000
	90	2500	2200	2000	2300	2100	1900	2300	2100	1900	2100	2000	1800
2/170x45	40	2900	2700	2600	2700	2600	2500	2600	2500	2400	2500	2400	2300
	90	2800	2500	2300	2600	2400	2200	2600	2300	2200	2400	2200	2100
2/200x45	40	3400	3200	3100	3200	3000	2900	3100	3000	2800	2900	2800	2700
	90	3300	3000	2700	3100	2800	2600	3000	2800	2600	2900	2600	2500_{5}
2/240x45	40	4000	3800	3700	3700	3600	3500	3700	3600	3400	3500_{5}	3400_{5}	3300_{10}
	90	3900	3600	3300_{5}	3700	3400_{5}	3100_{20}	3600	3300_{5}	3100_{15}	3400_{5}	3200_{15}	3000_{30}
2/300x45	40	4700	4500	4300	4400	4300_{10}	4100_{20}	4400_{10}	4200_{15}	4100_{20}	4200_{25}	4100_{30}	3900_{35}
	90	4600	4200_{5}	4000_{30}	4300_{5}	4000_{25}	3800_{55}	4300_{10}	4000_{25}	3800_{45}	4100_{25}	3900_{40}	3700_{70}
2/360x45	40	5400	5200_{5}	5000_{15}	5100_{10}	4900_{25}	4800_{35}	5000_{25}	4800_{30}	4700_{35}	4800_{45}	4600_{60}	4500_{70}
	90	5200	4800_{25}	4500_{60}	5000_{20}	4600_{50}	4400_{80}	4900_{30}	4600_{45}	4400_{75}	4700_{50}	4400_{75}	4200_{95}
2/400x45	40	5800	5600_{10}	5400_{25}	5500_{20}	5300_{35}	5100_{55}	5400_{35}	5200_{45}	5100_{55}	5200_{65}	5000_{75}	4900_{80}
	90	5700_{5}	5200_{35}	4900_{75}	5400_{30}	5000_{70}	4800_{95}	5300_{40}	5000_{65}	4700_{90}	5100_{70}	4800_{85}	4600_{110}
90x63	40	1300	1300	1200	1200	1200	1100	1200	1200	1100	1100	1100	1100
	90	1300	1200	1100	1200	1100	1000	1200	1100	1000	1100	1000	NS
130x63	40	2000	1900	1800	1800	1700	1700	1800	1700	1600	1700	1600	1500
	90	1900	1700	1500	1800	1600	1500	1700	1600	1500	1600	1500	1400
150x63	40	2300	2100	2000	2100	2000	1900	2100	2000	1900	1900	1800	1800
	90	2200	2000	1800	2000	1900	1700	2000	1800	1700	1900	1700	1600
170x63	40	2600	2400	2300	2400	2300	2200	2300	2200	2100	2200	2100	2000
	90	2500	2200	2000	2300	2100	1900_{5}	2300	2100	1900_{5}	2100	2000	1800_{10}
200x63	40	3000	2900	2700	2800	2700	2600_{5}	2800	2600_{5}	2500_{5}	2600_{10}	2500_{10}	2400_{15}
	90	2900	2600	2400_{10}	2700	2500_{10}	2300_{25}	2700	2400_{10}	2300_{20}	2500_{10}	2300_{20}	2100_{30}
240x63	40	3600	3500	3300_{5}	3400_{5}	3200_{15}	3100_{25}	3300_{15}	3200_{20}	3000_{25}	3100_{30}	3000_{35}	2900_{40}
	90	3500	3200_{15}	2900_{35}	3300_{10}	3000_{30}	2700_{55}	3200_{20}	2900_{30}	2700_{60}	3000_{30}	2800_{45}	2600_{70}
300x63	40	4300_{5}	4100_{15}	4000_{30}	4100_{25}	3900_{40}	3800_{65}	4000_{40}	3900_{60}	3700_{70}	3800_{75}	3700_{80}	3600_{85}
	90	4200_{10}	3800_{45}	3600_{80}	4000_{35}	3700_{75}	3400_{95}	3900_{50}	3700_{75}	3400_{95}	3700_{80}	3500_{90}	3200_{105}
360x63	40	4900_{20}	4700_{35}	4500_{60}	4700_{55}	4500_{75}	4300_{90}	4600_{70}	4400_{85}	4300_{90}	4400_{95}	4300_{105}	4100_{115}
	90	4800_{25}	4400_{75}	4100_{105}	4500_{70}	4200_{100}	4000_{130}	4500_{80}	4200_{100}	4000_{125}	4300_{100}	4100_{120}	3800_{145}
400x63	40	5300_{30}	5100_{50}	4900_{75}	5000_{70}	4900_{85}	4700_{105}	5000_{90}	4800_{95}	4700_{105}	4700_{115}	4600_{120}	45001_{30}
	90	5200_{35}	4800_{85}	4500_{120}	4900_{80}	4600_{115}	4400_{150}	4900_{95}	4500_{115}	4300_{145}	4700_{120}	4400_{140}	4200_{170}
450x63	40	5800_{45}	5600_{70}	5400_{90}	5500_{85}	5300_{105}	5100_{120}	5400_{100}	5200_{115}	5100_{120}	5200_{130}	5000_{140}	4900_{150}
	90	5700_{65}	5200_{100}	4900_{140}	5400_{95}	5000_{135}	4800_{170}	5300_{110}	5000_{135}	4700_{165}	5100_{135}	4800_{160}	4600_{195}
300x75	40	4500	4300	4100_{15}	4200_{15}	4100_{20}	4000_{35}	4200_{25}	4000_{30}	3900_{35}	4000_{45}	3900_{55}	3800_{65}
	90	4400	4000_{20}	3800_{55}	4100_{20}	3900_{50}	3700_{80}	4100_{25}	3800_{45}	3600_{75}	3900_{50}	3700_{70}	3500_{90}
400x75	40	5600_{15}	5300_{25}	5100_{45}	5300_{40}	5100_{65}	4900_{80}	5200_{65}	5000_{75}	4900_{85}	4900_{90}	4800_{95}	4700_{100}
	90	5400_{20}	5000_{65}	4700_{95}	5100_{60}	4800_{90}	4500_{120}	5100_{70}	4700_{90}	4500_{115}	4900_{95}	4600_{110}	4400_{140}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on total upper floor mass of 40 kg/m^2, total ground floor mass of 30 kg/m^2, floor live load of 1.5 kPa, floor point load of 1.8 kN, wall mass of 37 kg/m^2, and 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 = 42 mm at end supports and 58 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 42 mm at end supports and 58 mm at internal supports.
5. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering

Single span lintels in single/upper storey walls
AS 4055 classification N1 - N4



Single/Upper storey lintel

EXAMPLE:

wind speed = N4
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
lintel span = 3500 mm
roof load width = 3900 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:

SmartLVL 13 - 300x45
(requires an additional 5 mm of bearing)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/Truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Lintel span (mm)									
		Single span									
90x45	40	2000	1800	1500	1400	1300	1100	1100	NS	1000	NS
	90	1400	1300	1100	NS	NS	NS	NS	NS	NS	NS
130x45	40	2700	2800	2200	2200	2000	1900	1800	1700	1600	1500
	90	2100	2100	1700	1600	1400	1300	1300	1100	1200	1000
150x45	40	3100	3100	2500	2600	2200	2200	2000	2000	1900	1900
	90	2400	2500	2000	1900	1700	1600	1500	1400	1400	1300
170x45	40	3400	3400	2900	2900	2500	2600	2300	2300	2100	2100
	90	2700	2800	2200	2200	2000	1900	1700	1700	1600	1500_{10}
200x45	40	3900	3800	3300	3300	3000	3000	2700	2700_{5}	2500	2600_{10}
	90	3200	3200	2600	2700	2300	2200	2100	2000	1900_{10}	1900_{10}
240x45	40	4400	4400	3800	3700	3400	3400	3200_{5}	3200_{5}	3000_{5}	3000_{10}
	90	3600	3600	3100	3100	2700	2800_{5}	2500	2500_{15}	2300_{15}	2300_{10}
300x45	40	5200	5200	4400	4400	4000_{5}	4000	3800_{10}	3700_{5}	3500_{20}	3500_{15}
	90	4300	4300	3600	3600	3300_{5}	3300	3100_{5}	3100_{15}	2900_{15}	2900_{35}
360x45	40	5900	5900	5100	5100	4600	4600_{5}	4300_{15}	4300_{20}	4100_{20}	4100_{20}
	90	4900	4900	4200	4200	3800_{10}	3800_{5}	3500_{15}	3500_{15}	3300_{30}	3300_{25}
400x45	40	6400	6400	5500	5500	5000	5000_{10}	4700_{10}	4600_{15}	4400_{25}	4400_{30}
	90	5300	5300	4500	4500	4100_{10}	4100_{5}	3800_{25}	3800_{15}	3600_{40}	3600_{25}
2/90x45	40	2400	2500	2000	1900	1700	1600	1500	1400	1400	1200
	90	1900	1800	1400	1300	1200	1100	1100	NS	NS	NS
2/130x45	40	3300	3300	2700	2800	2400	2500	2200	2200	2100	2000
	90	2600	2700	2100	2100	1900	1800	1700	1600	1500	1400
2/150x45	40	3700	3600	3100	3100	2800	2800	2500	2600	2300	2400
	90	3000	3000	2400	2500	2100	2100	2000	1900	1800	1800
2/170x45	40	4000	4000	3400	3400	3100	3100	2900	2900	2700	2700
	90	3300	3300	2700	2800	2400	2500	2200	2200	2100	2000
2/200x45	40	4500	4500	3900	3800	3500	3500	3300	3300	3100	3100
	90	3800	3700	3200	3200	2800	2900	2600	2700	2400	2400
2/240x45	40	5100	5100	4400	4400	4000	4000	3800	3700	3600	3500
	90	4300	4300	3600	3600	3300	3300	3100	3100	2900	2900
2/300x45	40	6000	6000	5200	5200	4700	4700	4400	4400	4200	4200
	90	5100	5100	4300	4300	3900	3900	3600	3600	3400	3400
2/360x45	40	6800	6800	5900	5900	5400	5400	5100	5100	4800	4800_{5}
	90	5800	5800	4900	4900	4500	4500	4200	4200	4000_{5}	3900
2/400x45	40	7300	7300	6400	6400	5900	5800	5500	5500	5200_{5}	5200_{5}
	90	6200	6200	5300	5300	4900	4800	4500	4500	4300_{10}	4300_{10}

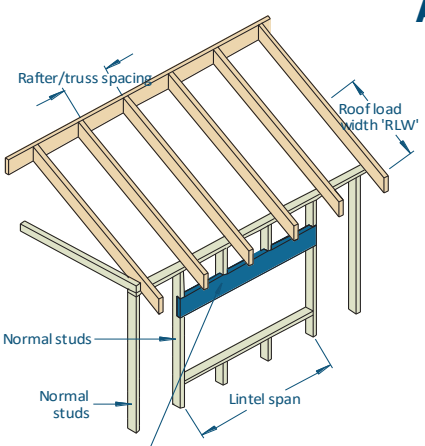
Single span lintels in single/upper storey walls
AS 4055 classification N1 - N4 (Cont'd)

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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Lintel span (mm)									
		Single span									
90x63	40	2100	2100	1700	1600	1500	1300	1300	1100	1200	1000
	90	1600	1500	1300	1100	1000	NS	NS	NS	NS	NS
130x63	40	3000	3000	2400	2500	2200	2100	2000	1900	1800	1800
	90	2300	2400	1900	1900	1600	1500	1500	1300	1400	1200
150x63	40	3400	3300	2800	2800	2500	2600	2200	2300	2100	2100
	90	2700	2800	2200	2200	1900	1900	1700	1700	1600	1500
170x63	40	3700	3700	3100	3100	2800	2800	2500	2600	2400	2400
	90	3100	3000	2400	2500	2200	2100	2000	1900	1800	1800
200x63	40	4200	4200	3500	3500	3200	3200	3000	3000	2800	2800
	90	3400	3400	2900	2900	2500	2600	2300	2300	2100	2100
240x63	40	4800	4700	4100	4100	3700	3700	3400	3400	3300	3200
	90	4000	3900	3300	3300	3000	3000	2800	2800_{5}	2500	2600_{10}
300x63	40	5600	5600	4800	4800	4400	4400	4100	4100_{5}	3900_{5}	3800_{5}
	90	4700	4700	4000	3900	3600	3600	3300	3300	3200_{15}	3100_{10}
360x63	40	6300	6300	5500	5500	5000	5000	4700	4600	4400_{10}	4400_{10}
	90	5300	5300	4500	4500	4100	4100	3800_{10}	3800_{5}	3600_{20}	3600_{10}
400x63	40	6800	6800	5900	5900	5400	5400	5100	5000_{10}	4800_{5}	4800_{20}
	90	5800	5700	4900	4900	4400	4400_{5}	4100_{10}	4200_{5}	3900_{20}	3900_{10}
450x63	40	7400	7400	6400	6400	5900	5900	5500_{10}	5500_{15}	5200_{20}	5200_{20}
	90	6300	6300	5400	5400	4900	4800_{10}	4500_{10}	4500_{15}	4300_{25}	4300_{30}
300x75	40	5800	5800	5000	5000	4500	4500	4200	4200	4000_{5}	4000
	90	4900	4800	4100	4100	3700	3700	3500	3500	3300_{5}	3300
400x75	40	7100	7000	6100	6100	5600	5600	5300	5300_{5}	5000	5000_{10}
	90	6000	6000	5100	5100	4600	4600	4300_{5}	4300_{10}	4100_{10}	4100_{5}

NOTES:

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

Single span lintels in single/upper storey walls
AS 4055 classification C1 - C3



Single/Upper storey lintel

EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
lintel span = 3400 mm
roof load width = 3900 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 3400 mm

ADOPT:

SmartLVL 13 - 300x45
(additional 30 mm bearing required)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/Truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Lintel span (mm)									
		Single span									
90x45	40	1600	1500	1100	NS	NS	NS	NS	NS	NS	NS
	90	1400	1300	1100	NS	NS	NS	NS	NS	NS	NS
130x45	40	2300	2400	1900	1800	1500	1200	1100_{5}	NS	NS	NS
	90	2100	2100	1700	1600	1400	1200	1200_{10}	NS	NS	NS
150x45	40	2700	2800	2200	2200	1800_{5}	1600	1600_{5}	1000	1100_{15}	NS
	90	2400	2500	2000	1900	1700	1600_{5}	1500_{10}	1200_{10}	1200_{20}	NS
170x45	40	3100	3100	2400	2500	2100_{10}	2000_{5}	1800_{15}	1500_{15}	1300_{10}	NS
	90	2700	2800	2200	2200	2000_{10}	1900_{10}	1700_{15}	1500_{25}	1400_{15}	NS
200x45	40	3700	3600	2900	2900	2400_{5}	2400_{15}	2100_{25}	2100_{20}	1900_{30}	1500_{30}
	90	3200	3200	2600	2700_{5}	2300_{15}	2200_{15}	2100_{25}	2000_{25}	1900_{40}	1600_{40}
240x45	40	4300	4300	3500	3500_{5}	3000_{10}	2900_{20}	2500_{15}	2600_{35}	2300_{35}	2300_{30}
	90	3600	3600	3100_{10}	3100_{5}	2700_{15}	2800_{30}	2500_{25}	2500_{45}	2300_{45}	2300_{40}
300x45	40	5100	5100	4300_{10}	4300_{15}	3800_{30}	3700_{25}	3300_{40}	3200_{35}	2900_{35}	2800_{60}
	90	4300	4300	3600_{15}	3600_{10}	3300_{30}	3300_{25}	3100_{35}	3100_{50}	2900_{45}	2900_{75}
360x45	40	5900	5800	4900_{10}	4900_{25}	4400_{35}	4400_{35}	4000_{50}	3900_{40}	3600_{70}	3400_{50}
	90	4900	4900	4200_{20}	4200_{25}	3800_{40}	3800_{30}	3500_{50}	3500_{45}	3300_{75}	3300_{70}
400x45	40	6300	6300	5300_{20}	5300_{25}	4800_{30}	4800_{50}	4400_{60}	4400_{65}	3900_{70}	3800_{55}
	90	5300	5300	4500_{20}	4500_{20}	4100_{40}	4100_{35}	3800_{65}	3800_{50}	3600_{90}	3600_{65}
2/90x45	40	2100	2100	1600	1500	1400	1200	1200	NS	1000	NS
	90	1900	1800	1400	1300	1200	1100	1100	NS	NS	NS
2/130x45	40	3000	3000	2300	2400	2100	2000	1900	1900	1700	1600
	90	2600	2700	2100	2100	1900	1800	1700	1600	1500	1400
2/150x45	40	3500	3400	2700	2800	2400	2400	2200	2200	2000	2000
	90	3000	3000	2400	2500	2100	2100	2000	1900	1800_{5}	1800
2/170x45	40	4000	3900	3100	3100	2700	2700	2400	2500	2300	2300
	90	3300	3300	2700	2800	2400	2500	2200	2200	2100_{5}	2000_{5}
2/200x45	40	4500	4500	3700	3600	3200	3200	2900	2900	2700	2700_{10}
	90	3800	3700	3200	3200	2800	2900	2600	2700_{5}	2400_{5}	2400_{15}
2/240x45	40	5100	5100	4300	4300	3900	3800	3500	3500_{5}	3200_{10}	3200_{10}
	90	4300	4300	3600	3600	3300	3300	3100_{10}	3100_{5}	2900_{10}	2900_{20}
2/300x45	40	6000	6000	5100	5100	4600	4600	4300_{10}	4300_{15}	4000_{25}	4000_{30}
	90	5100	5100	4300	4300	3900_{5}	3900	3600_{15}	3600_{10}	3400_{15}	3400_{20}
2/360x45	40	6800	6800	5900	5800	5300_{5}	5300_{10}	4900_{10}	4900_{25}	4600_{20}	4600_{25}
	90	5800	5800	4900	4900	4500_{5}	4500_{10}	4200_{20}	4200_{25}	4000_{30}	3900_{20}
2/400x45	40	7300	7300	6300	6300	5700_{10}	5700_{10}	5300_{20}	5300_{25}	5000_{20}	5000_{35}
	90	6200	6200	5300	5300	4900_{5}	4800_{15}	4500_{20}	4500_{20}	4300_{35}	4300_{40}

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

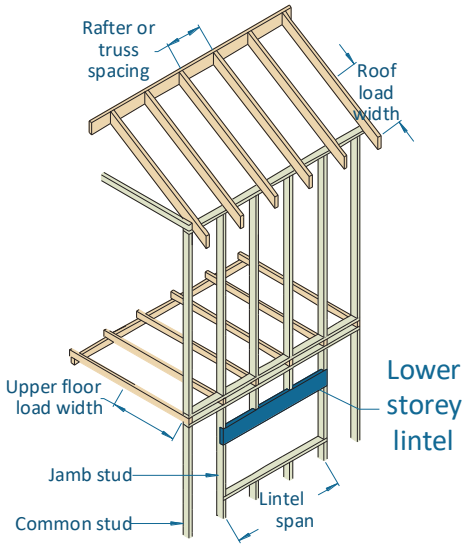
Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/Truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Lintel span (mm)									
		Single span									
90x63	40	1900	1800	1400	1200	1000	NS	NS	NS	NS	NS
	90	1600	1500	1300	1100	1000	NS	NS	NS	NS	NS
130x63	40	2600	2700	2100	2100	1900	1600	1600	1200	1300	NS
	90	2300	2400	1900	1900	1600	1500	1500	1300	1300_{5}	NS
150x63	40	3100	3100	2400	2500	2100	2100	1900_{5}	1600	1600_{5}	1300
	90	2700	2800	2200	2200	1900	1900	1700	1700_{5}	1600_{5}	1300_{5}
170x63	40	3500	3400	2700	2800	2400	2400_{5}	2100_{5}	2100_{5}	1900_{10}	1700_{5}
	90	3100	3000	2400	2500	2200	2100	2000_{10}	1900_{10}	1800_{20}	1700_{15}
200x63	40	4100	4100	3200	3200	2800	2800_{5}	2500_{5}	2500_{15}	2200_{15}	2200_{15}
	90	3400	3400	2900	2900	2500	2600_{10}	2300_{10}	2300_{10}	2100_{25}	2100_{20}
240x63	40	4700	4700	3900	3900	3400_{5}	3400_{5}	3100_{20}	3000_{15}	2700_{15}	2700_{25}
	90	4000	3900	3300	3300	3000_{15}	3000_{10}	2800_{15}	2800_{30}	2500_{20}	2600_{35}
300x63	40	5500	5500	4600	4600	4200_{15}	4200_{20}	3900_{25}	3800_{20}	3500_{30}	3400_{30}
	90	4700	4700	4000	3900	3600_{20}	3600_{10}	3300_{25}	3300_{25}	3200_{45}	3100_{40}
360x63	40	6300	6300	5300_{10}	5300_{10}	4800_{15}	4800_{25}	4500_{30}	4500_{35}	4200_{50}	4100_{55}
	90	5300	5300	4500_{5}	4500_{5}	4100_{20}	4100_{15}	3800_{35}	3800_{30}	3600_{55}	3600_{40}
400x63	40	6800	6800	5800_{10}	5800_{10}	5200_{25}	5200_{25}	4900_{30}	4800_{45}	4600_{45}	4600_{50}
	90	5800	5700	4900_{5}	4900_{15}	4400_{25}	4400_{25}	4100_{35}	4200_{30}	3900_{55}	3900_{40}
450x63	40	7400	7400	6300_{15}	6300_{10}	5700_{30}	5700_{30}	5300_{45}	5300_{45}	5000_{45}	5000_{65}
	90	6300	6300	5400_{15}	5400_{15}	4900_{20}	4800_{35}	4500_{45}	4500_{50}	4300_{65}	4300_{75}
300x75	40	5800	5800	4900	4900	4400_{5}	4400_{10}	4100_{20}	4100_{25}	3800_{30}	3700_{25}
	90	4900	4800	4100	4100	3700_{10}	3700_{5}	3500_{15}	3500_{15}	3300_{30}	3300_{25}
400x75	40	7100	7000	6000_{5}	6000	5500_{20}	5500_{20}	5100_{20}	5100_{35}	4800_{30}	4800_{50}
	90	6000	6000	5100_{5}	5100_{5}	4600_{10}	4600_{15}	4300_{30}	4300_{35}	4100_{40}	4100_{35}

NOTES:

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

Single span lintels in lower storey walls
AS 4055 classification N1 - N4 & C1

Sheet Roof (40 kg/m^2)



EXAMPLE:

wind speed = N4
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
lintel span = 3500 mm
roof load width = 3900 mm
floor load width = 1200 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:

SmartLVL 13- 360x45
(additional 10 mm bearing required)

Roof load width (mm)	1500			3000			4500			6000		
floor load width (mm)	1200	2400	3600	1200	2400	3600	1200	2400	3600	1200	2400	3600
Member size DxB (mm)	Maximum recommended Lintel span (mm) - Sheet roof											
	Single span											
130x45	1700	1500	1400	1600	1400	1300	1500	1400	1300	1400	1300	1200
150x45	1900	1700	1600	1800	1700	1500	1700	1600	1500	1700	1500	1400
170x45	2200	2000	1800	2100	1900	1700	2000	1800	1700	1900	1800	1600
200x45	2600	2300	2100	2400	2200	2100	2300	2100	2000	2200	2100	1900_{5}
240x45	3100	2800	2600_{5}	2900	2700	2500_{5}	2800	2600	2400_{10}	2700	2500_{5}	2300_{10}
300x45	3600	3400_{5}	3200_{15}	3500	3300_{5}	3100_{15}	3400_{5}	3200_{10}	3000_{20}	3300_{5}	3100_{15}	2900_{20}
360x45	4200	3900_{10}	3600_{25}	4000	3700_{10}	3500_{25}	3900_{10}	3600_{15}	3500_{25}	3700_{15}	3500_{20}	3400_{30}
400x45	4500	4200_{15}	3900_{25}	4300_{5}	4000_{15}	3800_{30}	4200_{10}	3900_{20}	3700_{30}	4000_{15}	3800_{25}	3700_{35}
2/130x45	2100	1900	1700	2000	1800	1700	1900	1700	1600	1800	1700	1600
2/150x45	2400	2200	2000	2300	2100	1900	2200	2000	1900	2100	2000	1800
2/170x45	2800	2500	2300	2600	2400	2200	2500	2300	2100	2400	2200	2100
2/200x45	3200	2900	2700	3000	2800	2600	2900	2700	2500	2800	2600	2500
2/240x45	3600	3400	3200	3500	3300	3100	3400	3200	3000	3300	3100	3000
2/300x45	4300	4000	3700	4100	3900	3700	4000	3800	3600	3900	3700	3500
2/360x45	4900	4600	4300	4700	4400	4200	4600	4300	4100_{5}	4400	4200	4000_{5}
2/400x45	5300	4900	4600_{5}	5100	4800	4500_{5}	4900	4700	4400_{5}	4800	4500	4300_{5}
130x63	1900	1700	1500	1800	1600	1500	1700	1500	1400	1600	1500	1400
150x63	2200	1900	1800	2000	1900	1700	1900	1800	1700	1900	1700	1600
170x63	2500	2200	2000	2300	2100	2000	2200	2000	1900	2100	2000	1800
200x63	2900	2600	2400	2700	2500	2300	2600	2400	2200	2500	2300	2200
240x63	3300	3100	2900	3200	3000	2800	3100	2900	2700	3000	2800	2600
300x63	3900	3600	3400_{5}	3800	3500	3300_{5}	3600	3400	3300_{5}	3500	3400_{5}	3200_{10}
360x63	4500	4200	3900_{10}	4300	4100_{5}	3800_{10}	4200	3900_{5}	3800_{15}	4100_{5}	3800_{10}	3700_{15}
400x63	4900	4500_{5}	4300_{15}	4700	4400_{5}	4200_{15}	4500	4300_{10}	4100_{15}	4400_{5}	4200_{10}	4000_{20}
450x63	5300	4900_{5}	4700_{20}	5100	4800_{10}	4500_{20}	4900_{5}	4700_{15}	4400_{20}	4800_{10}	4600_{15}	4300_{25}
300x75	4100	3800	3600	3900	3700	3500	3800	3600	3400	3700	3500	3300_{5}
400x75	5100	4700	4400_{10}	4900	4600	4300_{10}	4700	4500_{5}	4200_{10}	4600	4300_{5}	4200_{10}

Single span lintels in lower storey walls
AS 4055 classification N1 - N4 & C1

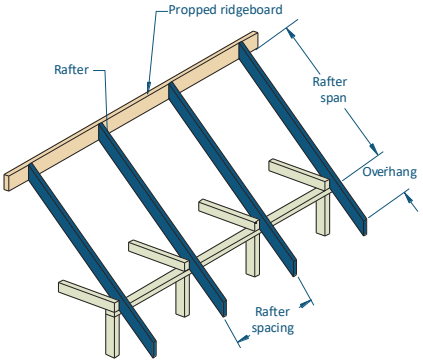
Tile Roof (90 kg/m^2)

Roof load width (mm)	1500			3000			4500			6000		
floor load width (mm)	1200	2400	3600	1200	2400	3600	1200	2400	3600	1200	2400	3600
Member size DxB (mm)	Maximum recommended Lintel span (mm) - Tile roof											
	Single span											
130x45	1600	1400	1300	1400	1300	1200	1300	1200	1200	1200	1200	1100
150x45	1800	1600	1500	1600	1500	1400	1500	1400	1400	1400	1300	1300
170x45	2000	1900	1700	1800	1700	1600	1700	1600	1500	1600	1500	1500_{5}
200x45	2400	2200	2000	2200	2000	1900_{5}	2000	1900_{5}	1800_{5}	1900_{5}	1800_{5}	1700_{10}
240x45	2900	2700	2500_{10}	2600	2500_{5}	2300_{10}	2400_{5}	2300_{10}	2200_{15}	2300_{10}	2200_{15}	2100_{20}
300x45	3400	3200_{5}	3100_{15}	3200_{10}	3000_{15}	2900_{20}	3000_{15}	2900_{20}	2800_{25}	2900_{20}	2700_{30}	2600_{30}
360x45	4000_{5}	3700_{15}	3500_{25}	3700_{15}	3500_{20}	3300_{30}	3500_{20}	3300_{30}	3200_{35}	3300_{30}	3200_{35}	3100_{45}
400x45	4300_{10}	4000_{15}	3800_{30}	4000_{20}	3800_{25}	3600_{35}	3800_{25}	3600_{35}	3500_{45}	3600_{35}	3500_{45}	3400_{50}
2/130x45	2000	1800	1700	1800	1700	1600	1600	1600	1500	1500	1500	1400
2/150x45	2300	2100	1900	2100	1900	1800	1900	1800	1700	1800	1700	1600
2/170x45	2600	2400	2200	2300	2200	2100	2200	2000	1900	2000	1900	1900
2/200x45	3000	2800	2600	2800	2600	2400	2600	2400	2300	2400	2300	2200
2/240x45	3500	3200	3100	3200	3100	2900	3000	2900	2800	2900	2800	2600
2/300x45	4100	3800	3600	3800	3600	3500	3600	3500	3300_{5}	3400	3300_{5}	3200_{5}
2/360x45	4700	4400	4200	4400	4200	4000_{5}	4100	4000_{5}	3800_{10}	3900_{5}	3800_{10}	3700_{15}
2/400x45	5100	4800	4500_{5}	4700	4500_{5}	4300_{10}	4500_{5}	4300_{10}	4100_{15}	4300_{10}	4100_{15}	4000_{15}
130x63	1700	1600	1500	1600	1500	1400	1500	1400	1300	1400	1300	1200
150x63	2000	1800	1700	1800	1700	1600	1700	1600	1500	1600	1500	1400
170x63	2300	2100	1900	2100	1900	1800	1900	1800	1700	1800	1700	1600
200x63	2700	2500	2300	2400	2300	2200	2300	2100	2000	2100	2000	1900
240x63	3200	3000	2800	2900	2700	2600	2700	2600	2500_{5}	2600	2400_{5}	2300_{10}
300x63	3700	3500	3300_{5}	3500	3300_{5}	3200_{10}	3300_{5}	3200_{10}	3000_{15}	3100_{10}	3000_{15}	2900_{20}
360x63	4300	4000_{5}	3800_{10}	4000_{5}	3800_{10}	3600_{15}	3800_{10}	3600_{15}	3500_{20}	3600_{15}	3500_{20}	3400_{25}
400x63	4600	4400_{5}	4100_{15}	4300_{5}	4100_{15}	3900_{20}	4100_{15}	3900_{20}	3800_{25}	3900_{20}	3800_{25}	3700_{30}
450x63	5100_{5}	4800_{10}	4500_{20}	4700_{10}	4500_{20}	4300_{25}	4500_{20}	4300_{25}	4100_{30}	4300_{25}	4100_{30}	4000_{40}
300x75	3900	3700	3500	3600	3500	3300_{5}	3400	3300_{5}	3200_{10}	3300_{5}	3200_{10}	3100_{15}
400x75	4800	4500	4300_{10}	4500	4300_{10}	4100_{15}	4300_{10}	4100_{15}	4000_{20}	4100_{15}	3900_{20}	3800_{25}

NOTES:

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

Single/continuous span roof rafter - with ceiling attached
AS 4055 classification N1 - N4



Maximum Birdsmouth = 30% of rafter dept

EXAMPLE:

wind speed = N4
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
rafter span = 5800 mm (single span)
Enter span table at single span, rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm

ADOPT:

SmartLVL 13 - 240x45

Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size D x B (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
90x45	30	2400	250	2400	250	2300	250	2300	250	3000	250	3000	250	3000	250	3000	250
	40	2400	250	2400	250	2300	250	2100	250	2900	250	3000	250	3000	250	2800	250
	75	2300	250	2100	250	1800	250	1700	250	3000	250	2900	250	2500	250	2300	250
	90	2200	250	2000	250	1700	250	1600	250	3000	250	2700	250	2400	250	2200	250
130x45	30	4000	400	4000	400	3500	350	3200	350	5100	400	5100	400	4800	350	4400	350
	40	4000	400	3700	400	3200	350	3000	350	5100	400	5000	400	4400	350	4000	350
	75	3300	400	3000	350	2700	350	2400	300	4500	400	4100	350	3600	350	3300	300
	90	3100	350	2900	350	2500	350	2300	300	4300	350	3900	350	3400	350	3100	300
150x45	30	4900	500	4500	500	4100	450	3700	450	5900	500	5900	500	5500	450	5100	450
	40	4500	500	4200	500	3700	450	3400	450	5900	500	5700	500	5100	450	4700	450
	75	3800	500	3500	450	3100	450	2800	400	5200	500	4700	450	4200	450	3800	400
	90	3600	450	3300	450	2900	400	2600	400	4900	450	4500	450	4000	400	3600	400
170x45	30	5500	650	5100	650	4600	600	4200	550	6700	650	6700	650	6200	600	5700	550
	40	5100	650	4700	600	4200	600	3900	550	6700	650	6300	600	5700	600	5300	550
	75	4300	600	3900	600	3500	550	3200	500	5800	600	5400	600	4700	550	4300	500
	90	4100	600	3700	550	3300	500	3000	500	5500	600	5100	550	4500	500	4100	500
200x45	30	6200	850	5900	850	5300	800	4900	750	7800	850	7500	850	6900	800	6500	750
	40	5900	850	5500	800	4900	750	4500	700	7500	850	7100	800	6500	750	6100	700
	75	5000	800	4600	750	4100	700	3700	650	6600	800	6200	750	5600	700	5100	650
	90	4800	800	4400	750	3900	650	3500	600	6300	800	5900	750	5300	650	4800	600
240x45	30	7000	1150	6700	1100	6200	1000	5900	1000	8900	1150	8400	1100	7800	1000	7400	1000
	40	6700	1100	6400	1050	5900	1000	5400	950	8500	1100	8000	1050	7400	1000	7000	950
	75	6000	1000	5500	1000	4900	900	4500	850	7500	1000	7100	1000	6500	900	6000	850
	90	5700	1000	5200	950	4600	850	4200	800	7200	1000	6800	950	6200	850	5700	800
300x45	30	8100	1600	7800	1500	7300	1400	6900	1300	10300	1600	9800	1500	9100	1400	8600	1300
	40	7800	1550	7400	1450	6900	1350	6500	1250	9800	1550	9300	1450	8600	1350	8200	1250
	75	7000	1400	6600	1350	6000	1200	5600	1100	8800	1400	8300	1350	7600	1200	7100	1100
	90	6700	1400	6300	1300	5700	1150	5300	1000	8500	1400	8000	1300	7300	1150	6800	1000
360x45	30	9200	2050	8800	1950	8200	1800	7800	1650	11500	2050	11100	1950	10300	1800	9800	1650
	40	8800	2000	8400	1900	7800	1700	7400	1550	11100	2000	10500	1900	9800	1700	9300	1550
	75	7900	1800	7500	1700	6900	1500	6400	1350	10000	1800	9400	1700	8700	1500	8100_5	1350
	90	7600	1750	7200	1650	6600	1450	6200	1300	9600	1750	9100	1650	8300	1450	7800_5	1300
400x45	30	9800	2400	9400	2250	8800	2050	8400	1900	12000	2400	11900	2250	11100	2050	10500	1900
	40	9400	2300	9000	2200	8400	1950	7900	1800	11900	2300	11300	2200	10500	1950	10000_5	1800
	75	8500	2100	8000	1950	7400	1700	7000	1550	10700	2100	10100	1950	9300	1700	8800_{10}	1550
	90	8200	2000	7800	1850	7100	1600	6700	1450	10300	2000	9700	1850	9000	1600	8400_{10}	1450
90x63	30	2800	300	2800	300	2700	300	2500	300	3500	300	3500	300	3500	300	3400	300
	40	2800	300	2800	300	2500	300	2300	300	3500	300	3500	300	3400	300	3100	300
	75	2600	300	2300	300	2100	300	1900	250	3500	300	3200	300	2800	300	2600	250
	90	2400	300	2200	300	1900	250	1800	250	3300	300	3000	300	2600	250	2400	250
130x63	30	4600	650	4300	600	3900	600	3600	550	5700	650	5700	600	5300	600	4900	550
	40	4300	600	4000	600	3600	550	3300	550	5700	600	5500	600	4900	550	4500	550
	75	3700	600	3400	550	3000	500	2700	500	5000	600	4600	550	4000	500	3700	500
	90	3500	600	3200	550	2800	500	2600	450	4700	600	4300	550	3800	500	3500	450

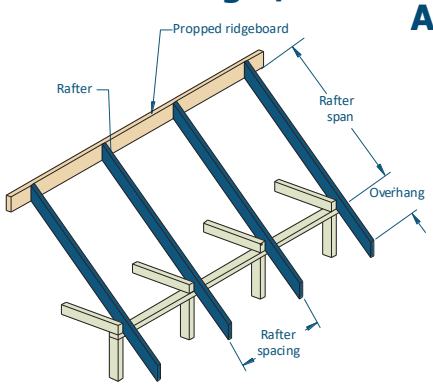
Single/continuous span roof rafter - with ceiling attached
AS 4055 classification N1 - N4 (Cont'd)

Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size D x B (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
150x63	30	5300	800	4900	750	4500	750	4100	700	6600	800	6500	750	6000	750	5600	700
	40	4900	800	4600	750	4100	700	3800	650	6500	800	6200	750	5600	700	5200	650
	75	4200	750	3900	700	3400	650	3100	600	5700	750	5200	700	4700	650	4300	600
	90	4000	700	3700	700	3200	650	2900	600	5400	700	5000	700	4400	650	4000	600
170x63	30	5900	1000	5500	950	5000	900	4600	850	7400	1000	7100	950	6600	900	6200	850
	40	5500	950	5200	950	4600	850	4300	800	7100	950	6700	950	6200	850	5800	800
	75	4700	900	4400	850	3900	800	3500	750	6300	900	5900	850	5300	800	4800	750
	90	4500	900	4100	850	3600	750	3300	700	6100	900	5600	850	5000	750	4500	700
200x63	30	6600	1250	6300	1200	5800	1100	5400	1050	8300	1250	7900	1200	7400	1100	7000	1050
	40	6300	1200	6000	1150	5400	1050	5000	1000	7900	1200	7500	1150	7000	1050	6600	1000
	75	5500	1100	5100	1050	4500	1000	4100	900	7100	1100	6600	1050	6100	1000	5600	900
	90	5200	1100	4800	1000	4300	950	3900	850	6800	1100	6400	1000	5800	950	5300	850
240x63	30	7400	1600	7100	1550	6600	1450	6300	1350	9300	1600	8900	1550	8300	1450	7900	1350
	40	7100	1600	6800	1500	6300	1400	5900	1300	9000	1600	8500	1500	7900	1400	7500	1300
	75	6400	1450	6000	1350	5400	1200	5000	1100	8000	1450	7600	1350	7000	1200	6500	1100
	90	6100	1400	5700	1300	5100	1150	4700	1050	7700	1400	7300	1300	6700	1150	6300	1050
300x63	30	8500	2200	8200	2100	7700	1900	7300	1800	10800	2200	10300	2100	9700	1900	9200	1800
	40	8200	2150	7900	2000	7300	1850	6900	1700	10300	2150	9900	2000	9200	1850	8700	1700
	75	7400	1950	7000	1800	6500	1600	6100	1450	9400	1950	8800	1800	8200	1600	7700	1450
	90	7200	1900	6800	1750	6200	1550	5800	1400	9000	1900	8500	1750	7900	1550	7400	1400
360x63	30	9500	2750	9200	2650	8700	2400	8300	2200	12000	2750	11600	2650	10900	2400	10400	2200
	40	9200	2700	8900	2550	8300	2300	7900	2100	11600	2700	11100	2550	10400	2300	9900	2100
	75	8400	2400	8000	2250	7400	2000	6900	1800	10600	2400	10000	2250	9300	2000	8700	1800
	90	8100	2350	7700	2150	7100	1900	6700	1700	10200	2350	9700	2150	8900	1900	8400	1700
400x63	30	10200	3050	9900	2950	9300	2700	8900	2500	12000	3150	12000	3000	11800	2700	11200	2500
	40	9900	2950	9500	2850	8900	2600	8500	2350	12000	3050	11900	2850	11200	2600	10600	2350
	75	9000	2700	8600	2550	8000	2250	7500	2000	11300	2750	10800	2550	10000	2250	9400	2000
	90	8700	2600	8300	2450	7700	2100	7200	1900	11000	2650	10400	2450	9600	2100	9000	1900
450x63	30	10900	3250	10600	3100	10000	3000	9600	2850	12000	3600	12000	3400	12000	3100	12000	2850
	40	10600	3100	10200	3050	9600	2800	9200	2700	12000	3450	12000	3250	12000	2950	11500	2700
	75	9800	2900	9300	2700	8600	2550	8100	2300	12000	3150	11700	2900	10800	2550	10200	2300
	90	9500	2850	9000	2700	8300	2400	7800	2150	11900	3000	11300	2750	10500	2400	9800	2150
300x75	30	8700	2550	8400	2450	7900	2200	7600	2050	11000	2550	10600	2450	10000	2200	9500	2050
	40	8400	2500	8100	2350	7600	2100	7200	1950	10600	2500	10200	2350	9500	2100	9000	1950
	75	7700	2250	7300	2100	6700	1850	6300	1700	9600	2250	9100	2100	8500	1850	8000	1700
	90	7400	2150	7000	2000	6500	1750	6100	1600	9300	2150	8800	2000	8200	1750	7600	1600
400x75	30	10400	3100	10100	3000	9500	2850	9200	2750	12000	3550	12000	3350	12000	3050	11500	2850
	40	10100	3000	9700	2900	9200	2750	8700	2600	12000	3450	12000	3250	11500	2900	11000	2700
	75	9300	2700	8800	2600	8200	2450	7800	2300	11600	3100	11100	2850	10300	2550	9700	2300
	90	9000	2700	8500	2550	7900	2350	7500	2150	11300	3000	10800	2750	10000	2400	9400	2150

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 190x19 (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 SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

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



Maximum Birdsmouth = 30% of rafter dept

EXAMPLE:

wind speed = C3
tile roof - 75 kg/m^2
rafter/truss spacing = 600 mm
rafter span = 5800 mm (single span)
Enter span table at single span, rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm

ADOPT:

SmartLVL 13– 300x45

Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size D x B	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
90x45	30	2400	250	2400	250	2100	250	1900	250	3000	250	3000	250	2500	250	2100	250
	40	2400	250	2400	250	2100	250	1900	250	3000	250	3000	250	2500	250	2100	250
	75	2300	250	2100	250	1800	250	1700	250	3000	250	2900	250	2500	250	2200	250
	90	2200	250	2000	250	1700	250	1600	250	3000	250	2700	250	2400	250	2100	250
130x45	30	3900	400	3600	400	3100	350	2800	350	5100	400	4700	400	3700	350	3100	350
	40	3900	400	3600	400	3100	350	2800	350	5100	400	4700	400	3700	350	3100	350
	75	3300	400	3000	350	2700	350	2400	300	4500	400	4100	350	3600	350	3300	300
	90	3100	350	2900	350	2500	350	2300	300	4300	350	3900	350	3400	350	3100	300
150x45	30	4500	500	4100	500	3600	450	3300	450	5700	500	5300	500	4300	450	3600	450
	40	4500	500	4100	500	3600	450	3300	450	5700	500	5300	500	4400	450	3700	450
	75	3800	500	3500	450	3100	450	2800	400	5200	500	4700	450	4200	450	3800	400
	90	3600	450	3300	450	2900	400	2600	400	4900	450	4500	450	4000	400	3600	400
170x45	30	5000	650	4600	650	4100	600	3700	550	6300	650	5800	650	4900	600	4200	550
	40	5000	650	4600	600	4100	600	3700	550	6300	650	5800	600	5000	600	4200	550
	75	4300	600	3900	600	3500	550	3200	500	5800	600	5400	600	4700	550	4300	500
	90	4100	600	3700	550	3300	500	3000	500	5500	600	5100	550	4500	500	4100	500
200x45	30	5600	850	5200	850	4700	800	4400	750	7100	850	6600	850	5800	800	4900	750
	40	5600	850	5200	800	4700	750	4400	700	7100	850	6600	800	5900	750	5000	700
	75	5000	800	4600	750	4100	700	3700	650	6600	800	6200	750	5600	700	5100_{10}	650
	90	4800	800	4400	750	3900	650	3500	600	6300	800	5900	750	5300	650	4800_{5}	600
240x45	30	6500	1150	6000	1100	5400	1000	5100	1000	8100	1150	7600	1100	6800	1000	6000_{10}	100
	40	6500	1100	6000	1050	5400	1000	5100	950	8100	1100	7600	1050	6800	1000	6100_{10}	950
	75	6000	1000	5500	1000	4900	900	4500	850	7500	1000	7100	1000	6500_{5}	900	6000_{20}	850
	90	5700	1000	5200	950	4600	850	4200	800	7200	1000	6800	950	6200_{5}	850	5700_{15}	800
300x45	30	7600	1600	7100	1500	6400	1400	6000	1300	9600	1600	8900	1500	8100	1400	7500_{25}	130
	40	7600	1550	7100	1450	6400	1350	6000	1250	9600	1550	8900	1450	8100	1350	7500	125
	75	7000	1400	6600	1350	6000	1200	5600	1100	8800	1400	8300	1350	7600_{15}	1200	7100_{30}	110
	90	6700	1400	6300	1300	5700	1150	5300	1000	8500	1400	8000	1300	7300_{15}	1150	6800_{30}	100
360x45	30	8800	2050	8200	1950	7400	1800	6900	1550	11000	2050	10200	1950	9300_{20}	1800	8600_{35}	155
	40	8800	2000	8200	1900	7400	1700	6900	1550	11000	2000	10200_{5}	1900	9300_{20}	1700	8600_{40}	155
	75	7900	1800	7500	1700	6900	1500	6400	1350	10000	1800	9400_{5}	1700	8700_{25}	1500	8100_{40}	135
	90	7600	1750	7200	1650	6600	1450	6200	1300	9600	1750	9100_{5}	1650	8300_{25}	1450	7800_{40}	130
400x45	30	9500	2400	8800	2250	8000	1950	7400	1700	11900	2400	11100_{5}	2250	10000_{25}	1950	9300_{40}	170
	40	9400	2300	8800	2200	8000	1900	7400	1650	11900	2300	11100_{10}	2200	10000_{25}	1900	9300_{45}	165
	75	8500	2100	8000	1950	7400	1700	7000	1550	10700	2100	10100_{10}	1950	9300_{30}	1700	8800_{50}	155
	90	8200	2000	7800	1850	7100	1600	6700	1450	10300	2000	9700_{10}	1850	9000_{30}	1600	8400_{50}	145
90x63	30	2800	300	2800	300	2400	300	2200	300	3500	300	3500	300	3000	300	2500	300
	40	2800	300	2800	300	2400	300	2200	300	3500	300	3500	300	3000	300	2500	300
	75	2600	300	2300	300	2100	300	1900	250	3500	300	3200	300	2800	300	2600	250
	90	2400	300	2200	300	1900	250	1800	250	3300	300	3000	300	2600	250	2400	250
130x63	30	4400	650	4000	600	3500	600	3200	550	5600	650	5200	600	4400	600	3700	550
	40	4300	600	4000	600	3500	550	3200	550	5600	600	5200	600	4500	550	3800	550
	75	3700	600	3400	550	3000	500	2700	500	5000	600	4600	550	4000	500	3700	500
	90	3500	600	3200	550	2800	500	2600	450	4700	600	4300	550	3800	500	3500	450

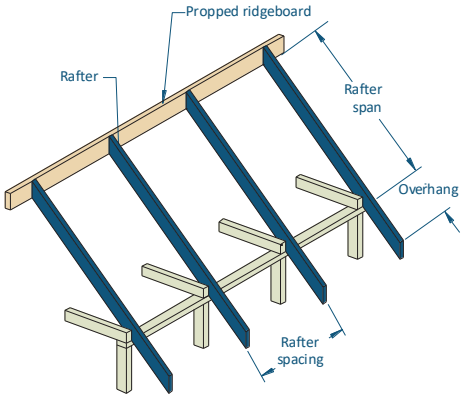
Single/continuous span roof rafter - with ceiling attached
AS 4055 classification C1 - C3 (cont'd)

Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size D x B (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
150x63	30	4900	800	4600	750	4000	750	3700	700	6200	800	5800	750	5200	750	4400	700
	40	4900	800	4600	750	4000	700	3700	650	6200	800	5800	750	5200	700	4400	650
	75	4200	750	3900	700	3400	650	3100	600	5700	750	5200	700	4700	650	4300	600
	90	4000	700	3700	700	3200	650	2900	600	5400	700	5000	700	4400	650	4000	600
170x63	30	5400	1000	5000	950	4600	900	4200	850	6800	1000	6300	950	5700	900	5000	850
	40	5400	950	5000	950	4600	850	4200	800	6800	950	6300	950	5700	850	5000	800
	75	4700	900	4400	850	3900	800	3500	750	6300	900	5900	850	5300	800	4800	750
	90	4500	900	4100	850	3600	750	3300	700	6100	900	5600	850	5000	750	4500	700
200x63	30	6100	1250	5700	1200	5200	1100	4800	1050	7700	1250	7200	1200	6500	1100	5900	1050
	40	6100	1200	5700	1150	5200	1050	4800	1000	7700	1200	7200	1150	6500	1050	6000	1000
	75	5500	1100	5100	1050	4500	1000	4100	900	7100	1100	6600	1050	6100	1000	5600	900
	90	5200	1100	4800	1000	4300	950	3900	850	6800	1100	6400	1000	5800	950	5300	850
240x63	30	7000	1600	6500	1550	5900	1450	5500	1300	8900	1600	8200	1550	7400	1450	6900	1300
	40	7000	1600	6500	1500	5900	1400	5500	1300	8900	1600	8200	1500	7400	1400	6900	1300
	75	6400	1450	6000	1350	5400	1200	5000	1100	8000	1450	7600	1350	7000	1200	6500	1100
	90	6100	1400	5700	1300	5100	1150	4700	1050	7700	1400	7300	1300	6700	1150	6300	1050
300x63	30	8300	2200	7700	2100	7000	1800	6500	1600	10500	2200	9700	2100	8800	1800	8200_{10}	1600
	40	8200	2150	7700	2000	7000	1800	6500	1550	10400	2150	9700	2000	8800	1800	8200_{10}	1550
	75	7400	1950	7000	1800	6500	1600	6100	1450	9400	1950	8800	1800	8200	1600	7700_{10}	1450
	90	7200	1900	6800	1750	6200	1550	5800	1400	9000	1900	8500	1750	7900	1550	7400_{15}	1400
360x63	30	9500	2750	8900	2550	8000	2100	7400	1850	12000	2750	11100	2550	10100_{5}	2100	9400_{15}	1850
	40	9200	2700	8900	2500	8000	2050	7400	1800	11600	2700	11100	2500	10100_{5}	2050	9400_{20}	1800
	75	8400	2400	8000	2250	7400	1950	6900	1700	10600	2400	10000	2250	9300_{10}	1950	8700_{20}	1700
	90	8100	2350	7700	2150	7100	1900	6700	1650	10200	2350	9700	2150	8900_{5}	1900	8400_{20}	1650
400x63	30	10200	3050	9600	2750	8700	2300	8100	2000	12000	3150	12000	2750	10900_{10}	2300	10100_{20}	2000
	40	9900	2950	9500	2700	8700	2250	8100	1950	12000	3050	11900	2700	10900_{10}	2250	10100_{25}	1950
	75	9000	2700	8600	2550	8000	2150	7500	1850	11300	2750	10800	2550	10000_{10}	2150	9400_{25}	1850
	90	8700	2600	8300	2450	7700	2100	7200	1800	11000	2650	10400	2450	9600_{10}	2100	9000_{25}	1800
450x63	30	10900	3250	10500	3050	9500	2500	8800	2200	12000	3450	12000	3050	11900_{15}	2500	11100_{30}	2200
	40	10600	3100	10200	3000	9500	2500	8800	2150	12000	3400	12000	3000	11900_{15}	2500	11100_{30}	2150
	75	9700	2900	9300	2700	8600	2350	8100	2050	12000	3150	11700	2850	10800_{15}	2350	10200_{35}	2050
	90	9500	2850	9000	2700	8300	2300	7800	2000	11900	3000	11300	2750	10500_{20}	2300	9800_{35}	2000
300x75	30	8700	2550	8100	2350	7300	1950	6800	1700	10900	2550	10100	2350	9200	1950	8500	1700
	40	8400	2500	8100	2350	7300	1950	6800	1700	10600	2500	10200	2350	9200	1950	8500	1700
	75	7700	2250	7300	2100	6700	1850	6300	1600	9600	2250	9100	2100	8500	1850	8000_{5}	1600
	90	7400	2150	7000	2000	6500	1750	6100	1550	9300	2150	8800	2000	8200	1750	7600_{5}	1550
400x75	30	10400	3100	10000	3000	9100	2500	8400	2150	12000	3400	12000	3000	11400	2500	10600_{15}	2150
	40	10100	3000	9700	2900	9000	2450	8400	2150	12000	3350	12000	2950	11400_{5}	2450	10600_{15}	2150
	75	9300	2700	8800	2600	8200	2300	7800	2000	11600	3100	11100	2800	10300_{5}	2300	9700_{15}	2000
	90	9000	2700	8500	2550	7900	2300	7500	2000	11300	3000	10800	2750	10000_{5}	2300	9400_{20}	2000

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 190x19 (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 SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Single/continuous span roof rafter - without ceiling attached
AS 4055 classification N1 - N4



Maximum Birdsmouth = 30% of rafter dept

EXAMPLE:

wind speed = N4
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
rafter span = 5800 mm (single span)
Enter span table at single span, rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm

ADOPT:

SmartLVL 13 - 240x45

Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
90x45	10	2400	250	2350	250	2300	250	2300	250	2950	250	2950	250	2950	250	2950	250
	20	2400	250	2350	250	2300	250	2300	250	2950	250	2950	250	2950	250	2950	250
	40	2400	250	2350	250	2300	250	2100	250	2950	250	2950	250	2950	250	2850	250
	60	2400	250	2300	250	2000	250	1850	250	2950	250	2950	250	2750	250	2500	250
130x45	10	4050	450	4000	425	3900	425	3700	400	5100	450	5100	425	5100	425	4650	400
	20	4050	425	4000	425	3900	400	3650	400	5100	425	5100	425	5100	400	4750	400
	40	3950	425	3650	400	3250	400	3000	375	5100	425	5000	400	4400	400	4050	375
	60	3550	400	3250	400	2900	375	2650	350	4800	400	4400	400	3900	375	3600	350
150x45	10	5000	575	4900	575	4650	550	4250	525	5900	575	5900	575	5800	550	5400	525
	20	5000	575	4900	550	4550	525	4200	500	5900	575	5900	550	5800	525	5400	500
	40	4550	550	4200	525	3750	500	3450	475	5900	550	5700	525	5100	500	4650	475
	60	4050	525	3750	525	3300	475	3050	450	5500	525	5100	525	4500	475	4100	450
170x45	10	5600	725	5550	725	5100	675	4750	650	6650	725	6650	725	6400	675	5950	650
	20	5600	725	5550	700	5100	650	4750	625	6650	725	6650	700	6400	650	5950	625
	40	5100	700	4750	675	4200	625	3900	600	6650	700	6300	675	5700	625	5250	600
	60	4600	675	4200	650	3750	600	3400	550	6150	675	5700	650	5100	600	4650	550
200x45	10	6550	975	6350	950	5750	900	5350	875	7850	975	7850	950	7200	900	6700	875
	20	6550	950	6350	925	5750	875	5350	825	7850	950	7850	925	7200	875	6700	825
	40	5900	925	5500	875	4900	825	4550	775	7450	925	7050	875	6500	825	6100	775
	60	5350	875	4900	825	4400	775	4000	700	6900	875	6500	825	5950	775	5450	700
240x45	10	7800	1325	7300	1275	6600	1225	6100	1150	9400	1325	9150	1275	8300	1225	7700	1150
	20	7500	1300	7200	1250	6600	1175	6100	1100	9400	1300	9050	1250	8300	1175	7700	1100
	40	6700	1225	6400	1175	5850	1075	5400	1000	8450	1225	8000	1175	7400	1075	6950	1000
	60	6250	1175	5850	1100	5200	1000	4800	925	7850	1175	7400	1100	6800	1000	6350	925
300x45	10	9250	1875	8600	1825	7800	1700	7250	1625	11600	1875	10850	1825	9800	1700	9100	1625
	20	8600	1825	8300	1750	7800	1625	7250	1525	10850	1825	10450	1750	9800	1625	9100	1525
	40	7800	1700	7450	1625	6900	1475	6500	1375	9800	1700	9350	1625	8650	1475	8150_5	1375
	60	7300	1625	6900	1525	6350	1375	5950	1250	9150	1625	8650	1525	7950	1375	7500_5	1250
360x45	10	10250	2450	9850	2375	8900	2200	8300	2075	12000	2450	12000	2375	11200	2200	10450_5	2075
	20	9650	2350	9300	2250	8800	2075	8300	1950	12000	2350	11700	2250	11050	2075	10450_{10}	1950
	40	8800	2200	8400	2075	7800	1875	7400	1725	11050	2200	10550	2075	9850	1875	9300_{10}	1725
	60	8250	2075	7800	1925	7200	1725	6800	1575	10350	2075	9850	1925	9050	1725	8550_{10}	1575
400x45	10	10900	2825	10650	2725	9650	2550	9000	2375	12000	2825	12000	2725	12000	2550	11300_{10}	2375
	20	10250	2725	9950	2600	9400	2375	9000	2225	12000	2725	12000	2600	11850	2375	11300_{15}	2225
	40	9400	2525	9000	2375	8400	2150	7950	1950	11850	2525	11350	2375	10550_5	2150	10000_{15}	1950
	60	8850	2375	8400	2200	7750	1950	7300	1775	11100	2375	10550	2200	9750_5	1950	9200_{15}	1775
90x63	10	2800	350	2800	350	2700	325	2650	325	3500	350	3500	350	3500	325	3500	325
	20	2800	350	2800	350	2700	325	2650	325	3500	350	3500	350	3500	325	3500	325
	40	2800	350	2800	325	2550	325	2300	300	3500	350	3500	325	3450	325	3150	300
	60	2750	325	2550	325	2250	300	2050	300	3500	325	3450	325	3050	300	2750	300
130x63	10	4750	700	4700	675	4500	650	4100	625	5700	700	5700	675	5700	650	5300	625
	20	4750	675	4700	675	4350	650	4050	600	5700	675	5700	675	5700	650	5300	600
	40	4350	675	4050	650	3600	600	3300	575	5700	675	5450	650	4900	600	4500	575
	60	3900	650	3600	625	3200	575	2900	550	5300	650	4900	625	4350	575	3950	550

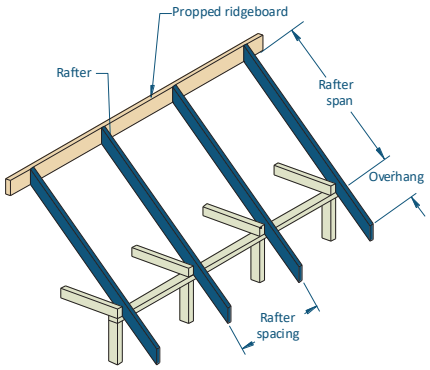
Single/continuous span roof rafter - without ceiling attached AS 4055 classification N1 - N4 (Cont'd)

Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
150x63	10	5550	900	5450	875	5050	850	4700	800	6550	900	6550	875	6350	850	5900	800
	20	5550	875	5400	850	4950	800	4600	775	6550	875	6550	850	6350	800	5900	775
	40	4950	850	4600	825	4100	775	3800	725	6550	850	6200	825	5600	775	5150	725
	60	4450	825	4100	775	3650	725	3350	675	6050	825	5600	775	5000	725	4550	675
170x63	10	6250	1100	6100	1075	5550	1025	5150	975	7450	1100	7450	1075	6950	1025	6450	975
	20	6250	1075	6050	1050	5550	1000	5150	950	7450	1075	7450	1050	6950	1000	6450	950
	40	5550	1025	5150	1000	4650	925	4300	875	7100	1025	6750	1000	6200	925	5800	875
	60	5000	1000	4650	950	4150	875	3800	800	6600	1000	6200	950	5600	875	5150	800
200x63	10	7300	1450	6900	1400	6250	1325	5800	1275	8750	1450	8700	1400	7850	1325	7300	1275
	20	6950	1400	6700	1350	6250	1275	5800	1200	8750	1400	8450	1350	7850	1275	7300	1200
	40	6300	1325	6000	1275	5400	1175	5000	1100	7900	1325	7550	1275	6950	1175	6550	1100
	60	5800	1275	5400	1200	4850	1100	4450	1000	7350	1275	6950	1200	6400	1100	6000	1000
240x63	10	8350	1900	7900	1825	7150	1725	6650	1650	10450	1900	9950	1825	9000	1725	8400	1650
	20	7800	1825	7550	1775	7100	1650	6650	1550	9800	1825	9500	1775	8950	1650	8400	1550
	40	7100	1725	6800	1650	6300	1500	5950	1400	8950	1725	8550	1650	7900	1500	7500	1400
	60	6650	1650	6300	1550	5750	1400	5300	1275	8350	1650	7900	1550	7300	1400	6850	1275
300x63	10	9450	2600	9250	2500	8450	2350	7900	2225	11900	2600	11650	2500	10650	2350	9900	2225
	20	8950	2500	8650	2400	8200	2200	7850	2075	11250	2500	10900	2400	10350	2200	9900	2075
	40	8200	2325	7850	2200	7350	2000	6950	1850	10350	2325	9900	2200	9250	2000	8750	1850
	60	7700	2200	7350	2050	6800	1850	6400	1675	9700	2200	9250	2050	8550	1850	8050	1675
360x63	10	10450	3250	10300	3150	9700	2925	9050	2775	12000	3250	12000	3150	12000	2925	11350	2775
	20	9950	3125	9700	3000	9250	2750	8850	2575	12000	3125	12000	3000	11600	2750	11150	2575
	40	9250	2925	8850	2750	8300	2475	7900	2275	11600	2925	11150	2750	10450	2475	9900	2275
	60	8700	2750	8300	2550	7700	2275	7300	2050	10950	2750	10450	2550	9700	2275	9150	2050
400x63	10	11100	3650	10900	3550	10500	3325	9750	3050	12000	3700	12000	3550	12000	3325	12000	3050
	20	10600	3450	10300	3375	9850	3100	9500	2900	12000	3550	12000	3375	12000	3100	11950	2900
	40	9850	3250	9500	3100	8900	2775	8500	2550	12000	3300	11950	3100	11200	2775	10650	2550
	60	9350	3075	8900	2875	8300	2550	7850	2300	11750	3075	11200	2875	10450	2550	9850	2300
450x63	10	11850	3900	11650	3800	11350	3700	10700	3350	12000	3950	12000	3950	12000	3775	12000	3350
	20	11350	3700	11050	3600	10600	3450	10250	3250	12000	3950	12000	3825	12000	3525	12000	3250
	40	10600	3450	10250	3375	9650	3150	9200	2900	12000	3725	12000	3500	12000	3150	11550_5	2900
	60	10050	3300	9650	3175	9000	2875	8500	2600	12000	3500	12000	3250	11300	2875	10700_5	2600
300x75	10	9550	2975	9400	2875	8850	2700	8250	2550	12000	2975	11800	2875	11100	2700	10350	2550
	20	9100	2875	8850	2750	8400	2550	8100	2375	11450	2875	11100	2750	10600	2550	10150	2375
	40	8400	2675	8100	2525	7550	2300	7200	2125	10600	2675	10150	2525	9500	2300	9050	2125
	60	7950	2525	7550	2375	7050	2125	6650	1925	10000	2525	9500	2375	8850	2125	8350	1925
400x75	10	11200	3650	11050	3600	10750	3500	10200	3300	12000	3950	12000	3950	12000	3725	12000	3300
	20	10750	3500	10500	3450	10050	3300	9700	3200	12000	3950	12000	3800	12000	3500	12000	3200
	40	10050	3300	9700	3200	9150	3000	8750	2875	12000	3700	12000	3475	11550	3150	11000	2875
	60	9550	3150	9150	3000	8550	2800	8100	2600	12000	3475	11550	3250	10750	2875	10200	2600

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 SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

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



Maximum Birdsmouth = 30% of rafter dept

EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
rafter span = 5800 mm
Enter span table at single span, rafter spacing of 600 mm, and read down to a span equal to or greater than 5800 mm

ADOPT:

SmartLVL 14 - 240x45

Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
90x45	10	2400	250	2350	250	2150	250	1950	250	3650	250	3100	250	2450	250	2050	250
	20	2400	250	2350	250	2150	250	1950	250	3700	250	3150	250	2450	250	2050	250
	40	2400	250	2350	250	2150	250	1950	250	3700	250	3200	250	2500	250	2100	250
	60	2400	250	2300	250	2000	250	1850	250	3400	250	3100	250	2600	250	2150	250
130x45	10	3950	450	3600	425	3150	425	2850	400	5150	450	4600	425	3650	425	3050	400
	20	3950	425	3600	425	3150	400	2850	400	5150	425	4600	425	3650	400	3050	400
	40	3950	425	3600	400	3150	400	2850	375	5150	425	4700	400	3750	400	3150	375
	60	3550	400	3250	400	2900	375	2650	350	4800	400	4400	400	3850	375	3200	350
150x45	10	4550	575	4150	575	3600	550	3300	525	5700	575	5300	575	4200	550	3550	525
	20	4550	575	4150	550	3600	525	3300	500	5700	575	5300	550	4250	525	3600	500
	40	4550	550	4150	525	3600	500	3300	475	5700	550	5300	525	4350	500	3650	475
	60	4050	525	3750	525	3300	475	3050	450	5500	525	5100	525	4450	475	3750	450
170x45	10	5000	725	4650	725	4100	675	3750	650	6300	725	5850	725	4800	675	4050	650
	20	5000	725	4650	700	4100	650	3750	625	6300	725	5850	700	4850	650	4100	625
	40	5000	700	4650	675	4100	625	3750	600	6300	700	5850	675	5000	625	4200	600
	60	4600	675	4200	650	3750	600	3400	550	6150	675	5700	650	5100	600	4300_{5}	550
200x45	10	5650	975	5250	950	4750	900	4400	875	7100	975	6600	950	5700	900	4850	875
	20	5650	950	5250	925	4750	875	4400	825	7100	950	6600	925	5750	875	4900_{5}	825
	40	5650	925	5250	875	4750	825	4400	775	7100	925	6600	875	5900_{5}	825	5000_{10}	775
	60	5350	875	4900	825	4400	775	4000	700	6900	875	6500	825	5950_{5}	775	5100_{15}	700
240x45	10	6450	1325	6000	1275	5450	1225	5050	1150	8150	1325	7550	1275	6850_{5}	1225	5850_{10}	1150
	20	6450	1300	6000	1250	5450	1175	5050	1100	8150	1300	7550	1250	6850_{5}	1175	5950_{15}	1100
	40	6450	1225	6000	1175	5450	1075	5050	1000	8150	1225	7550	1175	6850_{10}	1075	6050_{20}	1000
	60	6250	1175	5850	1100	5200	1000	4800	925	7850	1175	7400	1100	6800_{15}	1000	6200_{25}	925
300x45	10	7650	1875	7100	1825	6450	1675	6000	1450	9600	1875	8950	1825	8100_{15}	1675	7400_{25}	1450
	20	7650	1825	7100	1750	6450	1625	6000	1425	9600	1825	8950	1750	8100_{20}	1625	7500_{30}	1425
	40	7650	1700	7100	1625	6450	1475	6000	1375	9600	1700	8950_{5}	1625	8100_{20}	1475	7550_{35}	1375
	60	7300	1625	6900	1525	6350	1375	5950	1250	9150	1625	8650_{5}	1525	7950_{25}	1375	7500_{40}	1250
360x45	10	8750	2450	8150	2350	7400	1925	6850	1675	11050	2450	10250_{5}	2350	9250_{25}	1925	8650_{40}	1675
	20	8750	2350	8150	2250	7400	1900	6850	1650	11050	2350	10250_{10}	2250	9250_{25}	1900	8650_{40}	1650
	40	8750	2200	8150	2075	7400	1850	6850	1600	11050_{5}	2200	10250_{15}	2075	9250_{30}	1850	8650_{50}	1600
	60	8250	2075	7800	1925	7200	1725	6800	1550	10350	2075	9850_{15}	1925	9050_{35}	1725	8550_{55}	1550
400x45	10	9500	2825	8850	2550	8000	2100	7450	1825	11950	2825	11100_{10}	2550	10050_{30}	2100	9350_{45}	1825
	20	9500	2725	8850	2525	8000	2075	7450	1800	11950_{5}	2725	11100_{15}	2525	10050_{30}	2075	9350_{50}	1800
	40	9400	2525	8850	2375	8000	2000	7450	1750	11850_{5}	2525	11100_{20}	2375	10050_{35}	2000	9350_{55}	1750
	60	8850	2375	8400	2200	7750	1950	7300_{10}	1700	11100_{5}	2375	10550_{20}	2200	9750_{40}	1950	9200_{60}	1700
90x63	10	2800	350	2800	350	2450	325	2200	325	4150	350	3700	350	2950	325	2400	325
	20	2800	350	2800	350	2450	325	2200	325	4150	350	3750	350	2950	325	2450	325
	40	2800	350	2800	325	2450	325	2200	300	4150	350	3800	325	3050	325	2500	300
	60	2750	325	2550	325	2250	300	2050	300	3750	325	3450	325	3050	300	2550	300
130x63	10	4400	700	4000	675	3500	650	3200	625	5600	700	5200	675	4350	650	3650	625
	20	4400	675	4000	675	3500	650	3200	600	5600	675	5200	675	4400	650	3700	600
	40	4350	675	4000	650	3500	600	3200	575	5600	675	5200	650	4500	600	3750	575
	60	3900	650	3600	625	3200	575	2900	550	5300	650	4900	625	4350	575	3850	550

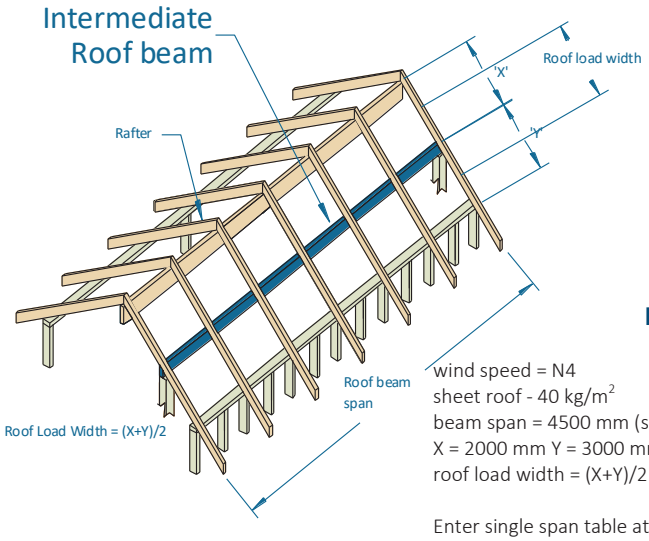
Single/continuous span roof rafter - without ceiling attached
AS 4055 classification C1 - C3 (Cont'd)

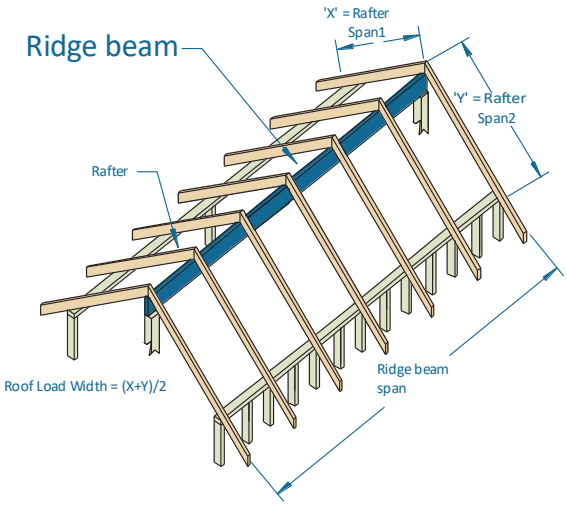
Rafter spacing (mm)		450		600		900		1200		450		600		900		1200	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended single span (mm)								Maximum recommended continuous span (mm)							
150x63	10	4950	900	4600	875	4050	850	3700	800	6200	900	5800	875	5050	850	4250	800
	20	4950	875	4600	850	4050	800	3700	775	6200	875	5800	850	5100	800	4300	775
	40	4950	850	4600	825	4050	775	3700	725	6200	850	5800	825	5200	775	4400	725
	60	4450	825	4100	775	3650	725	3350	675	6050	825	5600	775	5000	725	4500	675
170x63	10	5450	1100	5050	1075	4550	1025	4150	975	6850	1100	6350	1075	5750	1025	4850	975
	20	5450	1075	5050	1050	4550	1000	4150	950	6850	1075	6350	1050	5750	1000	4950	950
	40	5450	1025	5050	1000	4550	925	4150	875	6850	1025	6350	1000	5750	925	5050	875
	60	5000	1000	4650	950	4150	875	3800	800	6600	1000	6200	950	5600	875	5150	800
200x63	10	6150	1450	5700	1400	5150	1325	4800	1225	7700	1450	7200	1400	6500	1325	5800	1225
	20	6150	1400	5700	1350	5150	1275	4800	1200	7700	1400	7200	1350	6500	1275	5850	1200
	40	6150	1325	5700	1275	5150	1175	4800	1100	7700	1325	7200	1275	6500	1175	6000	1100
	60	5800	1275	5400	1200	4850	1100	4450	1000	7350	1275	6950	1200	6400	1100	6000_{5}	1000
240x63	10	7050	1900	6550	1825	5900	1625	5500	1425	8850	1900	8250	1825	7450	1625	6900_{5}	1425
	20	7050	1825	6550	1775	5900	1600	5500	1400	8850	1825	8250	1775	7450	1600	6900_{5}	1400
	40	7050	1725	6550	1650	5900	1500	5500	1350	8850	1725	8250	1650	7450	1500	6900_{10}	1350
	60	6650	1650	6300	1550	5750	1400	5300	1275	8350	1650	7900	1550	7300	1400	6850_{10}	1275
300x63	10	8300	2600	7750	2375	7000	1950	6500	1700	10450	2600	9750	2375	8800	1950	8200_{15}	1700
	20	8300	2500	7750	2325	7000	1925	6500	1675	10450	2500	9750	2325	8800_{5}	1925	8200_{15}	1675
	40	8200	2325	7750	2200	7000	1875	6500	1625	10350	2325	9750	2200	8800_{5}	1875	8200_{20}	1625
	60	7700	2200	7350	2050	6800	1800	6400	1575	9700	2200	9250	2050	8550_{10}	1800	8050_{20}	1575
360x63	10	9550	3125	8900	2750	8000	2275	7450	1975	12000	3125	11150	2750	10100_{10}	2275	9400_{20}	1975
	20	9550	3075	8900	2700	8000	2225	7450	1950	12000	3075	11150	2700	10100_{10}	2225	9400_{25}	1950
	40	9250	2925	8850	2625	8000	2175	7450	1875	11600	2925	11150	2625	10100_{15}	2175	9400_{30}	1875
	60	8700	2750	8300	2550	7700	2100	7300	1825	10950	2750	10450	2550	9700_{15}	2100	9150_{30}	1825
400x63	10	10300	3350	9600	2975	8700	2475	8100	2150	12000	3400	12000	2975	10900_{15}	2475	10150_{25}	2150
	20	10300	3350	9600	2950	8700	2425	8100	2125	12000	3350	12000	2950	10900_{15}	2425	10150_{30}	2125
	40	9850	3250	9500	2850	8700	2350	8100	2050	12000	3250	11950_{5}	2850	10900_{20}	2350	10150_{35}	2050
	60	9350	3075	8900	2775	8300	2300	7850	2000	11750	3075	11200_{5}	2775	10450_{20}	2300	9850_{35}	2000
450x63	10	11300	3725	10500	3275	9500	2725	8800	2375	12000	3725	12000	3275	11900_{20}	2725	11100_{35}	2375
	20	11300	3650	10500	3225	9500	2675	8800	2350	12000	3650	12000	3225	11900_{25}	2675	11100_{35}	2350
	40	10600	3450	10250	3125	9500	2600	8800	2275	12000	3550	12000_{5}	3125	11900_{25}	2600	11100_{40}	2275
	60	10050	3300	9650	3025	9000	2525	8500	2200	12000	3450	12000_{5}	3025	11300_{25}	2525	10700_{45}	2200
300x75	10	8700	2850	8100	2575	7300	2125	6800	1850	10950	2925	10150	2575	9200	2125	8550_{5}	1850
	20	8700	2850	8100	2525	7300	2100	6800	1825	10950	2875	10150	2525	9200	2100	8550_{10}	1825
	40	8400	2675	8100	2450	7300	2025	6800	1775	10600	2675	10150	2450	9200	2025	8550_{10}	1775
	60	7950	2525	7550	2375	7050	1975	6650	1725	10000	2525	9500	2375	8850	1975	8350_{15}	1725
400x75	10	10800	3550	10050	3225	9050	2675	8450	2350	12000	3650	12000	3225	11400_{5}	2675	10600_{20}	2350
	20	10750	3500	10050	3175	9050	2650	8450	2300	12000	3600	12000	3175	11400_{10}	2650	10600_{20}	2300
	40	10050	3300	9700	3075	9050	2550	8450	2225	12000	3500	12000	3075	11400_{15}	2550	10600_{25}	2225
	60	9550	3150	9150	3000	8550	2475	8100	2175	12000	3400	11550	3000	10750_{15}	2475	10200_{25}	2175

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. Max rafter spacing up to 1200 mm
7. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering

Single span ridge/intermediate roof beam
AS 4055 classification N1 - N4





EXAMPLE:

wind speed = N4
sheet roof - 40 kg/m^2
beam span = 4500 mm (single span)
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:

SmartLVL 13 - 2/240x45

Roof load width (mm)		1500		3000		4500		6000		7500	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended Ridge or Intermediate roof beam span - Single span (mm)									
2/90x45	40	2400	850	1900	850	1600	750	1500	650	1300	600
	90	1900	850	1500	700	1300	600	1200	600	1100	500
2/130x45	40	3500	1300	2800	1300	2400	1100	2100	950	1900	850
	90	2800	1300	2200	1100	1900	900	1700	800	1600	800
2/150x45	40	4000	1500	3200	1500	2800	1250	2500	1100	2200	1000
	90	3200	1500	2500	1200	2200	1100	2000	1000	1800	900
2/170x45	40	4600	1700	3600	1700	3100	1450	2800	1250	2500	1100
	90	3600	1700	2900	1400	2500	1200	2200	1100	2000	1000
2/200x45	40	5300	1950	4300	1950	3700	1700	3300	1450	3000	1300
	90	4200	1950	3400	1700	2900	1400	2600	1300	2400	1200
2/240x45	40	6200	2350	5100	2250	4400	2050	3900	1750	3600	1600
	90	5100	2350	4000	1950	3500	1750	3200	1600	2900	1400
2/300x45	40	7300	2950	6200	2700	5500	2400	4900	2200	4500	2000
	90	6200	2750	5000	2350	4400	2100	4000	1950	3600	1800
2/360x45	40	8300	3500	7100	3100	6400	2800	5900	2550	5400	2400
	90	7100	3200	6000	2700	5300	2400	4700	2250	4400	2100
2/400x45	40	8900	3900	7700	3350	6900	3000	6400	2800	6000	2600
	90	7600	3450	6500	2900	5800	2600	5300	2400	4900	2300
90x63	40	2200	750	1700	750	1500	650	1300	550	1200	500
	90	1700	750	1300	600	1100	500	1000	500	NS	NS
130x63	40	3200	1150	2500	1150	2100	900	1900	800	1700	700
	90	2500	1150	1900	900	1700	800	1500	700	1400	700
150x63	40	3600	1350	2900	1300	2400	1050	2200	950	2000	850
	90	2800	1350	2200	1100	1900	900	1700	800	1600	800
170x63	40	4100	1500	3200	1450	2800	1200	2500	1050	2300	950
	90	3200	1500	2500	1200	2200	1100	2000	1000	1800	900
200x63	40	4800	1750	3800	1750	3300	1400	2900	1250	2700	1100
	90	3800	1750	3000	1500	2600	1300	2300	1100	2100	1000
240x63	40	5700	2100	4600	2050	3900	1700	3500	1500	3200	1350
	90	4500	2100	3600	1800	3100	1500	2800	1400	2600	1300

Single span ridge/intermediate roof beam
AS 4055 classification N1 - N4 [Cont'd]

Roof load width (mm)		1500		3000		4500		6000		7500	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended Ridge or Intermediate roof beam - Single span (mm)									
300x63	40	6800	2600	5700	2450	4900	2150	4400	1850	4000	1650
	90	5600	2550	4500	2150	3900	1900	3500	1750	3200	1600
360x63	40	7700	3150	6600	2850	5900	2550	5300	2200	4800	2000
	90	6500	2900	5400	2450	4700	2200	4200	2050	3900	1900
400x63	40	8300	3450	7100	3100	6400	2750	5800	2450	5300	2200
	90	7100	3150	6000	2650	5200	2400	4700	2200	4300	2100
450x63	40	9000	3900	7700	3400	6900	3050	6400	2750	6000	2500
	90	7700	3450	6500	2900	5800	2650	5300	2450	4900	2300
300x75	40	7000	2750	6000	2600	5200	2300	4600	2000	4200	1800
	90	6000	2650	4800	2250	4100	2000	3700	1850	3400	1700
400x75	40	8600	3650	7400	3200	6600	2900	6100	2650	5600	2400
	90	7300	3300	6200	2800	5500	2500	5000	2300	4600	2200

Continuous span ridge/intermediate roof beam
AS 4055 classification N1 - N4

Roof load width (mm)		1500		3000		4500		6000		7500	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum Ridge or Intermediate roof beam - Continuous span (mm)									
2/90x45	40	3200	850	2500	850	2100	750	1900	650	1700	600
	90	2500	850	2000	850	1700	750	1500	650	1400	600
2/130x45	40	4600	1300	3600	1300	3100	1100	2800	950	2500	850
	90	3600	1300	2900	1200	2500	1100	2200	1000	2000	900
2/150x45	40	5300	1500	4200	1500	3600	1250	3200	1100	2900	1000
	90	4200	1500	3300	1350	2900	1200	2600	1150	2400	1050
2/170x45	40	5900	1700	4700	1700	4100	1450	3600	1250	3300	1100
	90	4700	1700	3700	1500	3200	1350	2900	1250	2700	1150
2/200x45	40	6700	1950	5500	1950	4800	1700	4300	1450	3900	1300
	90	5500	1950	4400	1700	3800	1550	3400	1400	3200	1300
2/240x45	40	7600	2350	6500	2250	5700	2050	5100	1750	4700	1600
	90	6400	2350	5300	1950	4600	1750	4100	1650	3800	1550
2/300x45	40	8900	2950	7600	2700	6800	2400	6300	2200	5900	2000
	90	7500	2750	6400	2350	5700	2100	5200	1950	4700_{10}	1800
2/360x45	40	10100	3500	8700	3100	7800	2800	7200	2550	6700	2400
	90	8600	3200	7300	2700	6600	2400	6100_{15}	2250	5700_{35}	2100_{35}
2/400x45	40	10800	3900	9300	3350	8400	3000	7800	2800	7300	2600
	90	9300	3450	7900	2900	7200	2600	6600_{20}	2400	6200_{55}	2300_{55}
90x63	40	2900	750	2200	750	1900	650	1700	550	1500	500
	90	2200	750	1700	750	1500	650	1300	600	1200	550
130x63	40	4100	1150	3200	1150	2800	900	2500	800	2200	700
	90	3200	1150	2500	1100	2200	950	2000	850	1800	750
150x63	40	4700	1350	3700	1300	3200	1050	2900	950	2600	850
	90	3700	1350	2900	1250	2500	1100	2300	950	2100	850
170x63	40	5300	1500	4200	1450	3600	1200	3200	1050	3000	950
	90	4200	1500	3300	1350	2900	1250	2600	1100	2400	1000
200x63	40	6200	1750	5000	1750	4300	1400	3800	1250	3500	1100
	90	4900	1750	3900	1550	3400	1400	3000	1300	2800	1150

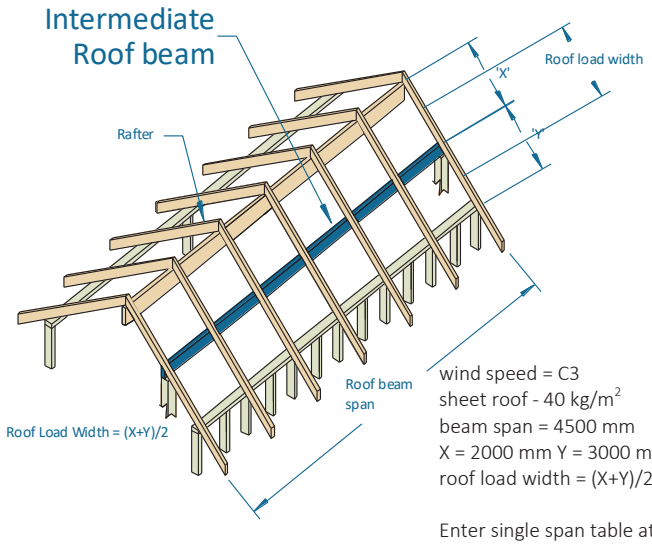
Continuous span ridge/intermediate roof beam AS 4055 classification N1 - N4 [Cont'd]

Roof load width (mm)		1500		3000		4500		6000		7500	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum Ridge or Intermediate roof beam - Continuous span (mm)									
240x63	40	7000	2100	5900	2050	5100	1700	4600	1500	4200	1350
	90	5900	2100	4700	1800	4100	1600	3700	1500	340010	1400
300x63	40	8300	2600	7000	2450	6300	2150	5700	1850	5200	1650
	90	7000	2550	5900	2150	5100	1900	4600_{20}	1750	4200_{40}	1650_{40}
360x63	40	9400	3150	8000	2850	7200	2550	6600	2200	6200_{10}	2000
	90	8000	2900	6700	2450	6100_{15}	2200	5500_{45}	2050_{45}	5100_{80}	1900_{80}
400x63	40	10100	3450	8600	3100	7800	2750	7200	2450	6700_{20}	2200
	90	8600	3150	7300	2650	6600_{25}	2400_{25}	6100_{70}	2200_{70}	5600_{100}	2100_{100}
450x63	40	11000	3900	9400	3400	8500	3050	7800_{5}	2750	7300_{30}	2500
	90	9400	3450	8000	2900	7200_{40}	2650_{40}	6600_{85}	2450_{85}	6200_{120}	2300_{120}
300x75	40	8600	2750	7300	2600	6500	2300	6000	2000	5500	1800
	90	7200	2650	6100	2250	5400	2000	4900_{5}	1850	4500_{25}	1750
400x75	40	10500	3650	9000	3200	8100	2900	7500	2650	7000_{5}	2400
	90	8900	3300	7600	2800	6800_{10}	2500	6300_{40}	2300_{40}	6000_{80}	2200_{80}

NOTES:

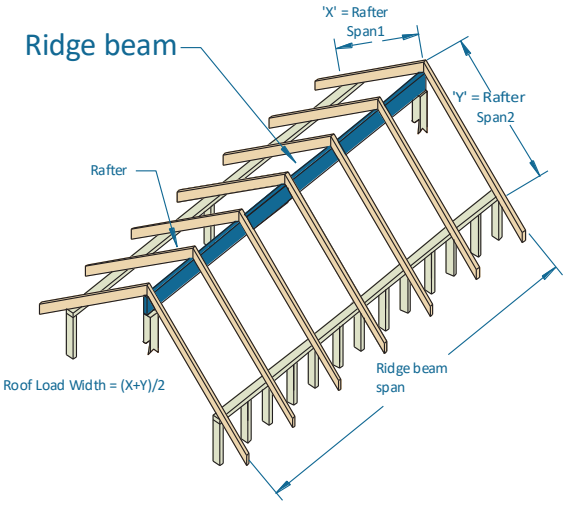
1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 35 mm at end supports and 70 mm at internal supports for continuous members. Subscript values indicate the minimum additional bearing length where required to be greater than 35 mm at end supports and 70 mm at internal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

Single span ridge/intermediate roof beam
AS 4055 classification C1 - C3



EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m^2
beam span = 4500 mm
X = 2000 mm Y = 3000 mm
roof load width = (X+Y)/2 = 2500 mm



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

ADOPT:

SmartLVL 13 -2/240x45

Roof load width (mm)		1500		3000		4500		6000		7500	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended ridge/Intermediate roof beam - Single span (mm)									
2/90x45	40	2400	850	1900	750	1600	600	1500	550	1300	500
	90	1900	850	1500	700	1300	650	1200	550	1100	500
2/130x45	40	3500	1300	2800	1100	2400	900	2100	800	1900	700
	90	2800	1300	2200	1100	1900	900	1700	800	1600	700
2/150x45	40	4000	1500	3200	1250	2800	1050	2500	900	2200	800
	90	3200	1500	2500	1200	2200	1050	2000	900	1800	850
2/170x45	40	4600	1700	3600	1450	3100	1150	2800	1000	2500	900
	90	3600	1700	2900	1400	2500	1200	2200	1050	2000	950
2/200x45	40	5300	1950	4300	1700	3700	1400	3300	1200	3000	1050
	90	4200	1950	3400	1700	2900	1400	2600	1250	2400	1100
2/240x45	40	6200	2350	5100	2000	4400	1650	3900	1450	3600	1300
	90	5100	2350	4000	1950	3500	1700	3200	1500	2900	1300
2/300x45	40	7300	2950	6200	2550	5500	2050	4900	1800	4500	1600
	90	6200	2750	5000	2350	4400	2100	4000	1850	3600	1650
2/360x45	40	8300	3500	7100	3050	6400	2500	5900	2150	5400	1900
	90	7100	3200	6000	2700	5300	2400	4700	2200	4400	2000
2/400x45	40	8900	3900	7700	3350	6900	2750	6400	2400	6000	2150
	90	7600	3450	6500	2900	5800	2600	5300	2400	4900	2200
90x63	40	2100	750	1700	650	1400	500	1200	450	1100	400
	90	1700	750	1300	650	1100	550	1000	450	NS	NS
130x63	40	3100	1150	2400	900	2100	750	1800	650	1600	600
	90	2500	1150	1900	950	1700	750	1500	650	1400	600
150x63	40	3600	1350	2800	1050	2400	850	2100	750	1900	650
	90	2800	1350	2200	1100	1900	900	1700	800	1600	700
170x63	40	4000	1500	3200	1200	2800	1000	2400	850	2200	750
	90	3200	1500	2500	1250	2200	1000	2000	900	1800	800
200x63	40	4800	1750	3800	1400	3300	1150	2800	1000	2500	900
	90	3800	1750	3000	1450	2600	1200	2300	1050	2100	900
240x63	40	5700	2100	4500	1700	3900	1400	3400	1200	3100	1100
	90	4500	2100	3600	1750	3100	1400	2800	1250	2600	1100

Single span ridge/intermediate roof beam AS 4055 classification C1 - C3 (Cont'd)

Roof load width (mm)		1500		3000		4500		6000		7500	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended ridge/Intermediate roof beam - Single span (mm)									
300x63	40	6800	2600	5700	2100	4900	1750	4300	1500	3800	1350
	90	5600	2550	4500	2150	3900	1800	3500	1550	3200	1400
360x63	40	7700	3150	6600	2550	5900	2050	5100	1800	4600_{5}	1600
	90	6500	2900	5400	2450	4700	2150	4200	1850	39005	1650
400x63	40	8300	3450	7100	2800	6400	2300	5700_{5}	2000	5100_{15}	1800
	90	7100	3150	6000	2650	5200	2350	4700	2050	4300_{15}	1850_{15}
450x63	40	9000	3900	7700	3200	6900	2600	6400_{15}	2250	5800_{25}	2000
	90	7700	3450	6500	2900	5800	2650	5300_{10}	2300_{10}	4900_{25}	2050_{25}
300x75	40	7000	2750	6000	2300	5200	1900	4600	1650	4200	1450
	90	6000	2650	4800	2250	4100	1950	3700	1700	3400	1500
400x75	40	8600	3650	7400	3100	6600	2500	6100	2200	5600_{5}	1950
	90	7300	3300	6200	2800	5500	2500	5000	2250	46005	2000_{5}

Continuous span ridge/intermediate roof beam AS 4055 classification C1 - C3

Roof Load width (mm)		**1500**		**3000**		**4500**		**6000**		**7500**	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended ridge/Intermediate roof beam - Continuous span (mm)									
2/90x45	40	3100	850	2100	750	1700	600	1500	550	1400	500
	90	2500	850	2000	800	1700	650	1500	550	1400	500
2/130x45	40	4500	1300	3100	1100	2500	900	2200	800	2000	700
	90	3600	1300	2900	1150	2500	900	2200	800	2000	700
2/150x45	40	5200	1500	3600	1250	3000	1050	2600	900	2300	800
	90	4200	1500	3300	1300	2900	1050	2600	900	2300	850
2/170x45	40	5900	1700	4100	1450	3400	1150	2900	1000	2600	900
	90	4700	1700	3700	1500	3200	1200	2900	1050	2600	950
2/200x45	40	6700	1950	4800	1700	3900	1400	3400	1200	3100	1050
	90	5500	1950	4400	1700	3800	1400	3400	1250	3100	1100
2/240x45	40	7600	2350	5800	2000	4700	1650	4100	1450	3700_{5}	1300
	90	6400	2350	5300	1950	4600	1700	4100_{5}	1500	3700_{20}	1300
2/300x45	40	8900	2950	7400	2550	5900	2050	5100_{15}	1800	4600_{30}	1600
	90	7500	2750	6400	2350	5700_{10}	2100	5200_{35}	1850	4700_{65}	1650
2/360x45	40	10100	3500	8700	3050	7100_{15}	2500	6200_{35}	2150	5500_{65}	1900
	90	8600	3200	7300	2700	6600_{25}	2400	6100_{75}	2200	5600_{95}	2000
2/400x45	40	10800	3900	9300	3350	7900_{30}	2750	6900_{65}	2400	6200_{85}	2150
	90	9300	3450	7900	2900	7200_{40}	2600	6600_{85}	2400	6200_{115}	2200
90x63	40	2400	750	1700	650	1400	500	1200	450	1000	400
	90	2200	750	1700	650	1400	550	1200	450	1100	400
130x63	40	3500	1150	2400	900	2000	750	1700	650	1500	600
	90	3200	1150	2500	950	2100	750	1800	650	1600	600
150x63	40	4100	1350	2800	1050	2300	850	2000	750	1800	650
	90	3700	1350	2900	1100	2400	900	2000	800	1800	700
170x63	40	4700	1500	3200	1200	2600	1000	2300	850	2000	750
	90	4200	1500	3300	1250	2700	1000	2300	900	2100	800
200x63	40	5700	1750	3800	1400	3100	1150	2700	1000	2400	900
	90	4900	1750	3900	1450	3200	1200	2700	1050	2400_{15}	900

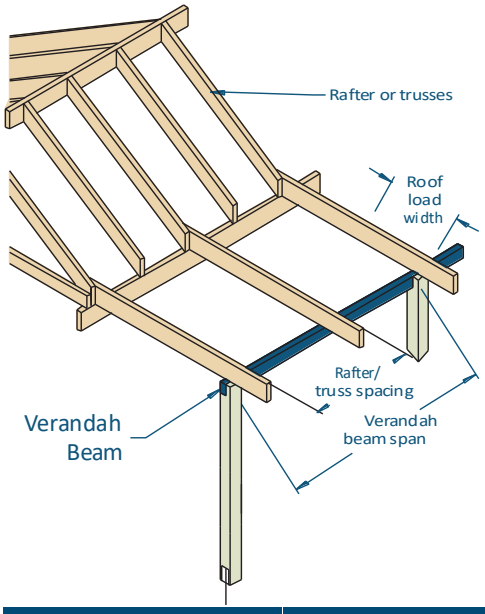
Continuous span ridge/intermediate roof beam AS 4055 classification C1 - C3

Roof Load width (mm)		1500		3000		4500		6000		7500	
Member size DxB (mm)	Roof mass (kg/m^2)	span	O/H	span	O/H	span	O/H	span	O/H	span	O/H
		Maximum recommended ridge/Intermediate roof beam - Continuous span (mm)									
240x63	40	6900	2100	4500	1700	3700	1400	3200	1200	2900_{15}	1100
	90	5900	2100	4700	1750	3800_{5}	1400	3300_{20}	1250	2900_{35}	1100
300x63	40	8300	2600	5700	2100	4600_{10}	1750	4000_{25}	1500	3600_{50}	1350
	90	7000	2550	5900_{10}	2150	4800_{30}	1800	4100_{65}	1550	3700_{85}	1400
360x63	40	9400	3150	6900_{10}	2550	5600_{30}	2050	4800_{65}	1800	4300_{85}	1600
	90	8000	2900	6700_{25}	2450	5700_{70}	2150	4900_{95}	1850	4400_{115}	1650
400x63	40	10100	3450	7800_{20}	2800	6200_{50}	2300	5400_{85}	2000	4800_{105}	1800
	90	8600	3150	7300_{35}	2650	6400_{90}	2350	5500_{115}	2050	4900_{140}	1850_{140}
450x63	40	11000	3900	8900_{40}	3200	7000_{75}	2600	6000_{105}	2250	5400_{130}	2000
	90	9400	3450	8000_{55}	2900	7100_{110}	2650	6200_{140}	2300_{140}	5500_{170}	2050_{170}
300x75	40	8500	2750	6200	2300	5100	1900	4400_{15}	1650	3900_{30}	1450
	90	7200	2650	6100	2250	5200_{20}	1950	4500_{40}	1700	4000_{70}	1500
400x75	40	10500	3650	8600_{15}	3100	6800_{35}	2500	5900_{70}	2200	5300_{90}	1950
	90	8900	3300	7600_{15}	2800	6800_{75}	2500	6000_{100}	2250	5300_{120}	2000_{120}

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 SmartLVL in this table are stocked in each state. Please check with your supplier before ordering

Single span Verandah beam
AS 4055 classification N1 - N4



EXAMPLE:

wind speed = N4
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
verandah span = 3500 mm
roof load width = 3900 mm
Enter span table at 4500 roof load width column, rafter spacing of 600 mm, and read down to a span equal to or greater than 3500 mm

ADOPT:

SmartLVL 13 - 300 x45

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Single span (mm)									
90x45	10	2100	1800	1600	1200	1300	NS	1100	NS	NS	NS
	20	2100	1800	1600	1200	1300	NS	1100	NS	NS	NS
	40	1700	1700	1400	1200	1200	NS	1100	NS	1000	NS
	60	1500	1400	1200	1000	1000	NS	NS	NS	NS	NS
	90	1300	1100	1000	NS	NS	NS	NS	NS	NS	NS
130x45	10	3300	3300	2400	2300	1900	1600	1600	1200	1400	NS
	20	3100	3100	2400	2300	1900	1700	1600	1300	1400	NS
	40	2500	2600	2000	2000	1700	1700	1600	1300	1500	1100
	60	2200	2200	1700	1700	1500	1400	1400	1200	1300	1100
	90	1900	1900	1500	1400	1300	1100	1200	1000	1100	NS
150x45	10	3900	3800	2700	2700	2300	2100	1900	1600	1700	1300
	20	3600	3500	2800	2700	2300	2100	1900	1700	1700	1300
	40	2900	2900	2300	2300	2000	2000	1800	1800	1700	1400
	60	2500	2600	2000	2000	1700	1700	1600	1500	1500	1300
	90	2200	2200	1700	1700	1500	1400	1400	1200	1300	1100
170x45	10	4400	4200	3100	3000	2600	2500	2200	2100	1900	1700
	20	4000	4000	3200	3000	2600	2500	2200	2100	1900	1700
	40	3300	3200	2600	2700	2300	2300	2100	2000	1900	1800
	60	2900	2900	2300	2300	2000	2000	1800	1800	1700	1600
	90	2500	2600	2000	2000	1700	1700	1600	1500	1500	1300
200x45	10	5100	5100	3700	3600	3000	2900	2600	2500	2400	2200
	20	4500	4500	3800	3600	3000	2900	2600	2600	2400	2200
	40	3800	3800	3100	3000	2700	2700	2400	2500	2300	2200
	60	3400	3300	2700	2700	2300	2300	2100	2100	2000	1900
	90	3000	2900	2300	2300	2100	2000	1800	1800	1700	1700
240x45	10	5800	5800	4500	4400	3700	3500	3100	3000	2800	2700
	20	5100	5100	4400	4400	3700	3500	3200	3000	2800	2700
	40	4400	4400	3700	3600	3200	3200	2900	2900	2700	2800
	60	4000	4000	3200	3200	2800	2800	2600	2600	2400	2400
	90	3500	3500	2800	2800	2500	2500	2200	2200	2100	2000
300x45	10	6700	6700	5600	5500	4600	4500	3900	3800	3500	3400
	20	6000	6000	5200	5200	4600	4600	4000	3900	3600	3400
	40	5200	5200	4400	4400	4000	4000	3700	3600	3400	3400
	60	4700	4700	4000	4000	3600	3500	3200	3200	3000	3000_5
	90	4300	4300	3600	3500	3100	3100	2800	2800	2600	2600_5

Single span Verandah beam
AS 4055 classification N1 - 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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Single span (mm)									
360x45	10	7600	7600	6700	6700	5500	5400	4800	4800	4200	4100_{10}
	20	6800	6800	5900	5900	5400	5400	4800	4800_{5}	4300	4200_{15}
	40	5900	5900	5100	5100	4600	4600	4300	4300	4100_{5}	4100
	60	5400	5400	4600	4600	4200	4200	3900	3800	3600_{10}	3600
	90	4900	4900	4200	4200	3700	3700	3400	3300	3100	3100_{15}
400x45	10	8100	8100	7300	7300	6100	6000	5300	5200	4700	4700_{5}
	20	7300	7300	6400	6400	5900	5800	5400	5300_{5}	4800	4800_{25}
	40	6400	6400	5500	5500	5000	5000	4700	4600	4400_{10}	4400_{20}
	60	5800	5800	5000	5000	4500	4500	4200	4200	4000_{10}	4000_{5}
	90	5300	5300	4500	4500	4100	4100	3800	3700	3500	3500_{10}
90x63	10	2400	2700	1900	1700	1500	1100	1300	NS	1200	NS
	20	2400	2500	1900	1700	1500	1100	1300	NS	1200	NS
	40	1900	1900	1500	1400	1400	1100	1200	NS	1100	NS
	60	1700	1600	1400	1100	1200	NS	1000	NS	NS	NS
	90	1500	1300	1200	NS	1000	NS	NS	NS	NS	NS
130x63	10	3900	3700	2800	2700	2300	2200	1900	1700	1700	1400
	20	3400	3400	2800	2800	2300	2200	2000	1800	1700	1400
	40	2800	2800	2200	2200	1900	1900	1700	1700	1600	1500
	60	2400	2500	1900	1900	1700	1600	1500	1400	1400	1300
	90	2100	2100	1700	1600	1500	1300	1400	1100	1200	1000
150x63	10	4300	4200	3300	3100	2700	2600	2300	2200	2000	1800
	20	3900	3900	3200	3200	2700	2600	2300	2200	2100	1900
	40	3200	3200	2600	2600	2200	2200	2000	2000	1900	1900
	60	2800	2800	2200	2200	2000	1900	1800	1800	1600	1600
	90	2500	2500	2000	1900	1700	1700	1500	1400	1400	1300
170x63	10	4900	4900	3800	3600	3000	2900	2600	2600	2300	2200
	20	4300	4300	3600	3600	3100	2900	2600	2600	2400	2200
	40	3600	3600	2900	2900	2600	2600	2300	2300	2200	2100
	60	3200	3200	2600	2600	2200	2200	2000	2000	1900	1900
	90	2800	2800	2200	2200	1900	1900	1700	1700	1600	1500
200x63	10	5400	5400	4400	4300	3600	3400	3100	3000	2700	2700
	20	4800	4800	4200	4200	3700	3500	3100	3000	2800	2700
	40	4200	4200	3400	3400	3000	3000	2700	2800	2500	2600
	60	3700	3700	3000	3000	2600	2700	2400	2400	2200	2200
	90	3300	3300	2600	2700	2300	2300	2100	2000	1900	1900
240x63	10	6100	6100	5300	5200	4300	4200	3700	3600	3300	3200
	20	5500	5400	4700	4700	4300	4300	3800	3600	3400	3200
	40	4700	4700	4100	4000	3600	3600	3300	3200	3000	3000
	60	4300	4300	3600	3600	3200	3100	2900	2900	2700	2700
	90	4000	3900	3200	3100	2800	2800	2500	2500	2300	2300
300x63	10	7100	7100	6400	6300	5400	5300	4700	4700	4200	4100
	20	6400	6300	5600	5600	5100	5100	4800	4700	4200	4100
	40	5600	5600	4800	4800	4400	4300	4100	4100	3800	3800
	60	5100	5100	4400	4300	4000	3900	3600	3600	3400	3300
	90	4700	4600	4000	3900	3500	3400	3200	3100	2900	2900
360x63	10	7900	7900	7200	7200	6500	6400	5600	5500	5000	5000
	20	7200	7200	6300	6300	5800	5800	5500	5500	5100	5100
	40	6300	6300	5500	5500	5000	5000	4700	4600	4400	4400
	60	5800	5800	5000	5000	4500	4500	4200	4200	4000	4000
	90	5300	5300	4500	4500	4100	4100	3800	3800	3500	3500
400x63	10	8500	8400	7700	7700	7200	7200	6300	6200	5600	5500
	20	7700	7700	6800	6800	6300	6300	5900	5900	5600	5600
	40	6800	6800	5900	5900	5400	5400	5000	5000	4800	48005
	60	6300	6300	5400	5400	4900	4900	4600	4600	4300	4300
	90	5800	5700	4900	4900	4400	4400	4100	4100	3900	3900
300x75	10	7200	7200	6500	6500	5900	5800	5100	5100	4600	4500
	20	6500	6500	5800	5700	5300	5300	5000	5000	4600	4600
	40	5800	5700	5000	5000	4500	4500	4200	4200	4000	4000
	60	5300	5300	4500	4500	4100	4100	3800	3800	3600	3500
	90	4800	4800	4100	4100	3700	3600	3400	3300	3100	3100
400x75	10	8600	8600	7900	7900	7400	7400	6800	6800	6100	6000
	20	7900	7900	7100	7000	6500	6500	6100	6100	5800	5800
	40	7000	7000	6100	6100	5600	5600	5200	5300	5000	5000
	60	6500	6500	5600	5600	5100	5100	4800	4700	4500	4500
	90	6000	6000	5100	5100	4700	4600	4300	4300	4100	4100

Continuous span Verandah beam
AS 4055 classification N1 - 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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Continuous span (mm)									
90x45	10	2400	2500	1600	1600	1400	1100	1100	NS	NS	NS
	20	2400	2500	1600	1600	1400	1100	1100	NS	NS	NS
	40	2300	2300	1700	1700	1400	1100	1300	NS	1000	NS
	60	2100	2000	1600	1500	1400	1100	1300	NS	1000	NS
	90	1800	1800	1400	1200	1200	NS	1100	NS	NS	NS
130x45	10	3400	3400	2400	2500	2000	1800	1700	1500	1500	1200
	20	3500	3400	2500	2600	2000	1900	1700	1500	1500	1300
	40	3400	3300	2500	2600	2000	2000	1700	1500	1500	1400
	60	3000	3000	2300	2300	2000	2000	1700	1500	1500	1400
	90	2600	2600	2100	2000	1800	1800	1600	1500	1500	1200
150x45	10	4000	4000	2800	2800	2200	2200	2000	1900	1600	1500
	20	4000	4000	2800	2800	2300	2300	2000	1900	1600	1500
	40	3900	3900	2900	2900	2400	2500	2000	2000	1800	1600
	60	3400	3400	2700	2700	2300	2400	2000	2000	1800_{5}	1600
	90	3000	3000	2400	2400	2100	2000	1900	1600	1600_{5}	1400
170x45	10	4500	4500	3200	3100	2600	2600	2200	2100	2000	1600
	20	4600	4500	3200	3200	2600	2700	2200	2200	2000	1600
	40	4300	4300	3300	3300	2700	2700	2300	2200	2100_{10}	2000_{5}
	60	3900	3800	3100	3100	2700	2700	2300_{5}	2200_{5}	2100_{15}	2000_{15}
	90	3400	3300	2700	2700	2300	2300	2100_{10}	2100_{10}	2000_{25}	1600_{5}
200x45	10	5300	5300	3700	3700	3000	3000	2600	2700	2300_{5}	2100
	20	5400	5400	3800	3700	3100	3100	2700_{5}	2700_{5}	2300_{10}	2100_{5}
	40	4800	4800	3900	3900	3200	3100	2800_{15}	2800_{15}	2400_{25}	2600_{25}
	60	4400	4400	3600	3600	3200_{10}	3100_{10}	2800_{20}	2800_{25}	2400_{30}	2600_{35}
	90	4000	4000	3200	3100	2800_{10}	2800_{10}	2500_{25}	2500_{25}	2300_{40}	1700_{15}
240x45	10	6400	6400	4500	4500	3700	3600	3200_{15}	3100_{10}	2800_{20}	2800_{25}
	20	6400	6400	4600	4500	3700_{5}	3600_{5}	3200_{20}	3100_{15}	2900_{30}	2900_{30}
	40	5500	5500	4700	4700	3800_{15}	3800_{15}	3300_{30}	3300_{30}	2900_{45}	2900_{45}
	60	5000	5100	4300	4200	3800_{25}	3700_{25}	3300_{40}	3200_{40}	2900_{55}	2900_{55}
	90	4600	4600	3800	3800	3300_{25}	3300_{20}	3100_{45}	3000_{45}	2800_{70}	2800_{70}
300x45	10	8000	8000	5600_{5}	5600	4600_{20}	4500_{20}	4000_{35}	3900_{35}	3600_{50}	3200_{40}
	20	7300	7400	5700_{10}	5700_{10}	4700_{25}	4600_{25}	4000_{40}	4000_{40}	3600_{55}	3300_{45}
	40	6400	6500	5500_{15}	5600_{15}	4800_{40}	4700_{40}	4100_{60}	4100_{60}	3700_{85}	3600_{85}
	60	5900	5900	5000_{15}	5000_{15}	4600_{45}	4600	4100_{85}	4100_{85}	3700_{100}	3600_{100}
	90	5400	5400	4600_{15}	4600_{15}	4100_{45}	4100_{45}	3800_{90}	3700_{90}	3500_{110}	3200_{100}
360x45	10	8900	9500	6800_{20}	6800_{20}	5500_{40}	5500_{40}	4800_{55}	4700_{55}	4200_{85}	4200_{85}
	20	8100	8500	6900_{25}	6900_{25}	5600_{50}	5600_{50}	4900_{80}	4800_{75}	4300_{95}	4300_{95}
	40	7200	7300	6300_{25}	6300_{25}	5800_{75}	5700_{70}	5000_{100}	5000_{100}	4500_{120}	4500_{120}
	60	6700	6700	5800_{25}	5800_{25}	5200_{65}	5200_{75}	4900_{110}	4900_{110}	4400_{135}	4400_{135}
	90	6200	6200	5200_{30}	5200_{30}	4700_{80}	4700_{75}	4400_{115}	4400_{115}	4200_{150}	4100_{150}
400x45	10	9500	10100	7500_{30}	7500_{30}	6100_{55}	6100_{55}	5300_{85}	5300_{85}	4800_{105}	4700_{100}
	20	8600	9100	7600_{35}	7600_{35}	6200_{65}	6200_{65}	5400_{95}	5400_{95}	4800_{115}	4700_{115}
	40	7700	7900	6800_{35}	6800_{35}	6200_{90}	6200_{90}	5500_{120}	5500_{115}	5000_{140}	4900_{140}
	60	7100	7300	6200_{35}	6200_{35}	5600_{90}	5700_{90}	5300_{125}	5300_{125}	4900_{155}	4900_{155}
	90	6600	6600	5700_{40}	5700_{40}	5100_{90}	5100_{90}	4800_{130}	4800_{130}	4500_{165}	4500_{165}
90x63	10	2800	2800	2000	1900	1600	1600	1400	1100	1300	NS
	20	2800	2800	2000	1900	1600	1600	1400	1100	1300	NS
	40	2600	2600	2100	2000	1600	1600	1400	1200	1300	1000
	60	2300	2200	1800	1800	1600	1400	1400	1200	1300	1000
	90	2000	1900	1600	1400	1400	1200	1300	NS	1100	NS
130x63	10	4100	4100	2800	2800	2300	2300	2000	1900	1700	1500
	20	4100	4100	2900	2900	2400	2500	2000	2000	1800	1500
	40	3700	3700	3000	3000	2500	2600	2100	2000	1800	1700
	60	3300	3200	2600	2600	2300	2200	2100	2000	1800	1800
	90	2900	2900	2300	2200	2000	1900	1800	1800	1700	1500
150x63	10	4700	4700	3300	3300	2700	2700	2300	2300	2100	2000
	20	4800	4800	3400	3300	2700	2800	2300	2400	2100	2000
	40	4200	4200	3500	3400	2800	2800	2400	2600	2200	2100
	60	3800	3800	3000	3000	2700	2700	2400	2400	2200	2100
	90	3300	3300	2700	2700	2300	2300	2100	2000	1900	1900

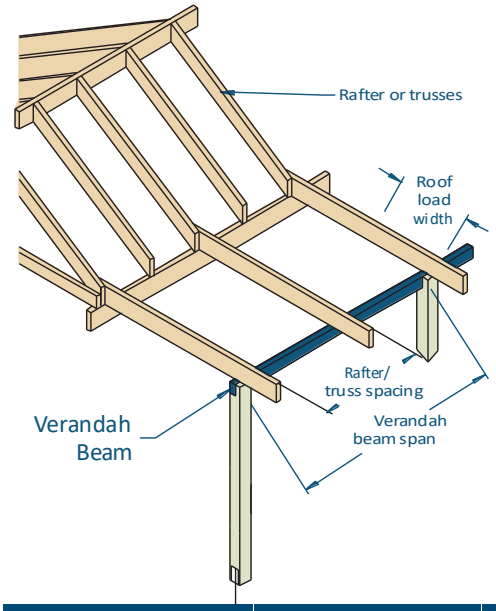
Continuous span Verandah beam
AS 4055 classification N1 - N4 (cont'd)

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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Continuous span (mm)									
170x63	10	5300	5400	3800	3700	3100	3000	2600	2700	2300	2300
	20	5400	5400	3800	3700	3100	3100	2700	2700	2400	2400
	40	4600	4600	3900	3900	3200	3200	2800	2800	2500	2600
	60	4200	4200	3400	3400	3000	3000	2800	2700	2500	2600_{5}
	90	3800	3800	3000	3000	2600	2600	2400	2400	2200_{5}	2100_{5}
200x63	10	6300	6300	4400	4400	3600	3500	3100	3100	2800	2800
	20	6000	6000	4500	4500	3700	3600	3200	3100	2800	2800
	40	5200	5200	4400	4400	3800	3700	3300	3200	2900_{10}	2900_{10}
	60	4700	4700	4000	4000	3500	3500	3200_{5}	3200_{5}	2900_{15}	2900_{15}
	90	4300	4300	3500	3500	3100	3100	2800_{5}	2800_{5}	2600_{20}	2600_{20}
240x63	10	7400	7600	5300	5300	4300	4300	3800	3700	3400_{10}	3300_{5}
	20	6700	6800	5400	5400	4400	4400	3800_{5}	3700_{5}	3400_{15}	3300_{10}
	40	5900	5900	5100	5100	4600_{5}	4500	3900_{15}	3900_{15}	3500_{25}	3400_{25}
	60	5400	5400	4600	4600	4200_{5}	4200_{5}	3900_{20}	3900_{20}	3500_{35}	3400_{30}
	90	4900	5000	4200	4200	3700_{5}	3700_{5}	3400_{20}	3400_{20}	3200_{35}	3100_{35}
300x63	10	8400	8800	6700	6700	5400_{5}	5400_{5}	4700_{15}	4600_{15}	4200_{30}	4200_{30}
	20	7600	7900	6800	6800	5500_{10}	5500_{10}	4800_{25}	4700_{25}	4300_{35}	4300_{35}
	40	6800	6900	6000	6000	5400_{20}	5400_{20}	4900_{35}	4900_{35}	4400_{50}	4400_{50}
	60	6400	6400	5400	5400	4900_{20}	5000_{20}	4600_{40}	4600_{40}	4400_{70}	4300_{70}
	90	5800	5800	4900	5000	4500_{20}	4500_{20}	4200_{45}	4200_{45}	3900_{75}	3900_{70}
360x63	10	9400	9900	8000_{5}	8000_{5}	6500_{20}	6500_{20}	5600_{35}	5600_{35}	5000_{50}	5000_{50}
	20	8500	9000	7600_{5}	7900_{10}	6600_{30}	6600_{30}	5700_{45}	5700_{45}	5100_{60}	5100_{60}
	40	7600	7900	6700_{5}	6800_{5}	6200_{30}	6200_{30}	5800_{65}	5800_{65}	5300_{90}	5300_{90}
	60	7100	7200	6200_{5}	6200_{5}	5700_{30}	5700_{30}	5300_{60}	5300_{60}	5000_{95}	5000_{95}
	90	6600	6600	5700_{5}	5700_{5}	5100_{35}	5200_{35}	4800_{65}	4800_{65}	4500_{100}	4500_{100}
400x63	10	10000	10600	8900_{15}	8900_{15}	7300_{35}	7200_{35}	6300_{50}	6300_{50}	5600_{70}	5600_{70}
	20	9000	9600	8100_{10}	8500_{15}	7400_{40}	7400_{40}	6400_{60}	6400_{60}	5700_{85}	5700_{85}
	40	8100	8500	7200_{10}	7300_{10}	6700_{40}	6700_{40}	6300_{85}	6300_{85}	5900_{110}	5800_{105}
	60	7600	7800	6700_{10}	6700_{10}	6100_{40}	6100_{40}	5700_{85}	5700_{85}	5400_{110}	5400_{110}
	90	7000	7200	6100_{10}	6100_{15}	5500_{45}	5600_{45}	5200_{85}	5200_{85}	4900_{110}	4900_{115}
300x75	10	8600	9000	7300	7300	5900	5900	5100_{10}	5200_{10}	4600_{20}	4500_{20}
	20	7900	8200	7100	7200	6000_{5}	6000_{5}	5200_{15}	5200_{15}	4700_{25}	4600_{25}
	40	7100	7200	6200	6200	5700_{10}	5700_{10}	5300_{25}	5300_{25}	4800_{40}	4700_{40}
	60	6600	6600	5700	5700	5100_{5}	5200_{10}	4800_{25}	4800_{25}	4600_{45}	4600_{45}
	90	6100	6100	5100	5200	4700_{10}	4700_{10}	4400_{30}	4300_{30}	4100_{50}	4100_{45}
400x75	10	10200	10800	9300_{5}	9700_{10}	7900_{25}	7900_{25}	6900_{40}	6900_{40}	6100_{55}	6100_{55}
	20	9200	9900	8300	8800_{5}	7800_{30}	8000_{30}	7000_{50}	6900_{50}	6200_{65}	6200_{65}
	40	8300	8800	7400	7600	6900_{25}	7000_{25}	6500_{55}	6500_{55}	6200_{90}	6200_{90}
	60	7800	8100	6900	7000	6400_{25}	6400_{25}	6000_{50}	6000_{55}	5700_{90}	5700_{90}
	90	7300	7400	6400	6400	5800_{30}	5800_{30}	5400_{55}	5400_{55}	5100_{90}	5100_{90}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. End bearing lengths = 45 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 SmartLVL in this table are stocked in each state. (Please check with your supplier before ordering.

Single span Verandah beam
AS 4055 classification C1 - C3



EXAMPLE:

wind speed = C3
sheet roof - 40 kg/m^2
rafter/truss spacing = 600 mm
verandah span = 3500 mm
roof load width = 3900 mm
Enter span table at 4500 roof load width column, rafter spacing of 600 mm, and read down to a span equal to or greater than 3500 mm

ADOPT:

SmartLVL 13 - 300x45

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Single span									
90x45	10	1800	1600	1300	NS	1000	NS	NS	NS	NS	NS
	20	1900	1600	1300	NS	1000	NS	NS	NS	NS	NS
	40	1700	1700	1300	NS	1100	NS	NS	NS	NS	NS
	60	1500	1400	1200	NS	1000	NS	NS	NS	NS	NS
	90	1300	1100	1000	NS	NS	NS	NS	NS	NS	NS
130x45	10	2800	2700	1900	1700	1500	1100	1300	NS	1200	NS
	20	2800	2700	1900	1700	1500	1100	1300	NS	1200	NS
	40	2500	2600	2000	1800	1600	1200	1400	NS	1200	NS
	60	2200	2200	1700	1700	1500	1200	1400	NS	1200	NS
	90	1900	1900	1500	1400	1300	1100	1200	NS	1100	NS
150x45	10	3200	3100	2300	2100	1800	1500	1500	NS	1400	NS
	20	3300	3100	2300	2100	1800	1500	1500	NS	1400	NS
	40	2900	2900	2300	2200	1800	1600	1600	1000	1400	NS
	60	2500	2600	2000	2000	1700	1600	1600	1200	1400	NS
	90	2200	2200	1700	1700	1500	1400	1400	1200	1300	NS
170x45	10	3700	3500	2600	2500	2100	1900	1700	1400	1500	NS
	20	3700	3500	2600	2500	2100	1900	1700	1400	1500	NS
	40	3300	3200	2600	2600	2100	2000	1800	1500	1600	NS
	60	2900	2900	2300	2300	2000	2000	1800	1600	1600	1000
	90	2500	2600	2000	2000	1700	1700	1600	1500	1500	NS
200x45	10	4300	4200	3000	2900	2500	2400	2100	1800	1800	1400
	20	4400	4300	3000	2900	2500	2400	2100	2000	1900	1500
	40	3800	3800	3100	3000	2500	2400	2200	2100	1900	1500
	60	3400	3300	2700	2700	2300	2300	2100	2100	1900	1600
	90	3000	2900	2300	2300	2100	2000	1800	1800	1700	1600_{5}
240x45	10	5200	5200	3700	3500	2900	2800	2600	2500	2300	1800
	20	5100	5100	3700	3500	3000	2900	2600	2500	2300	1800
	40	4400	4400	3700	3600	3000	2900	2600	2600	2400	2300
	60	4000	4000	3200	3200	2800	2800	2600	2600_{5}	2400_{5}	2300
	90	3500	3500	2800	2800	2500	2500	2200	2200	2100	2000
300x45	10	6500	6500	4600	4600	3700	3600	3200	3100	2800_{5}	2800_{5}
	20	6000	6000	4600	4600	3800	3600	3200	3100	2900_{5}	2800_{10}
	40	5200	5200	4400	4400	3900	3700	3300	3200	2900_{10}	2800_{25}
	60	4700	4700	4000	4000	3600	3500	3200	3200_{5}	3000_{15}	2900_{35}
	90	4300	4300	3600	3500	3100	3100	2800	2800_{20}	2600_{15}	2600_{30}

Single span Verandah beam
AS 4055 classification C1 - C3 (cont'd)

Roof Load Width (mm)		1500		3000		4500		6000		7500	
Rafter/Truss Spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Single span									
360x45	10	7600	7600	5500	5400	4500	4400	3900	3700	3500	3300_{10}
	20	6800	6800	5600	5500	4500	4500	3900_{5}	3800	3500	3300_{15}
	40	5900	5900	5100	5100	4600	4600	4000_{10}	3900_{5}	3600_{30}	3400_{15}
	60	5400	5400	4600	4600	4200	4200_{10}	3900_{15}	3800_{10}	3600_{35}	3500_{20}
	90	4900	4900	4200	4200	3700	3700	3400	3300_{10}	3100_{20}	3100_{40}
400x45	10	8100	8100	6200	6000	5000	5000_{5}	4300_{10}	4200_{25}	3900_{20}	3700_{10}
	20	7300	7300	6200	6100	5100	5000_{10}	4400_{10}	4300_{25}	3900_{20}	3700_{15}
	40	6400	6400	5500	5500	5000_{5}	5000_{15}	4500_{15}	4400_{30}	4000_{30}	3800_{20}
	60	5900	5800	5000	5000	4500	4500_{10}	4200_{25}	4200_{15}	4000_{35}	3900_{30}
	90	5300	5300	4500	4500	4100	4100	3800_{25}	3700_{15}	3500_{15}	3500_{30}
90x63	10	2300	2100	1500	1100	1300	NS	1000	NS	NS	NS
	20	2300	2200	1500	1100	1300	NS	1100	NS	NS	NS
	40	1900	1900	1500	1200	1300	NS	1100	NS	NS	NS
	60	1700	1600	1400	1100	1200	NS	1000	NS	NS	NS
	90	1500	1300	1200	NS	1000	NS	NS	NS	NS	NS
130x63	10	3300	3200	2300	2200	1800	1500	1500	1100	1400	NS
	20	3300	3200	2300	2200	1800	1600	1600	1200	1400	NS
	40	2800	2800	2200	2200	1900	1600	1600	1200	1400	NS
	60	2400	2500	1900	1900	1700	1600	1500	1300	1400	NS
	90	2100	2100	1700	1600	1500	1300	1400	1100	1200	NS
150x63	10	3800	3700	2700	2600	2200	2100	1800	1500	1600	1200
	20	3900	3700	2700	2600	2200	2100	1800	1600	1600	1200
	40	3200	3200	2600	2600	2200	2100	1900	1600	1700	1300
	60	2800	2800	2200	2200	2000	1900	1800	1700	1600	1400
	90	2500	2500	2000	1900	1700	1700	1500	1400	1400	1300
170x63	10	4300	4300	3000	2900	2500	2400	2100	2000	1800	1600
	20	4300	4300	3100	2900	2500	2400	2100	2000	1900	1600
	40	3600	3600	2900	2900	2600	2500	2200	2100	1900	1700
	60	3200	3200	2600	2600	2200	2200	2000	2000	1900	1800
	90	2800	2800	2200	2200	1900	1900	1700	1700	1600	1500
200x63	10	5100	5100	3600	3400	2900	2800	2500	2400	2300	2100
	20	4800	4800	3700	3500	2900	2800	2500	2500	2300	2200
	40	4200	4200	3400	3400	3000	2900	2600	2500	2400	2200
	60	3700	3700	3000	3000	2600	2700	2400	2400	2200	2200
	90	3300	3300	2600	2700	2300	2300	2100	2000	1900	1900
240x63	10	6100	6100	4300	4300	3500	3400	3000	2900	2700	2600
	20	5500	5400	4400	4300	3600	3400	3100	2900	2700	2700
	40	4700	4700	4100	4000	3600	3500	3100	3000	2800	2700
	60	4300	4300	3600	3600	3200	3100	2900	2900	2700	2700
	90	4000	3900	3200	3100	2800	2800	2500	2500	2300	2300
300x63	10	7100	7100	5400	5400	4400	4400	3800	3700	3400	3300
	20	6400	6300	5500	5400	4500	4400	3900	3700	3500	3300
	40	5600	5600	4800	4800	4400	4300	3900	3800	3500	3400
	60	5100	5100	4400	4300	4000	3900	3600	3600	3400	3300
	90	4700	4600	4000	3900	3500	3400	3200	3100	2900	2900_{10}
360x63	10	7900	7900	6500	6500	5300	5300	4600	4600	4100	4000
	20	7200	7200	6300	6300	5400	5300	4700	4700	4100_{5}	4000
	40	6300	6300	5500	5500	5000	5000	4700	4600	4200_{10}	4100_{20}
	60	5800	5800	5000	5000	4500	4500	4200	4200_{5}	4000_{5}	4000_{5}
	90	5300	5300	4500	4500	4100	4100	3800	3800	3500_{15}	3500
400x63	10	8500	8400	7300	7300	5900	5800	5100	5100_{5}	4600	4600_{5}
	20	7700	7700	6800	6800	6000	5900	5200	5100_{5}	4600	4600_{10}
	40	6800	6800	5900	5900	5400	5400	5000_{5}	5000_{10}	4700_{5}	4700_{15}
	60	6300	6300	5400	5400	4900	4900	4600	4600_{5}	4300_{15}	4300_{25}
	90	5800	5700	4900	4900	4400	4400	4100	4100	3900_{15}	3900_{5}
300x75	10	7200	7200	6000	5900	4900	4800	4200	4100	3700	3600
	20	6500	6500	5800	5700	4900	4900	4200	4100	3800	3600
	40	5800	5700	5000	5000	4500	4500	4200	4200	3900	3700
	60	5300	5300	4500	4500	4100	4100	3800	3800	3600	3500
	90	4800	4800	4100	4100	3700	3600	3400	3300	3100	3100
400x75	10	8600	8600	7900	7900	6500	6400	5600	5500	5000	5000_{5}
	20	7900	7900	7100	7000	6500	6500	5700	5600	5100	5000_{10}
	40	7100	7000	6100	6100	5600	5600	5200	5300	5000_{5}	5000_{15}
	60	6500	6500	5600	5600	5100	5100	4800	4700_{5}	4500	4500_{10}
	90	6000	6000	5100	5100	4700	4600	4300	4300	4100	4100

Continuous span Verandah beam
AS 4055 classification C1 - C3

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Continuous span (mm)									
90x45	10	1900	1900	1400	1100	1000	NS	NS	NS	NS	NS
	20	1900	1900	1400	1100	1000	NS	NS	NS	NS	NS
	40	2000	1900	1400	1100	1100	NS	NS	NS	NS	NS
	60	2000	2000	1400	1200	1100	NS	NS	NS	NS	NS
	90	1800	1800	1400	1200	1100	NS	NS	NS	NS	NS
130x45	10	2800	2800	2000	1900	1500	1400	1400	NS	NS	NS
	20	2800	2800	2000	1900	1500	1400	1400	NS	NS	NS
	40	2900	2900	2000	1900	1600	1500	1400	NS	NS	NS
	60	2900	2900	2100	2000	1600	1500	1400	NS	NS	NS
	90	2600	2600	2100	2000	1600	1600	1400	NS	NS	NS
150x45	10	3300	3200	2300	2200	1800	1600	1600	1200	1400	NS
	20	3300	3200	2300	2300	1800	1600	1600	1300	1400	NS
	40	3400	3300	2300	2300	1900	1600	1600	1300	1400_{10}	NS
	60	3400	3400	2400	2500	1900	1900	1600	1400	1500_{15}	NS
	90	3000	3000	2400	2400	1900	1900	1600_{10}	1300	1500_{20}	NS
170x45	10	3700	3600	2600	2700	2100	2000	1700	1400	1500	NS
	20	3700	3600	2600	2700	2100	2000	1700	1400	1500_{5}	NS
	40	3800	3700	2700	2700	2200	2100	1700	1500	1500_{10}	1200
	60	3900	3800	2700	2800	2200_{5}	2100	1700_{5}	1600	1600_{20}	1200_{5}
	90	3400	3300	2700	2700	2200_{10}	2100_{5}	1700_{15}	1600_{10}	1600_{25}	1200_{10}
200x45	10	4400	4300	3000	3000	2500	2600	2200_{10}	1600	1600_{5}	1300
	20	4400	4400	3100	3100	2500	2600_{5}	2200_{15}	1700	1600_{10}	1300
	40	4500	4400	3200	3100	2600_{10}	2600_{15}	2200_{25}	1700_{5}	1700_{20}	1400_{5}
	60	4400	4400	3200	3200	2600_{20}	2700_{20}	2200_{35}	1700_{10}	1700_{30}	1500_{15}
	90	4000	4000	3200_{10}	3100_{5}	2600_{25}	2700_{30}	2200_{45}	1700_{20}	1700_{35}	1400_{20}
240x45	10	5200	5200	3700	3600	3000_{15}	3000_{15}	2500_{25}	2700_{30}	1900_{20}	1900_{20}
	20	5300	5300	3700	3600	3000_{20}	3000_{20}	2500_{30}	2700_{35}	2000_{30}	1600_{10}
	40	5400	5400	3800_{10}	3700_{10}	3100_{30}	3100_{25}	2700_{45}	2700_{45}	2200_{50}	1900_{30}
	60	5000	5100	3900_{15}	3800_{15}	3200_{40}	3100_{35}	2700_{55}	2700_{60}	2300_{60}	1900_{40}
	90	4600	4600	3800_{25}	3800_{25}	3100_{45}	3100_{45}	2700_{75}	2700_{85}	2300_{85}	1900_{50}
300x45	10	6500	6500	4600_{15}	4600_{15}	3800_{40}	3700_{35}	3200_{55}	3200_{50}	2600_{60}	2800_{80}
	20	6600	6600	4700_{20}	4600_{20}	3800_{45}	3700_{40}	3200_{65}	3200_{60}	2600_{70}	2900_{90}
	40	6400	6500	4800_{30}	4700_{30}	3900_{55}	3800_{55}	3300_{85}	3200_{85}	3000_{105}	2900_{100}
	60	5900	5900	4900_{40}	4800_{40}	4000_{80}	3900_{75}	3400_{100}	3400_{80}	3000_{120}	3000_{120}
	90	5400	5400	4600_{45}	4600_{45}	3900_{90}	3900_{90}	3400_{115}	3200_{110}	3000_{135}	3000_{135}
360x45	10	7900_{5}	7900_{5}	5500_{35}	5500_{35}	4500_{65}	4500_{65}	3900_{95}	3600_{60}	3400_{110}	3100_{95}
	20	7900_{10}	7900_{10}	5600_{40}	5600_{40}	4600_{80}	4500_{75}	3900_{100}	3400_{85}	3400_{115}	3200_{105}
	40	7200_{5}	7300_{10}	5700_{55}	5700_{50}	4700_{95}	4600_{90}	4000_{120}	3500_{100}	3400_{135}	3200_{120}
	60	6700_{5}	6700_{5}	5800_{70}	5800_{70}	4800_{110}	4700_{105}	4100_{135}	4100_{135}	3500_{145}	3300_{135}
	90	6200_{5}	6200_{5}	5200_{65}	5200_{70}	4700_{125}	4700_{125}	4100_{155}	4100_{155}	3400_{170}	3300_{155}
400x45	10	8700_{15}	8700_{15}	6200_{50}	6100_{50}	5000_{90}	5000_{90}	4300_{115}	4300_{110}	3600_{120}	3300_{105}
	20	8600_{15}	8800_{20}	6200_{55}	6200_{55}	5100_{100}	5100_{100}	4400_{120}	4400_{125}	3600_{125}	3300_{110}
	40	7600_{10}	7900_{15}	6300_{75}	6300_{75}	5200_{115}	5200_{115}	4500_{140}	4500_{140}	3900_{155}	3400_{130}
	60	7100_{10}	7300_{15}	6200_{85}	6200_{90}	5300_{130}	5300_{130}	4600_{160}	4500_{160}	4000_{185}	3400_{145}
	90	6600_{10}	6600_{15}	5700_{85}	5700_{85}	5100_{140}	5100_{140}	4500_{175}	4500_{175}	4000_{210}	3400_{165}
90x63	10	2300	2500	1600	1600	1300	1000	1000	NS	NS	NS
	20	2300	2500	1600	1600	1300	1000	1100	NS	NS	NS
	40	2400	2500	1600	1600	1400	1100	1100	NS	NS	NS
	60	2300	2200	1700	1600	1400	1100	1100	NS	1000	NS
	90	2000	1900	1600	1400	1400	1100	1100	NS	NS	NS
130x63	10	3300	3300	2300	2400	1900	1800	1600	1500	1500	NS
	20	3400	3300	2400	2500	1900	1800	1600	1500	1500	NS
	40	3400	3400	2400	2500	2000	1800	1700	1500	1500	1200
	60	3300	3200	2500	2600	2000	1900	1700	1500	1500	1300
	90	2900	2900	2300	2200	2000	1900	1700	1500	1500	1300
150x63	10	3900	3800	2700	2700	2200	2100	1900	1600	1600	1400
	20	3900	3800	2700	2800	2200	2100	1900	1600	1600	1400
	40	4000	4000	2800	2800	2200	2200	2000	1900	1600	1500
	60	3800	3800	2800	2800	2300	2300	2000	1900	1600	1600
	90	3300	3300	2700	2700	2300	2300	2000	1900	1600	1500

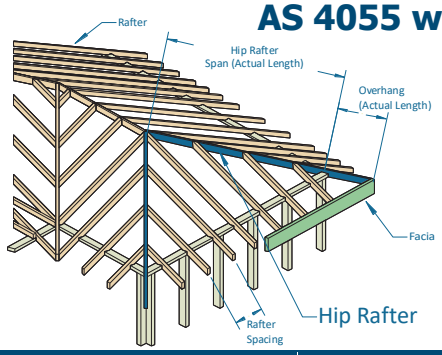
Continuous span Verandah beam
AS 4055 classification C1 - C3 (Cont'd)

Roof load width (mm)		1500		3000		4500		6000		7500	
Rafter/truss spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Verandah beam span - Continuous span (mm)									
170x63	10	4400	4400	3100	3100	2500	2600	2200	2000	1700	1600
	20	4400	4400	3100	3100	2500	2600	2200	2100	1900	1600
	40	4500	4500	3200	3100	2600	2600	2200	2100	2000_{5}	1600
	60	4200	4200	3200	3200	2600	2700	2300	2200	2000_{10}	1600
	90	3800	3800	3000	3000	2600	2600	2200_{10}	2200_{5}	2000_{20}	1600_{5}
200x63	10	5200	5200	3600	3500	2900	2900	2600	2600	2300_{5}	1700
	20	5200	5200	3700	3600	3000	3000	2600	2600_{5}	2300_{10}	1700
	40	5200	5200	3800	3700	3000	3000	2600_{10}	2700_{10}	2300_{15}	2100_{10}
	60	4700	4700	3800	3800	3100_{5}	3100_{5}	2700_{15}	2700_{15}	2300_{25}	2200_{20}
	90	4300	4300	3500	3500	3100_{10}	3100_{10}	2700_{25}	2700_{25}	2300_{35}	2100_{25}
240x63	10	6200	6200	4400	4400	3500	3500	3100_{15}	3000_{15}	2700_{25}	2800_{25}
	20	6300	6200	4400	4400	3600_{5}	3500_{5}	3100_{15}	3100_{15}	2800_{30}	2800_{30}
	40	5900	5900	4500	4500	3700_{15}	3600_{10}	3200_{25}	3100_{20}	2800_{35}	2800_{40}
	60	5400	5400	4600_{5}	4500	3700_{20}	3700_{20}	3200_{35}	3200_{30}	2900_{45}	2900_{50}
	90	4900	5000	4200	4200_{5}	3700_{25}	3600_{25}	3200_{45}	3100_{40}	2900_{60}	2900_{65}
300x63	10	7800	7800	5500_{5}	5500_{5}	4500_{20}	4400_{20}	3900_{35}	3800_{35}	3500_{50}	3200_{40}
	20	7700	7800	5500_{5}	5500_{5}	4500_{25}	4500_{25}	3900_{40}	3800_{40}	3500_{55}	3200_{45}
	40	6800	6900	5600_{15}	5600_{15}	4600_{35}	4500_{35}	4000_{50}	3900_{50}	3600_{80}	3200_{55}
	60	6400	6400	5400_{20}	5400_{20}	4700_{45}	4600_{45}	4000_{65}	4000_{70}	3600_{90}	3300_{70}
	90	5800	5800	4900_{15}	5000_{15}	4500_{50}	4500_{50}	4000_{90}	4000_{85}	3600_{105}	3300_{90}
360x63	10	9300	9300	6600_{20}	6600_{20}	5300_{40}	5300_{40}	4600_{55}	4600_{55}	4100_{85}	4100_{85}
	20	8500	9000	6600_{25}	6600_{25}	5400_{45}	5400_{45}	4700_{70}	4600_{65}	4200_{95}	4200_{95}
	40	7600	7900	6800_{35}	6800_{35}	5500_{55}	5500_{55}	4800_{90}	4700_{90}	4200_{110}	4300_{110}
	60	7100	7200	6200_{30}	6200_{30}	5600_{80}	5600_{80}	4900_{105}	4800_{105}	4400_{125}	4400_{125}
	90	6600	6600	5700_{30}	5700_{30}	5100_{85}	5200_{85}	4800_{115}	4800_{120}	4300_{140}	4300_{140}
400x63	10	10000	10400	7300_{30}	7300_{30}	6000_{55}	5900_{55}	5100_{85}	5200_{90}	4600_{105}	4600_{105}
	20	9000	9600	7400_{35}	7400_{35}	6000_{60}	6000_{60}	5200_{95}	5200_{95}	4600_{100}	4600_{110}
	40	8100	8500	7200_{40}	7300_{45}	6100_{85}	6100_{85}	5300_{110}	5300_{110}	4800_{130}	4700_{125}
	60	7600	7800	6700_{40}	6700_{40}	6100_{95}	6100_{95}	5400_{125}	5400_{125}	4900_{150}	4800_{145}
	90	7000	7200	6100_{40}	6100_{40}	5500_{95}	5600_{95}	5200_{130}	5200_{135}	4800_{165}	4700_{160}
300x75	10	8500	8500	6000	5900	4900_{15}	4800_{10}	4200_{25}	4200_{25}	3700_{35}	3700_{35}
	20	7800	8200	6000	6000	4900_{15}	4900_{15}	4200_{30}	4200_{30}	3800_{45}	3700_{40}
	40	7100	7200	6100_{5}	6100_{5}	5000_{25}	5000_{25}	4300_{40}	4300_{40}	3900_{55}	3800_{55}
	60	6600	6600	5700_{5}	5700_{5}	5100_{35}	5100_{35}	4400_{50}	4400_{50}	4000_{80}	3900_{75}
	90	6100	6100	5100_{5}	5200_{5}	4700_{35}	4700_{35}	4400_{65}	4300_{65}	3900_{90}	3900_{90}
400x75	10	10200	10800	8000_{20}	8000_{20}	6500_{45}	6500_{45}	5600_{65}	5600_{65}	5000_{90}	5000_{90}
	20	9200	9900	8100_{25}	8000_{25}	6600_{50}	6600_{50}	5700_{80}	5700_{80}	5100_{100}	5100_{100}
	40	8300	8800	7400_{25}	7600_{30}	6700_{60}	6700_{65}	5800_{95}	5700_{95}	5200_{115}	5200_{115}
	60	7800	8100	6900_{25}	7000_{25}	6400_{65}	6400_{70}	5900_{110}	5900_{110}	5300_{130}	5300_{130}
	90	7300	7400	6400_{25}	6400_{25}	5800_{65}	5800_{65}	5400_{110}	5400_{110}	5100_{140}	5100_{140}

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 SmartLVL in this table are stocked in each state. Please check with your supplier before ordering

Hip rafter - sheet and tile roof
AS 4055 wind classification N1 - N4 and C1 - C3



EXAMPLE:

wind speed = N4
roof load = 40 kg/m^2 (sheet roof)
hip rafter span = 4500 mm (single span)
rafter spacing = 600 mm

Enter column at (N1-N4) wind speed, 600 mm rafter spacing and read down to span equal to or greater than 4500 mm for a 40 kg/m^2 roof load

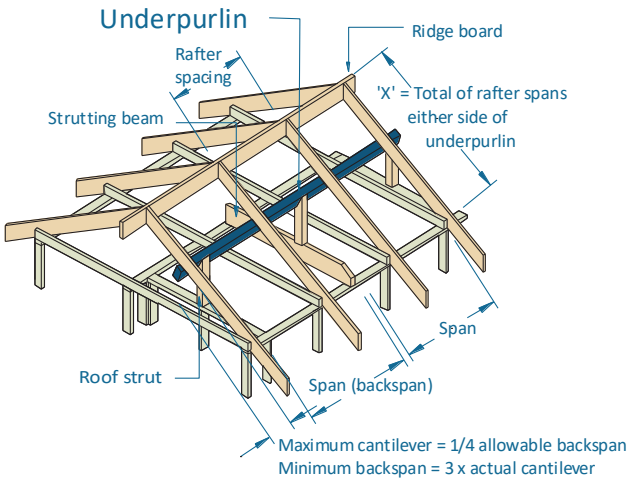
ADOPT: SmartLVL 13 - 240x45

AS 4055 wind category		N1 - N4				C1 - C3			
Maximum Rafter spacing (mm)		600		1200		600		1200	
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum hip rafter and overhang span - single span (mm)							
		span	O/H	span	O/H	span	O/H	span	O/H
90x45	40	2300	450	2300	400	2300	450	2300	400
	90	1900	400	1900	350	1900	400	1900	350
130x45	40	3100	700	3100	650	3100	700	3100	650
	90	2500	600	2500	500	2500	600	2500	500
150x45	40	3400	850	3400	750	3400	850	3400	750
	90	2800	750	2800	600	2800	750	2800	600
170x45	40	3700	1000	3700	850	3700	1000	3700	850
	90	3100	850	3100	650	3100	850	3100	650
200x45	40	4200	1150	4200	1000	4100	1150	4100	1000
	90	3500	1000	3500	800	3500	1000	3500	800
240x45	40	4800	1400	4800	1250	4600	1400	4600	1250
	90	4000	1200	4000	950	4000	1200	4000	950
300x45	40	5700	1750	5700	1550	5300	1750	5300	1550
	90	4700	1500	4700	1100	4700	1500	4700	1100
360x45	40	6400	2050	6400	1800	5900	2050	5900	1800
	90	5400	1800	5400	1300	5400	1800	5400	1300
90x63	40	2500	500	2500	500	2500	500	2500	500
	90	2100	500	2100	400	2100	500	2100	400
130x63	40	3300	800	3300	750	3300	800	3300	750
	90	2700	750	2700	550	2700	750	2700	550
150x63	40	3700	1000	3700	850	3700	1000	3700	850
	90	3000	850	3000	650	3000	850	3000	650
170x63	40	4000	1100	4000	950	4000	1100	4000	950
	90	3300	950	3300	750	3300	950	3300	750
200x63	40	4600	1300	4600	1150	4400	1300	4400	1150
	90	3800	1100	3800	900	3800	1100	3800	900
240x63	40	5200	1550	5200	1350	4900	1550	4900	1350
	90	4300	1350	4300	1050	4300	1350	4300	1050
300x63	40	6100	1950	6100	1700	5700	1950	5700	1700
	90	5100	1650	5100	1350	5100	1650	5100	1350
360x63	40	6800	2300	6800	2000	6300	2300	6300	2000
	90	5900	1950	5900	1550	5900	1950	5900	1550
400x63	40	7300	2550	7300	2150	6700	2550	6700	2150
	90	6300	2100	6300	1700	6300	2100	6300	1700
450x63	40	7800	2750	7800	2350	7200	2750	7200	2350
	90	6700	2300	6700	1850	6700	2300	6700	1850
300x75	40	6300	2050	6300	1800	5900	2050	5900	1800
	90	5300	1750	5300	1400	5300	1750	5300	1400
400x75	40	7500	2650	7500	2250	7000	2650	7000	2250
	90	6500	2200	6500	1850	6500	2200	6500	1850

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, Maximum birdsmouth depth = 15 % of depth
4. End bearing length = 45 at end supports. Subscript values indicate the minimum additional bearing length where required to be greater than 45 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 SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Underpurlins - sheet and tiled roof
AS 4055 wind classification N1 - N4



RLW = X/2 where ridge is strutted

EXAMPLE:

wind speed = N4
rafter spacing = 1200 mm
roof load = 20 kg/m^2 (sheet roof)
underpurlin span = 3500 mm (single span)

'X' (total of rafter span) = 5400 mm
roof load width = 'X' / 2 = 5400 / 2 = 2700 mm

Enter single span table at 2700 mm roof load width column, 1200 rafter spacing and read down to span equal to or greater than 3500 mm in a 20 kg/m^2 row

ADOPT:

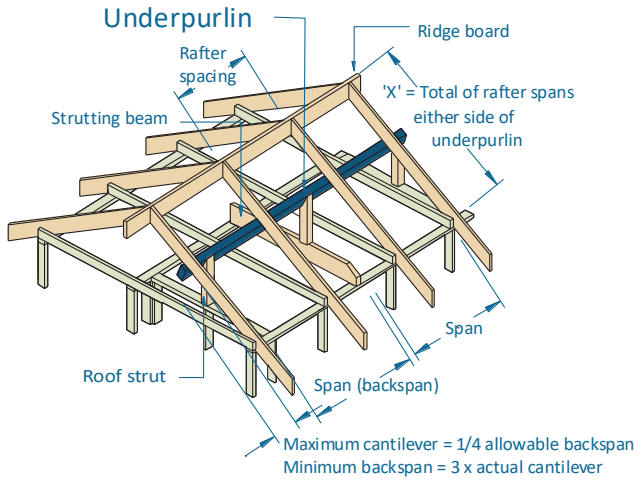
SmartLVL 13 - 170x63

Roof load width (mm)		1800		2700		3600		1800		2700		3600	
rafter spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Single span						Continuous span					
		Maximum recommended Underpurlin span (mm)											
90x45	20	2100	2100	1800	1800	1600	1500	2700	2700	2200	2200	1900	1900
	60	1500	1300	1300	1100	1100	NS	2000	1900	1700	1500	1500	1400
130x45	20	3000	3000	2700	2700	2400	2500	4000	3900	3200	3200	2800	2800
	60	2100	2100	1800	1800	1700	1600	2900	2900	2500	2500	2300	2200
150x45	20	3500	3400	3100	3000	2800	2800	4600	4500	3700	3600	3200	3200
	60	2400	2500	2100	2100	1900	1900	3300	3300	2900	2900	2600	2600
170x45	20	3900	3900	3500	3400	3200	3100	5200	5200	4200	4200	3600	3600
	60	2800	2800	2400	2500	2200	2200	3700	3700	3300	3200	3000	3000
90x63	20	2300	2400	2000	2100	1800	1900	3100	3100	2600	2700	2200	2300
	60	1600	1500	1400	1300	1300	1100	2200	2100	1900	1900	1700	1700
130x63	20	3300	3300	2900	2900	2700	2700	4500	4500	3800	3700	3300	3200
	60	2400	2400	2100	2100	1900	1900	3200	3100	2800	2800	2600	2600
150x63	20	3900	3800	3400	3400	3100	3100	5200	5200	4400	4400	3800	3700
	60	2700	2800	2400	2400	2200	2200	3700	3700	3200	3200	2900	2900
170x63	20	4300	4300	3900	3800	3500	3500	5800	5800	5000	5000	4300	4300
	60	3100	3100	2700	2700	2500	2500	4200	4200	3700	3600	3300	3300
200x63	20	5100	5100	4500	4500	4100	4100	6000	6000	5900	5800	5100	5100
	60	3600	3600	3200	3200	2900	2900	4900	4900	4300	4300	3900	3900
240x63	20	6000	6000	5400	5400	4900	4900	6000	6000	6000	6000	6000_5	6000_5
	60	4400	4300	3800	3800	3500	3500	5900	5900	5200	5200	4700_{10}	4700_{10}
300x75	20	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
	60	5700	5700	5100	5100	4600	4600	6000	6000	6000	6000	6000_{10}	6000_{10}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Maximum cantilever = 1/4 allowable backspan
3. Minimum backspan = 3 x actual cantilever
4. End bearing length = 45 at end supports and 45 mm at internal for continuous member. Subscript values indicate the minimum additional bearing length where required to be greater than 45 mm at end support and 45 mm at internal for continuous member
5. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Underpurlins - sheet and tiled roof
AS 4055 wind classification C1 - C3



RLW = X/2 where ridge is strutted

EXAMPLE:

wind speed = C3
rafter spacing = 1200 mm
roof load = 20 kg/m^2 (sheet roof)
underpurlin span = 3500 mm (single span)

'X' (total of rafter span) = 5400 mm
roof load width = 'X' / 2 = 5400 / 2 = 2700 mm

Enter single span table at 2700 mm roof load width column, 1200 rafter spacing and read down to span equal to or greater than 3500 mm in a 20 kg/m^2 row

ADOPT:

SmartLVL 13 - 170x63

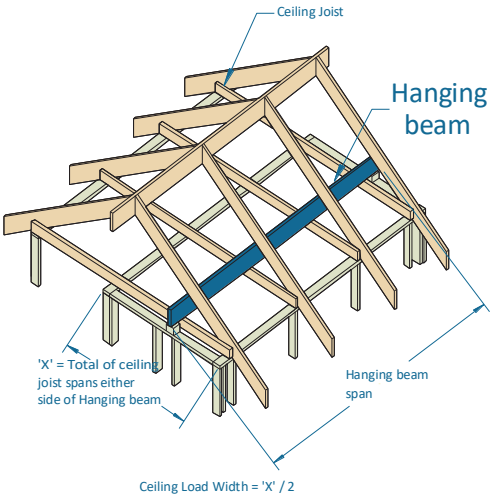
Roof load width (mm)		1800		2700		3600		1800		2700		3600	
Rafter spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Single span						Continuous span					
		Maximum recommended Underpurlin span (mm)											
90x45	20	2100	2000	1700	1300	1400	1000	2200	2100	1700	1700	1500	1300
	60	1500	1300	1300	1100	1100	NS	2000	1900	1700	1500	1500	1400
130x45	20	3000	3000	2600	2500	2200	2100	3200	3100	2600	2700	2200	2200
	60	2100	2100	1800	1800	1700	1600	2900	2900	2500	2500	2200	2200
150x45	20	3500	3400	2900	2800	2600	2500	3700	3600	3000	3000	2600	2700
	60	2400	2500	2100	2100	1900	1900	3300	3300	2900	2900	2600_{10}	2600_{10}
170x45	20	3900	3900	3400	3200	2900	2800	4200	4200	3400	3300	2900	2900
	60	2800	2800	2400	2500	2200	2200	3700	3700	3300_{5}	3200	2900_{15}	2900_{15}
90x63	20	2300	2400	2000	1900	1700	1400	2600	2700	2100	2000	1800	1800
	60	1600	1500	1400	1300	1300	1100	2200	2100	1900	1900	1700	1700
130x63	20	3300	3300	2900	2900	2600	2600	3800	3700	3100	3100	2700	2700
	60	2400	2400	2100	2100	1900	1900	3200	3100	2800	2800	2600	2600
150x63	20	3900	3800	3400	3400	3000	2900	4400	4300	3500	3500	3100	3000
	60	2700	2800	2400	2400	2200	2200	3700	3700	3200	3200	2900	2900
170x63	20	4300	4300	3900	3800	3500	3300	5000	5000	4000	4000	3500	3400
	60	3100	3100	2700	2700	2500	2500	4200	4200	3700	3600	3300	3300
200x63	20	5100	5100	4500	4500	4100	4000	5800	5800	4700	4700	4100	4100
	60	3600	3600	3200	3200	2900	2900	4900	4900	4300	4300	3900_{10}	3900_{10}
240x63	20	6000	6000	5400	5400	4900	4900	6000	6000	5700_{5}	5700_{5}	4900_{10}	4900_{10}
	60	4400	4300	3800	3800	3500	3500	5900	5900	5200_{10}	5200_{10}	4700_{25}	4700_{25}
300x75	20	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000_{15}	6000_{15}
	60	5700	5700	5100	5100	4600	4600	6000	6000	6000_{10}	6000_{10}	6000_{30}	6000_{30}

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Maximum cantilever = 1/4 allowable backspan
3. Minimum backspan = 3 x actual cantilever
4. End bearing length = 45 at end supports and 45 mm at internal for continuous member. Subscript values indicate the minimum additional bearing length where required to be greater than 45 mm at end support and 45 mm at internal for continuous member
5. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Hanging beam supporting ceiling loads only
AS 4055 classification N1 - N4

ceiling mass - 20 kg/m^2



EXAMPLE:

wind speed = N4
hanging beam span = 4200 mm
X = 5000 mm

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

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

ADOPT:

SmartLVL 13 - 240x45

Ceiling load width (mm)	1800	2400	3000	3600	4200	4800
Member size DxB (mm)	Maximum recommended Hanging beam span (mm)					
90x45	2150	1950	1800	1650	1550	1450
130x45	3100	2800	2550	2400	2250	2100
150x45	3550	3200	2950	2750	2600	2450
170x45	4000	3650	3350	3100	2900	2750
200x45	4650	4250	3900	3650	3450	3250
240x45	5300	4900	4650	4350	4100	3900
300x45	6200	5800	5450	5150	4950	4750
360x45	7050	6600	6200	5900	5650	5400
90x63	2400	2150	2000	1850	1750	1650
130x63	3450	3100	2850	2650	2500	2350
150x63	3950	3550	3300	3050	2900	2700
170x63	4450	4000	3700	3450	3250	3100
200x63	5000	4650	4350	4050	3800	3600
240x63	5650	5300	5000	4750	4550	4300
300x63	6600	6200	5850	5600	5350	5150
360x63	7500	7050	6650	6350	6100	5850
400x63	8050	7600	7200	6850	6550	6300
450x63	8750	8200	7800	7450	7150	6900
300x75	6850	6400	6100	5800	5550	5350
400x75	8300	7850	7450	7100	6800	6550

NOTES:

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

Hanging beam supporting ceiling loads only
AS 4055 classification C1 - C3

ceiling mass - 20 kg/m^2

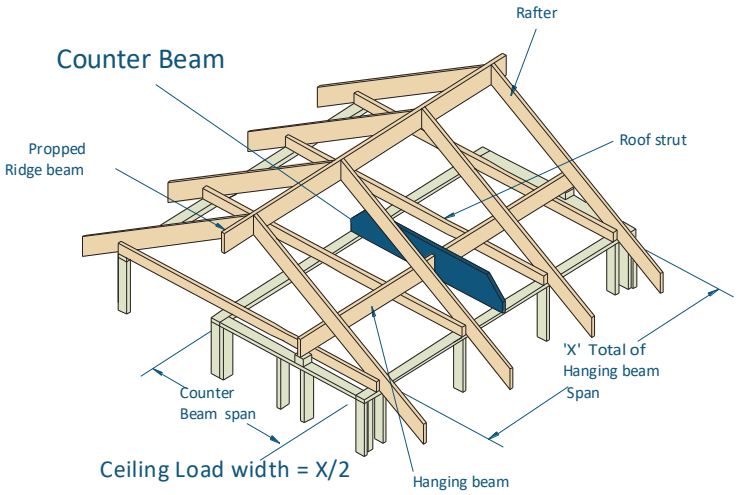
Ceiling load width (mm)	1800	2400	3000	3600	4200	4800
Member size DxB (mm)	Maximum Hanging beam span (mm)					
90x45	2150	1950	1800	1650	1550	1450
130x45	3100	2800	2550	2400	2250	2100
150x45	3550	3200	2950	2750	2550	2400
170x45	4000	3650	3350	3100	2900	2700
200x45	4650	4250	3900	3650	3450	3200
240x45	5300	4900	4650	4350	4100	3850
300x45	6200	5800	5450	5150	4950	4750
360x45	7050	6600	6200	5900	5650	5400
90x63	2400	2150	2000	1850	1750	1650
130x63	3450	3100	2850	2650	2500	2350
150x63	3950	3550	3300	3050	2900	2700
170x63	4450	4000	3700	3450	3250	3100
200x63	5000	4650	4350	4050	3800	3600
240x63	5650	5300	5000	4750	4550	4300
300x63	6600	6200	5850	5600	5350	5150
360x63	7500	7050	6650	6350	6100	5850
400x63	8050	7600	7200	6850	6550	6300
450x63	8750	8200	7800	7450	7150	6900
300x75	6850	6400	6100	5800	5550	5350
400x75	8300	7850	7450	7100	6800	6550

NOTES:

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

Counter beam supporting hanging beam
AS 4055 classification N1 - N4

ceiling mass - 20 kg/m^2



EXAMPLE:

wind speed = N4
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:

SmartLVL 13 - 240x45

Ceiling load width (mm)	600	1800	2400	3000	3600	4200	4800	5400	6600
Member size DxB (mm)	Maximum recommended Counter beam span (mm)								
90x45	2100	2100	2100	2100	1900	1800	1800	1700	1600
120x45	3300	3200	2900	2700	2600	2500	2400	2300	2100
150x45	4400	4000	3700	3400	3200	3100	2900	2800	2700
170x45	5000	4500	4100	3900	3700	3500	3300	3200	3000
200x45	5900	5000	4700	4500	4300	4100	3900	3800	3500
240x45	6900	5700	5400	5100	4900	4800	4600	4500	4300
300x45	8000	6700	6300	6000	5800	5600	5500	5300	5100
360x45	8900	7600	7200	6900	6600	6400	6200	6100	5800
2/90x45	3000	3000	2700	2600	2400	2300	2200	2100	2000
2/120x45	4400	3900	3600	3400	3200	3100	2900	2800	2700
2/150x45	5600	4700	4500	4200	4000	3800	3700	3500	3300
2/170x45	6100	5100	4900	4700	4500	4300	4100	4000	3800
2/200x45	6700	5700	5500	5200	5000	4900	4700	4600	4400
2/240x45	7500	6500	6200	5900	5700	5500	5400	5300	5000
2/300x45	8600	7500	7200	6900	6700	6500	6300	6200	5900
2/360x45	9500	8500	8100	7800	7600	7400	7200	7000	6700
2/400x45	10100	9100	8700	8400	8100	7900	7700	7600	7200
90x63	2500	2500	2500	2300	2200	2100	2000	1900	1800
120x63	3900	3500	3300	3000	2900	2700	2600	2500	2400
150x63	4900	4400	4000	3800	3600	3400	3300	3200	3000
170x63	5600	4800	4500	4300	4000	3900	3700	3600	3400
200x63	6400	5400	5100	4900	4700	4500	4400	4200	3900
240x63	7200	6100	5800	5500	5300	5100	5000	4900	4700
300x63	8300	7100	6700	6500	6200	6000	5900	5700	5500
360x63	9200	8000	7600	7300	7100	6900	6700	6500	6200
400x63	9800	8600	8200	7900	7600	7400	7200	7000	6700
450x63	10500	9300	8900	8500	8300	8000	7800	7600	7300
300x75	8400	7300	7000	6700	6500	6300	6100	5900	5700
400x75	10000	8800	8400	8100	7900	7600	7500	7300	7000

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
3. The above table was based on a maximum ceiling mass of 20 kg/m^2
4. Minimum bearing length = 70 mm at end supports
4. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.
5. Top edge of Counter beams with D/B > 3 shall be laterally restrained as per details on page 5

Counter beam supporting hanging beam
AS 4055 classification C1 - C3

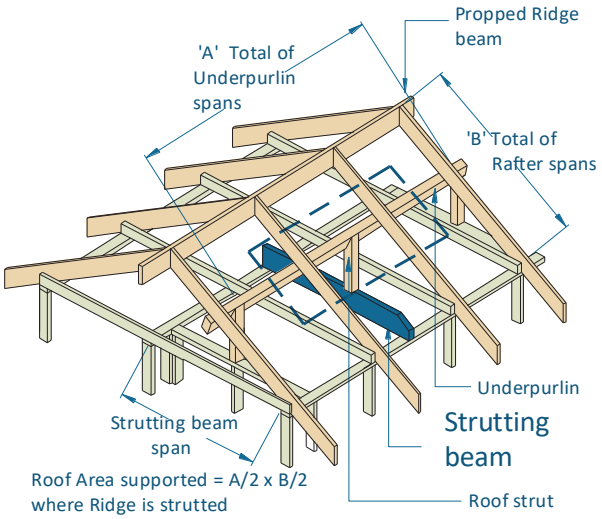
ceiling mass - 20 kg/m^2

Ceiling load width (mm)	600	1800	2400	3000	3600	4200	4800	5400	6600
Member size DxB (mm)	Maximum recommended Counter beam span (mm)								
90x45	2100	2100	2100	1800	1700	1500	1400	1400	1200
120x45	3300	3200	2800	2500	2200	2100	1900	1800	1700
150x45	4400	4000	3500	3100	2800	2600	2400	2300	2100
170x45	5000	4500	3900	3500	3200	3000	2800	2600	2400
200x45	5900	5000	4600	4100	3800	3500	3300	3100	2800
240x45	6900	5700	5400	4900	4500	4200	3900	3700	3300
300x45	8000	6700	6300	6000	5600	5200	4900	4600	4200
360x45	8900	7600	7200	6900	6600	6300	5900	5500	5000
2/90x45	3000	3000	2700	2600	2400	2300	2200	2100	1900
2/120x45	4400	3900	3600	3400	3200	3100	2900	2800	2500
2/150x45	5600	4700	4500	4200	4000	3800	3700	3500	3200
2/170x45	6100	5100	4900	4700	4500	4300	4100	3900	3600
2/200x45	6700	5700	5500	5200	5000	4900	4700	4600	4200
2/240x45	7500	6500	6200	5900	5700	5500	5400	5300	5000
2/300x45	8600	7500	7200	6900	6700	6500	6300	6200	5900
2/360x45	9500	8500	8100	7800	7600	7400	7200	7000	6700
2/400x45	10100	9100	8700	8400	8100	7900	7700	7600	7200
90x63	2500	2500	2400	2200	2000	1800	1700	1600	1500
120x63	3900	3500	3300	2900	2700	2500	2300	2200	2000
150x63	4900	4400	4000	3700	3300	3100	2900	2700	2500
170x63	5600	4800	4500	4100	3800	3500	3300	3100	2800
200x63	6400	5400	5100	4900	4500	4100	3900	3600	3300
240x63	7200	6100	5800	5500	5300	4900	4600	4400	4000
300x63	8300	7100	6700	6500	6200	6000	5800	5500	4900
360x63	9200	8000	7600	7300	7100	6900	6700	6500	5900
400x63	9800	8600	8200	7900	7600	7400	7200	7000	6600
450x63	10500	9300	8900	8500	8300	8000	7800	7600	7300
300x75	8400	7300	7000	6700	6500	6300	6100	5900	5400
400x75	10000	8800	8400	8100	7900	7600	7500	7300	7000

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
3. The above table was based on a maximum ceiling mass of 20 kg/m^2
4. Minimum bearing length = 70 mm at end supports
4. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.
5. Top edge of Counter beams with D/B > 3 shall be laterally restrained as per details on page 5

Strutting beam supporting underpurlins
AS 4055 classification N1- N4



EXAMPLE:

wind speed = N4
sheet roof = 20 kg/m^2
total of underpurlin span 'A'= 5000 mm
total of rafter span 'B' = 4200 mm
roof area supported = (A/2) x (B/2)
= (5000/2) x (4200/2)
= 5250000 mm^2 **(Convert to m^2)**
= 5250000/1000000 = 5.25 m^2

strutting beam span = 4500 mm

Enter column at 6 m^2 roof area supported and read down to a span greater than or equal to 4500 mm for a 20 kg/m^2 roof

ADOPT: SmartLVL - 240x45

Roof area supported (m^2)		2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting beam span (mm)					
130x45	20	3200	2600	2200	1800	1400	1200
	60	2400	1700	1400	1200	1100	NS
150x45	20	3900	3200	2700	2300	1900	1600
	60	3000	2100	1800	1500	1400	1200
170x45	20	4800	3800	3200	2800	2400	2000
	60	3600	2600	2100	1800	1600	1500
200x45	20	5700	4800	4000	3500	3200	2800
	60	4500	3300	2700	2300	2100	1900
240x45	20	6900	6100	5200	4600	4200	3800
	60	5700	4300	3500	3100	2800	2500
300x45	20	8400	7300	6600	6200	5700	5300
	60	7100	5800	4900	4300	3900	3500
360x45	20	9500	8500	7800	7300	6800	6500
	60	8200	7000	6200	5600	5000	4600
2/130x45	20	4500	3600	3000	2600	2400	2200
	60	3300	2400	2000	1700	1500	1400
2/150x45	20	5400	4300	3700	3200	2900	2700
	60	4000	3000	2500	2100	1900	1800
2/170x45	20	6100	5000	4300	3800	3500	3200
	60	4700	3600	3000	2600	2300	2100
2/200x45	20	6900	6100	5400	4800	4400	4000
	60	5800	4500	3800	3300	3000	2700
2/240x45	20	7900	7100	6500	6100	5600	5200
	60	6800	5700	4900	4300	3900	3500
2/300x45	20	9100	8400	7800	7300	7000	6600
	60	8100	7100	6400	5800	5300	4900
2/360x45	20	10200	9500	9000	8500	8100	7800
	60	9300	8200	7500	7000	6500	6200
130x63	20	3800	3100	2500	2200	2000	1600
	60	2800	2000	1700	1400	1300	1200
150x63	20	4700	3700	3100	2700	2400	2200
	60	3500	2500	2100	1800	1600	1500
170x63	20	5400	4400	3700	3300	2900	2700
	60	4100	3000	2500	2200	1900	1800
200x63	20	6400	5400	4700	4100	3700	3400
	60	5100	3800	3200	2800	2500	2300
240x63	20	7500	6600	5900	5300	4800	4500
	60	6300	5000	4200	3600	3300	3000
300x63	20	8800	7900	7200	6700	6300	6000
	60	7600	6500	5700	5000	4500	4200
360x63	20	9900	9000	8400	7900	7500	7100
	60	8800	7600	6800	6300	5900	5400
400x63	20	10600	9800	9100	8600	8200	7800
	60	9500	8300	7500	6900	6500	6200
300x75	20	8900	8100	7500	7000	6600	6300
	60	7900	6800	6100	5400	4900	4500
400x75	20	10700	10000	9400	8900	8500	8200
	60	9800	8600	7900	7300	6800	6500

Strutting beam supporting underpurlins
AS 4055 classification C1 - C3

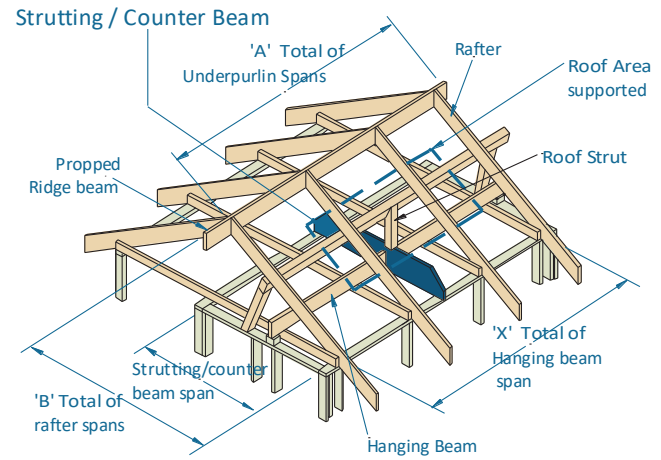
Roof area supported (m^2)		2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting beam span (mm)					
130x45	20	3100	1500	NS	NS	NS	NS
	60	2400	1700	1100	NS	NS	NS
150x45	20	3900	2100	1400	NS	NS	NS
	60	3000	2100	1500	NS	NS	NS
170x45	20	4800	2700	1800	1200	NS	NS
	60	3600	2600	1900	1400	NS	NS
200x45	20	5700	3700	2500	1800	1100	NS
	60	4500	3300	2700	2000	1500	NS
240x45	20	6900	5400	3600	2700	2100	1400
	60	5700	4300	3500	2900	2300	1800
300x45	20	8400	7300	5600	4200	3300	2800
	60	7100	5800	4900	4300	3600	3000_5
360x45	20	9500	8500	7800	6100	4800	4000
	60	8200	7000	6200	5600	5000	4400_5
2/90x45	20	2600	1700	1100	NS	NS	NS
	60	2000	1400	1100	NS	NS	NS
2/130x45	20	4500	3600	2400	1800	1400	NS
	60	3300	2400	2000	1700	1500	1300
2/150x45	20	5400	4300	3200	2400	1900	1600
	60	4000	3000	2500	2100	1900	1700
2/170x45	20	6100	5000	4100	3100	2400	2000
	60	4700	3600	3000	2600	2300	2100
2/200x45	20	6900	6100	5400	4200	3400	2800
	60	5800	4500	3800	3300	3000	2700
2/240x45	20	7900	7100	6500	6100	4900	4100
	60	6800	5700	4900	4300	3900	3500
2/300x45	20	9100	8400	7800	7300	7000	6400
	60	8100	7100	6400	5800	5300	4900
2/360x45	20	10200	9500	9000	8500	8100	7800
	60	9300	8200	7500	7000	6500	6200
2/400x45	20	10900	10200	9700	9200	8800	8500
	60	10000	9000	8200	7600	7200	6800
130x63	20	3800	2200	1400	1100	NS	NS
	60	2800	2000	1600	1200	NS	NS
150x63	20	4700	2900	1900	1400	1000	NS
	60	3500	2500	2100	1600	1200	NS
170x63	20	5400	3800	2500	1900	1500	NS
	60	4100	3000	2500	2000	1600	1200
200x63	20	6400	5200	3500	2600	2100	1700
	60	5100	3800	3200	2800	2300	1900
240x63	20	7500	6600	5000	3800	3000	2500
	60	6300	5000	4200	3600	3300	2700
300x63	20	8800	7900	7200	5900	4700	3900
	60	7600	6500	5700	5000	4500	4200
360x63	20	9900	9000	8400	7900	6800	5600
	60	8800	7600	6800	6300	5900	5400
400x63	20	10600	9800	9100	8600	8200	7000
	60	9500	8300	7500	6900	6500	6200
450x63	20	11400	10600	10000	9500	9000	8700
	60	10400	9200	8300	7700	7300	6900
300x75	20	8900	8100	7500	7000	5600	4600
	60	7900	6800	6100	5400	4900	4500
400x75	20	10700	10000	9400	8900	8500	8200
	60	9800	8600	7900	7300	6800	6500

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 70 mm at end supports
3. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.
4. Top edge of strutting beams with D/B > 3 shall be laterally restrained as per details on page 5

Strutting/counter beam supporting underpurlins & hanging beam AS 4055 classification N1 - N4

ceiling mass - 20 kg/m^2



EXAMPLE:

wind speed = N4
sheet roof = 40 kg/m^2
total of underpurlin span 'A'= 5000 mm
total of rafter span 'B' = 4200 mm
roof area supported = (A/2) x (B/2)
= (5000/2) x (4200/2)
= 5250000 mm^2 **(Convert to m^2)**
= 5250000/1000000 = 5.25 m^2
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, 6 m^2 roof area supported and read down to a span greater than or equal to 4500 mm for a 40 kg/m^2 roof

ADOPT:

SmartLVL 13 - 360x45

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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended strutting/counter beam span (mm)											
150x45	40	2800	2300	1900	1700	1600	1400	2500	2100	1900	1700	1500	1400
	75	2400	1800	1500	1300	1200	1100	2200	1800	1500	1300	1200	1100
170x45	40	3300	2700	2300	2100	1900	1700	2900	2500	2200	2000	1800	1700
	75	2800	2200	1900	1600	1500	1300	2600	2100	1800	1600	1400	1300
200x45	40	3800	3300	2900	2600	2400	2200	3500	3000	2700	2500	2300	2100
	75	3500	2800	2300	2100	1900	1700	3200	2600	2300	2000	1800	1700
240x45	40	4500	4000	3700	3400	3100	2800	4000	3700	3400	3200	2900	2700
	75	4100	3600	3000	2700	2400	2200	3800	3300	2900	2600	2400	2200
300x45	40	5300	4800	4500	4200	4000	3800	4800	4500	4200	4000	3800	3700
	75	5000	4400	4000	3700	3400	3100	4600	4100	3800	3500	3300	3000
360x45	40	6100	5600	5300	5000	4700	4500	5500	5200	4900	4700	4500	4300
	75	5800	5100	4700	4300	4100	3900	5300	4800	4500	4200	4000	3800
2/150x45	40	3600	3100	2700	2400	2200	2000	3200	2800	2500	2300	2100	1900
	75	3200	2500	2200	1900	1700	1600	2900	2400	2100	1800	1700	1500
2/170x45	40	4000	3600	3200	2800	2600	2400	3700	3300	3000	2700	2500	2300
	75	3700	3000	2600	2300	2100	1900	3400	2800	2500	2200	2000	1900
2/200x45	40	4600	4100	3800	3500	3300	3000	4200	3800	3600	3300	3100	2900
	75	4200	3700	3200	2900	2600	2400	3900	3500	3100	2800	2500	2300
2/240x45	40	5300	4800	4500	4200	4000	3800	4800	4500	4200	4000	3800	3700
	75	4900	4300	4000	3700	3400	3100	4500	4100	3800	3600	3300	3000
2/300x45	40	6200	5800	5400	5100	4900	4700	5600	5300	5100	4800	4700	4500
	75	5900	5300	4800	4500	4300	4000	5400	5000	4600	4400	4100	4000
2/360x45	40	7100	6600	6300	6000	5700	5500	6400	6100	5900	5600	5400	5300
	75	6800	6100	5700	5300	5000	4800	6200	5800	5400	5100	4900	4700
2/400x45	40	7600	7200	6800	6500	6300	6000	6900	6600	6400	6100	5900	5800
	75	7300	6700	6200	5900	5600	5300	6700	6300	5900	5600	5400	5100
150x63	40	3200	2600	2300	2000	1800	1700	2800	2400	2200	1900	1800	1600
	75	2800	2200	1800	1600	1400	1300	2500	2100	1800	1600	1400	1300
170x63	40	3700	3100	2700	2400	2200	2000	3300	2900	2500	2300	2100	2000
	75	3300	2600	2200	1900	1700	1600	3000	2400	2100	1900	1700	1600

Strutting/counter beam supporting underpurlins & hanging beam AS 4055 classification N1- N4 (Cont'd)

ceiling mass - 20 kg/m^2

Effective beam spacing (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended strutting/counter beam span (mm)											
200x63	40	4200	3700	3400	3000	2800	2600	3800	3500	3100	2900	2700	2500
	75	3900	3200	2800	2400	2200	2000	3600	3000	2600	2400	2100	2000
240x63	40	4800	4400	4000	3800	3600	3300	4400	4100	3800	3600	3400	3200
	75	4500	3900	3500	3200	2900	2600	4200	3700	3400	3000	2800	2600
300x63	40	5800	5300	4900	4600	4400	4200	5200	4900	4600	4400	4200	4000
	75	5400	4800	4400	4100	3800	3600	5000	4500	4200	3900	3700	3500
360x63	40	6600	6100	5700	5400	5200	5000	6000	5600	5400	5100	4900	4800
	75	6300	5600	5200	4800	4500	4300	5700	5300	4900	4600	4400	4200
400x63	40	7100	6600	6300	6000	5700	5500	6400	6100	5900	5600	5400	5200
	75	6800	6100	5700	5300	5000	4800	6200	5800	5400	5100	4800	4600
450x63	40	7700	7300	6900	6600	6300	6100	7000	6700	6400	6200	6000	5800
	75	7400	6800	6300	5900	5600	5300	6800	6300	6000	5600	5400	5200
300x75	40	6000	5500	5200	4900	4600	4400	5400	5100	4800	4600	4400	4300
	75	5600	5000	4600	4300	4000	3800	5200	4700	4400	4100	3900	3700
400x75	40	7400	6900	6500	6200	6000	5700	6700	6400	6100	5900	5700	5500
	75	7000	6400	5900	5600	5300	5000	6500	6000	5600	5300	5100	4900

Strutting/counter beam supporting underpurlins & hanging beam AS 4055 classification C1 - C3

ceiling mass - 20 kg/m^2

Effective beam spacing (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended strutting/counter beam span (mm)											
150x45	40	2800	2200	1400	1100	NS	NS	2500	2100	1500	1100	NS	NS
	75	2400	1800	1500	1200	NS	NS	2200	1800	1500	1200	NS	NS
170x45	40	3300	2700	1900	1400	1100	NS	2900	2500	1900	1400	1100	NS
	75	2800	2200	1900	1500	1200	1000	2600	2100	1800	1500	1200	1000
200x45	40	3800	3300	2600	1900	1500	1300	3500	3000	2700	2000	1500	1300
	75	3500	2800	2300	2100	1700	1400	3200	2600	2300	2000	1700	1400
240x45	40	4500	4000	3700	2800	2200	1800	4000	3700	3400	2900	2300	1900
	75	4100	3600	3000	2700	2400	2000	3800	3300	2900	2600	2400	2000
300x45	40	5300	4800	4500	4200	3500	2900	4800	4500	4200	4000	3600	3000
	75	5000	4400	4000	3700	3400	3100	4600	4100	3800	3500	3300	3000
360x45	40	6100	5600	5300	5000	4700	4200	5500	5200	4900	4700	4500	4300
	75	5800	5100	4700	4300	4100	3900	5300	4800	4500	4200	4000	3800
2/150x45	40	3600	3100	2700	2400	2000	1600	3200	2800	2500	2300	2000	1600
	75	3200	2500	2200	1900	1700	1600	2900	2400	2100	1800	1700	1500
2/170x45	40	4000	3600	3200	2800	2600	2100	3700	3300	3000	2700	2500	2100
	75	3700	3000	2600	2300	2100	1900	3400	2800	2500	2200	2000	1900
2/200x45	40	4600	4100	3800	3500	3300	3000	4200	3800	3600	3300	3100	2900
	75	4200	3700	3200	2900	2600	2400	3900	3500	3100	2800	2500	2300
2/240x45	40	5300	4800	4500	4200	4000	3800	4800	4500	4200	4000	3800	3700
	75	4900	4300	4000	3700	3400	3100	4500	4100	3800	3600	3300	3000
2/300x45	40	6200	5800	5400	5100	4900	4700	5600	5300	5100	4800	4700	4500
	75	5900	5300	4800	4500	4300	4000	5400	5000	4600	4400	4100	4000
2/360x45	40	7100	6600	6300	6000	5700	5500	6400	6100	5900	5600	5400	5300
	75	6800	6100	5700	5300	5000	4800	6200	5800	5400	5100	4900	4700
2/400x45	40	7600	7200	6800	6500	6300	6000	6900	6600	6400	6100	5900	5800
	75	7300	6700	6200	5900	5600	5300	6700	6300	5900	5600	5400	5100

Strutting/counter beam supporting underpurlins & hanging beam AS 4055 classification C1 - C3 (Cont'd)

ceiling mass - 20 kg/m^2

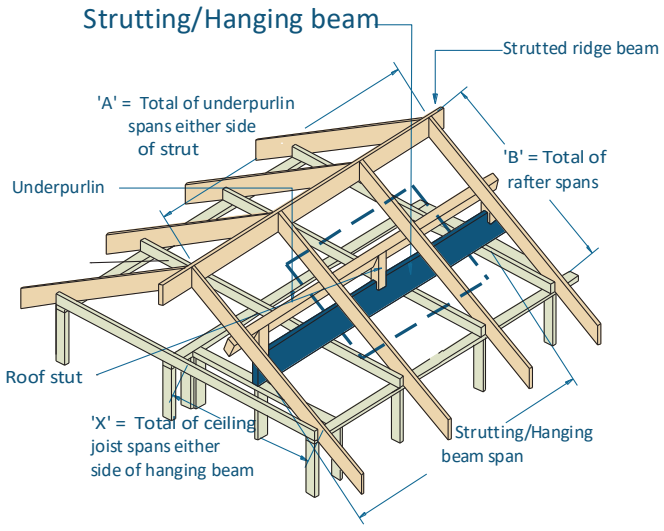
Effective beam spacing (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting /counter span (mm)											
150x63	40	3200	2600	2100	1500	1200	1000	2800	2400	2100	1500	1200	1000
	75	2800	2200	1800	1600	1300	1100	2500	2100	1800	1600	1300	1100
170x63	40	3700	3100	2700	2000	1600	1300	3300	2900	2500	2000	1600	1300
	75	3300	2600	2200	1900	1700	1400	3000	2400	2100	1900	1700	1400
200x63	40	4200	3700	3400	2700	2200	1800	3800	3500	3100	2800	2200	1800
	75	3900	3200	2800	2400	2200	1900	3600	3000	2600	2400	2100	2000
240x63	40	4800	4400	4000	3800	3200	2600	4400	4100	3800	3600	3200	2600
	75	4500	3900	3500	3200	2900	2600	4200	3700	3400	3000	2800	2600
300x63	40	5800	5300	4900	4600	4400	4100	5200	4900	4600	4400	4200	4000
	75	5400	4800	4400	4100	3800	3600	5000	4500	4200	3900	3700	3500
360x63	40	6600	6100	5700	5400	5200	5000	6000	5600	5400	5100	4900	4800
	75	6300	5600	5200	4800	4500	4300	5700	5300	4900	4600	4400	4200
400x63	40	7100	6600	6300	6000	5700	5500	6400	6100	5900	5600	5400	5200
	75	6800	6100	5700	5300	5000	4800	6200	5800	5400	5100	4800	4600
450x63	40	7700	7300	6900	6600	6300	6100	7000	6700	6400	6200	6000	5800
	75	7400	6800	6300	5900	5600	5300	6800	6300	6000	5600	5400	5200
300x75	40	6000	5500	5200	4900	4600	4400	5400	5100	4800	4600	4400	4300
	75	5600	5000	4600	4300	4000	3800	5200	4700	4400	4100	3900	3700
400x75	40	7400	6900	6500	6200	6000	5700	6700	6400	6100	5900	5700	5500
	75	7000	6400	5900	5600	5300	5000	6500	6000	5600	5300	5100	4900

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. Minimum bearing length = 70 mm at end supports.
3. The above table was based on a maximum ceiling mass of 20 kg/m^2
4. Top edge of strutting/counter beams with D/B > 3 shall be laterally restrained as per details on page 5
5. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Strutting/hanging beam
AS 4055 classification N1 - N4

ceiling mass - 20 kg/m^2



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

EXAMPLE:

wind speed = N4
sheet roof = 40 kg/m^2
A = 5000 mm, B = 4200 mm
roof area supported = (A/2) x (B/2)
= (5000/2) x (4200/2)
= 5250000 mm^2 **(Convert to m^2)**
= 5250000/1000000 = 5.25 m^2
strutting/hanging beam span = 4200 mm
ceiling joist span ('X') = 4400 mm
ceiling load width = ['X' / 2) = 4400/2 = 2200 mm

Enter column at 3600 mm ceiling load width, 6 m^2 roof area supported and read down to a span greater than or equal to 4200 mm for a 40 kg/m^2 roof

ADOPT:

SmartLVL 13 - 360x45

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 DxB (mm)	Roof mass (kg/m^2)	Maximum recommended Strutting/hanging beam span (mm)											
150x45	40	2700	2200	1900	1700	1500	1400	2300	2000	1800	1600	1500	1400
	75	2300	1800	1500	1300	1200	1100	2100	1700	1500	1300	1200	1100
170x45	40	3200	2600	2300	2000	1900	1700	2700	2300	2100	1900	1800	1600
	75	2800	2200	1800	1600	1400	1300	2400	2000	1700	1600	1400	1300
200x45	40	3700	3200	2900	2600	2300	2200	3200	2800	2600	2400	2200	2100
	75	3400	2700	2300	2000	1800	1700	2900	2500	2200	2000	1800	1700
240x45	40	4400	3900	3600	3300	3000	2800	3800	3500	3300	3000	2800	2600
	75	4000	3500	3000	2700	2400	2200	3600	3200	2800	2500	2300	2200
300x45	40	5200	4800	4400	4100	3900	3800	4500	4300	4100	3900	3700	3600
	75	4900	4300	3900	3600	3300	3100	4400	4000	3700	3400	3200	3000
360x45	40	6000	5600	5200	4900	4700	4500	5200	5000	4700	4500	4400	4200
	75	5700	5100	4600	4300	4100	3900	5000	4600	4300	4100	3900	3700
2/150x45	40	3500	3000	2600	2400	2100	2000	3000	2600	2400	2200	2000	1900
	75	3100	2500	2100	1900	1700	1600	2700	2300	2000	1800	1600	1500
2/170x45	40	3900	3500	3100	2800	2600	2400	3400	3100	2800	2600	2400	2300
	75	3600	3000	2500	2300	2000	1900	3200	2700	2400	2100	2000	1800
2/200x45	40	4500	4000	3700	3500	3200	3000	3900	3700	3400	3200	3000	2800
	75	4200	3600	3200	2800	2600	2400	3700	3300	3000	2700	2500	2300
2/240x45	40	5200	4700	4400	4100	3900	3800	4500	4300	4000	3900	3700	3600
	75	4800	4300	3900	3600	3400	3100	4300	4000	3700	3400	3200	3000
2/300x45	40	6100	5700	5300	5100	4800	4600	5400	5100	4900	4700	4500	4400
	75	5800	5200	4800	4500	4200	4000	5200	4800	4500	4300	4100	3900
2/360x45	40	7000	6600	6200	5900	5700	5500	6200	5900	5700	5500	5300	5100
	75	6700	6100	5600	5300	5000	4800	6000	5600	5300	5000	4800	4600
2/400x45	40	7500	7100	6800	6500	6200	6000	6700	6400	6200	6000	5800	5600
	75	7200	6600	6200	5800	5500	5300	6500	6100	5800	5500	5300	5100

Strutting/hanging beam
AS 4055 classification N1 - N4 (Cont'd)

ceiling mass - 20 kg/m^2

Ceiling load width (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum strutting/hanging beam span (mm)											
150x63	40	3100	2600	2200	2000	1800	1700	2600	2300	2100	1900	1700	1600
	75	2700	2100	1800	1600	1400	1300	2400	2000	1700	1500	1400	1300
170x63	40	3600	3000	2700	2400	2200	2000	3000	2700	2400	2200	2000	1900
	75	3200	2500	2200	1900	1700	1600	2800	2300	2000	1800	1700	1500
200x63	40	4100	3700	3300	3000	2700	2500	3600	3200	3000	2700	2600	2400
	75	3800	3200	2700	2400	2200	2000	3300	2900	2500	2300	2100	1900
240x63	40	4700	4300	4000	3700	3500	3300	4100	3900	3700	3500	3300	3100
	75	4400	3900	3500	3100	2800	2600	4000	3600	3200	2900	2700	2500
300x63	40	5700	5200	4900	4600	4300	4200	4900	4700	4400	4300	4100	3900
	75	5300	4700	4300	4000	3800	3600	4700	4400	4100	3800	3600	3400
360x63	40	6500	6000	5700	5400	5100	4900	5700	5400	5200	5000	4800	4600
	75	6200	5600	5100	4800	4500	4300	5500	5100	4800	4500	4300	4100
400x63	40	7000	6600	6200	5900	5600	5400	6200	5900	5600	5400	5300	5100
	75	6700	6100	5600	5300	5000	4700	6000	5600	5200	5000	4700	4600
450x63	40	7700	7200	6900	6500	6300	6000	6700	6500	6200	6000	5800	5600
	75	7300	6700	6200	5900	5500	5300	6500	6100	5800	5500	5300	5100
300x75	40	5900	5400	5100	4800	4600	4400	5100	4900	4700	4500	4300	4100
	75	5600	5000	4600	4200	4000	3800	5000	4600	4300	4000	3800	3700
400x75	40	7300	6800	6500	6200	5900	5700	6400	6100	5900	5700	5500	5300
	75	7000	6400	5900	5500	5200	5000	6200	5800	5500	5200	5000	4800

Strutting/hanging beam
AS 4055 classification C1 - C3

ceiling mass - 20 kg/m^2

Ceiling load width (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum strutting/hanging beam span (mm)											
150x45	40	2700	2100	1700	1300	NS	NS	2200	2000	1700	1300	NS	NS
	75	2300	1800	1500	NS	NS	NS	2100	1700	1500	NS	NS	NS
170x45	40	3200	2500	2000	1700	1100	NS	2500	2300	2000	1700	1100	NS
	75	2800	2200	1800	1500	NS	NS	2400	2000	1700	1500	NS	NS
200x45	40	3700	3200	2600	2200	1900	1200	2900	2800	2600	2200	1900	1200
	75	3400	2700	2300	2000	1600	NS	2900	2500	2200	2000	1500	NS
240x45	40	4400	3900	3400	3000	2600	2300	3500	3500	3300	3000	2600	2200
	75	4000	3500	3000	2700	2400	1900	3500	3200	2800	2500	2300	1800
300x45	40	5200	4800	4400	4100	3700	3400	4300	4300	4100	3900	3700	3400
	75	4900	4300	3900	3600	3300	3100$_5$	4400	4000	3700	3400	3200	30005
360x45	40	6000	5600	5200	4900	4700	4400	5200	5000	4700	4500	4400	4200
	75	5700	5100	4600	4300	4100	3900$_5$	5000	4600	4300	4100	3900	37005
2/150x45	40	3500	2900	2400	2100	1800	1700	3000	2600	2400	2100	1800	1700
	75	3100	2500	2100	1900	1700	1600	2700	2300	2000	1800	1600	1500
2/170x45	40	3900	3500	2900	2500	2200	2000	3400	3100	2800	2500	2200	2000
	75	3600	3000	2500	2300	2000	1900	3200	2700	2400	2100	2000	1800
2/200x45	40	4500	4000	3700	3200	2800	2600	3900	3700	3400	3200	2800	2600
	75	4200	3600	3200	2800	2600	2400	3700	3300	3000	2700	2500	2300
2/240x45	40	5200	4700	4400	4100	3800	3400	4500	4300	4000	3900	3700	3400
	75	4800	4300	3900	3600	3400	3100	4300	4000	3700	3400	3200	3000
2/300x45	40	6100	5700	5300	5100	4800	4600	5400	5100	4900	4700	4500	4400
	75	5800	5200	4800	4500	4200	4000	5200	4800	4500	4300	4100	3900
2/360x45	40	7000	6600	6200	5900	5700	5500	6200	5900	5700	5500	5300	5100
	75	6700	6100	5600	5300	5000	4800	6000	5600	5300	5000	4800	4600
2/400x45	40	7500	7100	6800	6500	6200	6000	6700	6400	6200	6000	5800	5600
	75	7200	6600	6200	5800	5500	5300	6500	6100	5800	5500	5300	5100

Strutting/hanging beam
AS 4055 classification C1 - C3 (Cont'd)

ceiling mass - 20 kg/m^2

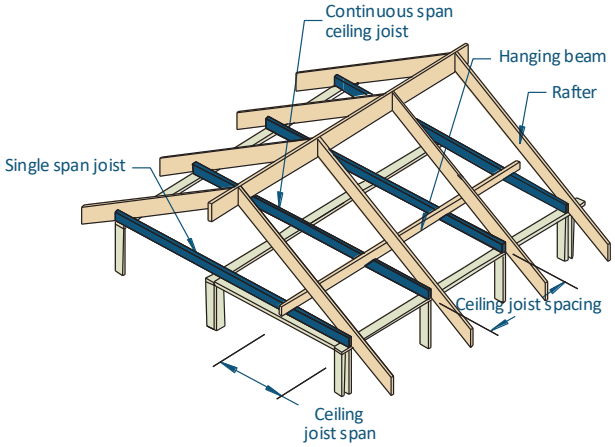
Ceiling load width (mm)		1800						3600					
Roof area supported (m^2)		2	4	6	8	10	12	2	4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum recommended strutting/hanging beam span (mm)											
150x63	40	3100	2400	2000	1700	1500	1100	2600	2300	2000	1700	1500	1100
	75	2700	2100	1800	1600	1300	NS	2400	2000	1700	1500	1300	NS
170x63	40	3600	2900	2400	2100	1800	1600	2900	2700	2400	2100	1800	1600
	75	3200	2500	2200	1900	1700	1300	2800	2300	2000	1800	1700	1300
200x63	40	4100	3700	3100	2700	2400	2200	3400	3200	3000	2700	2400	2200
	75	3800	3200	2700	2400	2200	2000	3300	2900	2500	2300	2100	1900
240x63	40	4700	4300	4000	3500	3100	2900	4100	3900	3700	3500	3100	2900
	75	4400	3900	3500	3100	2800	2600	4000	3600	3200	2900	2700	2500
300x63	40	5700	5200	4900	4600	4300	4000	4900	4700	4400	4300	4100	3900
	75	5300	4700	4300	4000	3800	3600	4700	4400	4100	3800	3600	3400
360x63	40	6500	6000	5700	5400	5100	4900	5700	5400	5200	5000	4800	4600
	75	6200	5600	5100	4800	4500	4300	5500	5100	4800	4500	4300	4100
400x63	40	7000	6600	6200	5900	5600	5400	6200	5900	5600	5400	5300	5100
	75	6700	6100	5600	5300	5000	4700	6000	5600	5200	5000	4700	4600
450x63	40	7700	7200	6900	6500	6300	6000	6700	6500	6200	6000	5800	5600
	75	7300	6700	6200	5900	5500	5300	6500	6100	5800	5500	5300	5100
300x75	40	5900	5400	5100	4800	4600	4400	5100	4900	4700	4500	4300	4100
	75	5600	5000	4600	4200	4000	3800	5000	4600	4300	4000	3800	3700
400x75	40	7300	6800	6500	6200	5900	5700	6400	6100	5900	5700	5500	5300
	75	7000	6400	5900	5500	5200	5000	6200	5800	5500	5200	5000	4800

NOTES:

1. D = member depth, B = member breadth, NS = not suitable.
2. The above table was based on a maximum ceiling mass of 20 kg/m^2
3. Minimum bearing length = 70 mm at end supports. Subscript values indicate the minimum additional bearing length
4. Top edge of strutting/hanging beams with D/B > 3 shall be laterally restrained as per detail on page 5
5. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Ceiling joists
AS 4055 wind classification N1-N4 and C1-C3

Ceiling mass 20 kg/m^2



EXAMPLE:

wind speed = N4
ceiling mass = 20 kg/m^2
ceiling Joist span = 4500 mm (single span)
ceiling Joist spacing = 450 mm

Enter single span table at 450 mm in joist spacing column, read down to a span equal to or greater than 4500 mm

ADOPT:
SmartLVL 13 - 150x45

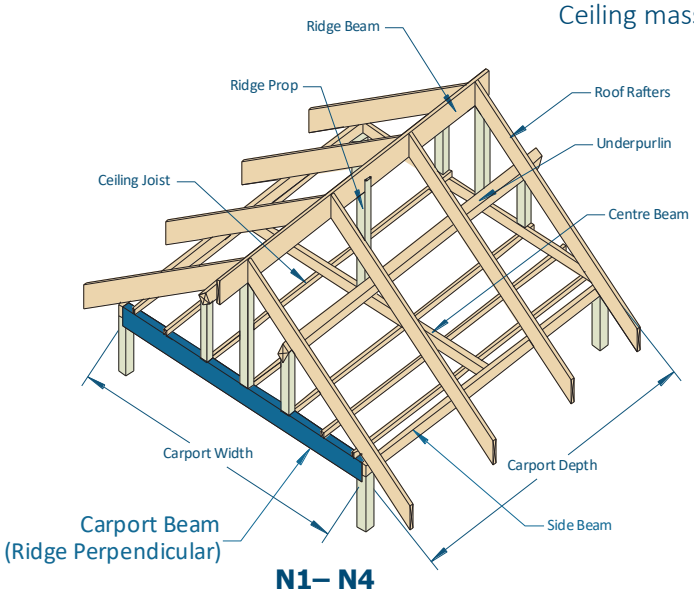
Ceiling joist spacing (mm)	450	600	900	1200	450	600	900	1200
Member size DxB (mm)	Maximum recommended single span (mm)				Maximum recommended continuous span (mm)			
90x45	2200	2200	2200	2200	2600	2600	2600	2600
130x45	3800	3900	3600	3300	4500	4500	4500	4100
150x45	4800	4600	4100	3800	5600	5600	5400	4700
170x45	5300	5000	4600	4300	6600	6300	5900	5400
200x45	5900	5600	5200	4900	7400	7000	6600	6200
240x45	6600	6300	5900	5600	8300	7900	7400	7000
300x45	7600	7300	6900	6500	9500	9200	8600	8200
360x45	8500	8200	7700	7400	10700	10300	9700	9300
90x63	2600	2600	2600	2600	3100	3100	3100	3100
130x63	4600	4300	3900	3600	5400	5400	5200	4900
150x63	5100	4900	4500	4200	6400	6100	5700	5400
170x63	5500	5300	5000	4700	7000	6700	6200	5900
200x63	6100	5900	5500	5300	7700	7400	7000	6600
240x63	6900	6600	6200	6000	8700	8300	7900	7500
300x63	7900	7600	7200	6900	9900	9600	9100	8700
360x63	8800	8500	8100	7800	11000	10700	10200	9800
400x63	9300	9100	8700	8300	11800	11400	10900	10500
450x63	10000	9700	9300	9000	12000	12000	11800	11300
300x75	8000	7800	7400	7100	10100	9800	9300	8900
400x75	9500	9200	8900	8500	11900	11600	11100	10700

NOTES:

1. D = member depth, B = member breadth
2. Do not walk on joists during construction unless a construction plank is in place or overbatten, minimum of 35 x 70 F5
3. Minimum end/internal bearing length of 70 mm
4. Not all sizes of SmartLVL in this table are stocked in each state. Please check with your supplier before ordering.

Carport beam - Ridge perpendicular
AS 4055 classification N1 - N4 and C1 - C3

Ceiling mass - 20 kg/m^2



EXAMPLE:

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

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

ADOPT:
SmartLVL 13 - 2/200x45

N1– N4

Size DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
2/200x45	20	4900	4800	4800	4700	4700
	70	4100	4100	4000	4000	4000
2/240x45	20	5500	5500	5400	5400	5400
	70	4700	4600	4600	4600	4500
2/300x45	20	6400	6400	6300	6300	6300
	70	5500	5500	5400	5400	5300
2/360x45	20	7300	7200	7200	7100	7100
	70	6300	6200	6200	6100	6100
2/400x45	20	7800	7700	7700	7700	7600
	70	6800	6700	6600	6600	6500
200x63	20	4500	4500	4400	4400	4400
	70	3800	3700	3700	3700	3700
240x63	20	5100	5100	5100	5000	5000
	70	4300	4300	4200	4200	4200
300x63	20	6000	6000	5900	5900	5800
	70	5100	5000	5000	5000	4900
360x63	20	6800	6800	6700	6700	6600
	70	5800	5800	5700	5700	5600
400x63	20	7300	7300	7200	7200	7100
	70	6300	6200	6200	6100	6100
450x63	20	7900	7900	7800	7800	7700
	70	6800	6800	6700	6700	6600
300x75	20	6200	6200	6100	6100	6000
	70	5300	5200	5200	5200	5100
400x75	20	7600	7500	7500	7400	7400
	70	6500	6400	6400	6300	6300

C1– C3

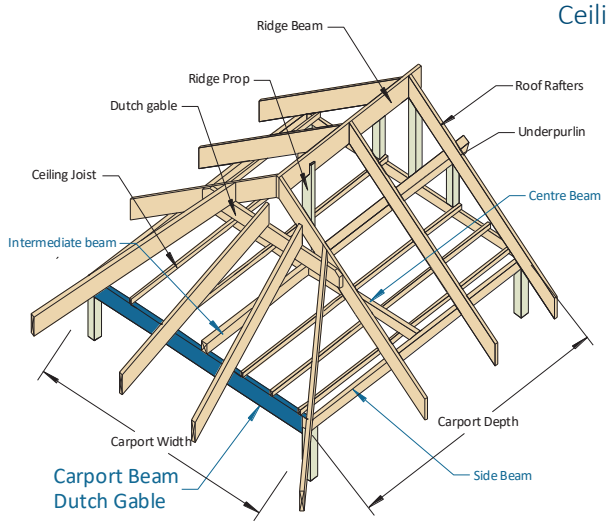
Size DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
2/200x45	20	4900	4800	4800	4700	4700
	70	4100	4100	4000	4000	4000
2/240x45	20	5500	5500	5400	5400	5400
	70	4700	4600	4600	4600	4500
2/300x45	20	6400	6400	6300	6300	6300
	70	5500	5500	5400	5400	5300
2/360x45	20	7300	7200	7200	7100	7100
	70	6300	6200	6200	6100	6100
2/400x45	20	7800	7700	7700	7700	7600
	70	6800	6700	6600	6600	6500
200x63	20	4500	4500	4400	4400	4400
	70	3800	3700	3700	3700	3700
240x63	20	5100	5100	5100	5000	5000
	70	4300	4300	4200	4200	4200
300x63	20	6000	6000	5900	5900	5800
	70	5100	5000	5000	5000	4900
360x63	20	6800	6800	6700	6700	6600
	70	5800	5800	5700	5700	5600
400x63	20	7300	7300	7200	7200	7100
	70	6300	6200	6200	6100	6100
450x63	20	7900	7900	7800	7800	7700
	70	6800	6800	6700	6700	6600
300x75	20	6200	6200	6100	6100	6000
	70	5300	5200	5200	5200	5100
400x75	20	7600	7500	7500	7400	7400
	70	6500	6400	6400	6300	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/m^2
3. Minimum bearing length = 70 mm at end supports
4. Not all sizes in this table are stocked in each state. Please check with your supplier before ordering

Carport beam - Hip and Dutch Gable over opening
AS 4055 classification N1 – N4 and C1-C3

Ceiling mass - 20 kg/m^2



EXAMPLE:

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

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

ADOPT:

SmartLVL 13 - 2/200x45

N1– N4

Size DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
2/200x45	20	4900	4900	4800	4800	4800
	70	4300	4300	4200	4200	4200
2/240x45	20	5500	5500	5500	5400	5400
	70	4900	4900	4800	4800	4800
2/300x45	20	6500	6400	6400	6300	6300
	70	5700	5700	5700	5600	5600
2/360x45	20	7300	7200	7200	7100	7100
	70	6500	6500	6400	6400	6300
2/400x45	20	7800	7700	7700	7700	7600
	70	7000	7000	6900	6900	6800
200x63	20	4600	4500	4500	4500	4400
	70	4000	3900	3900	3900	3800
240x63	20	5200	5100	5100	5100	5000
	70	4500	4500	4500	4400	4400
300x63	20	6100	6000	6000	5900	5900
	70	5300	5300	5200	5200	5200
360x63	20	6900	6800	6800	6700	6700
	70	6100	6000	6000	5900	5900
400x63	20	7400	7300	7300	7200	7200
	70	6500	6500	6400	6400	6300
450x63	20	8000	7900	7900	7800	7800
	70	7100	7000	7000	6900	6900
300x75	20	6200	6200	6200	6100	6100
	70	5500	5500	5400	5400	5400
400x75	20	7600	7500	7500	7400	7400
	70	6800	6700	6700	6600	6600

C1– C3

Size DxB (mm)	Roof mass (kg/m^2)	Carport Depth (side)				
		5200	5400	5600	5800	6000
		Maximum recommended carport beam span (mm)				
2/200x45	20	4900	4900	4800	4800	4800
	70	4300	4300	4200	4200	4200
2/240x45	20	5500	5500	5500	5400	5400
	70	4900	4900	4800	4800	4800
2/300x45	20	6500	6400	6400	6300	6300
	70	5700	5700	5700	5600	5600
2/360x45	20	7300	7200	7200	7100	7100
	70	6500	6500	6400	6400	6300
2/400x45	20	7800	7700	7700	7700	7600
	70	7000	7000	6900	6900	6800
200x63	20	4600	4500	4500	4500	4400
	70	4000	3900	3900	3900	3800
240x63	20	5200	5100	5100	5100	5000
	70	4500	4500	4500	4400	4400
300x63	20	6100	6000	6000	5900	5900
	70	5300	5300	5200	5200	5200
360x63	20	6900	6800	6800	6700	6700
	70	6100	6000	6000	5900	5900
400x63	20	7400	7300	7300	7200	7200
	70	6500	6500	6400	6400	6300
450x63	20	8000	7900	7900	7800	7800
	70	7100	7000	7000	6900	6900
300x75	20	6200	6200	6200	6100	6100
	70	5500	5500	5400	5400	5400
400x75	20	7600	7500	7500	7400	7400
	70	6800	6700	6700	6600	6600

NOTES:

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

SmartSplay® 13 roof void beams

Introduction

The need to chamfer the ends of roof beams to avoid interference with roof cladding requires consideration by designers.

Where the slope of rafters is such that the depth of the beam must be reduced by more than two-thirds, special provision shall be made for additional support.

Figure 7.3 from AS 1684 (reproduced opposite) gives a “deemed to comply” solution to the reinforcement of the roof beam by the addition of a Jack Joist (trimmer) to the underside of the roof beam. The additional requirement is for the roof beam to be bolted to the rafter and the jack joist fastened to the roof beam with a timber cleat or metal strap. The standard however does not give guidance on the size of any timber cleats or metal straps.

The introduction of LVL with its inherent strength properties and length availability combined with existing claw nail plate technology allows the prefabrication of SmartSplay roof-void beams with the jack joist (trimmer) in the above diagram nail plated together prior to installation.

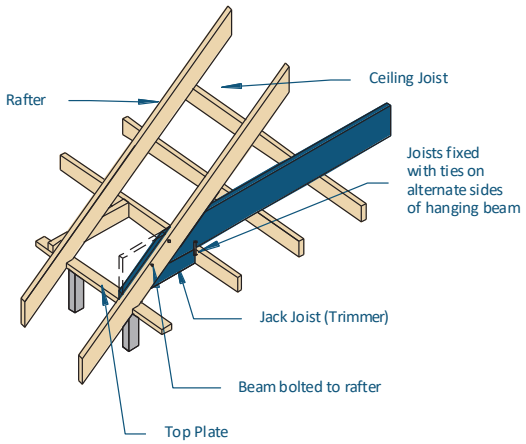
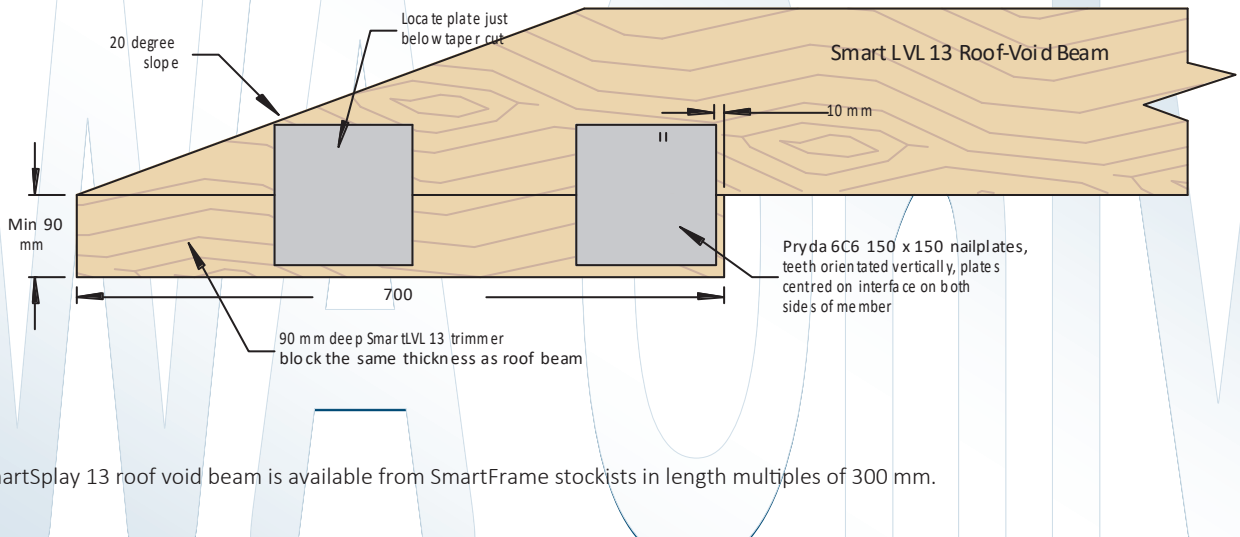


Figure 7.3 AS 1684.2

SmartSplay® 13 roof void beam



The SmartSplay 13 roof void beam is available from SmartFrame stockists in length multiples of 300 mm.

Basis of tables

The following tables have been prepared for the common applications for pre-fabricated SmartSplay 13 Roof-void beams in the Western Australian domestic residential market. The mechanical properties of the SmartLVL Roof-void beam have been developed using standard engineering principles and full scale prototype tests in accordance with Appendix D of AS 1720.1 - Acceptance testing of timber structures and elements.

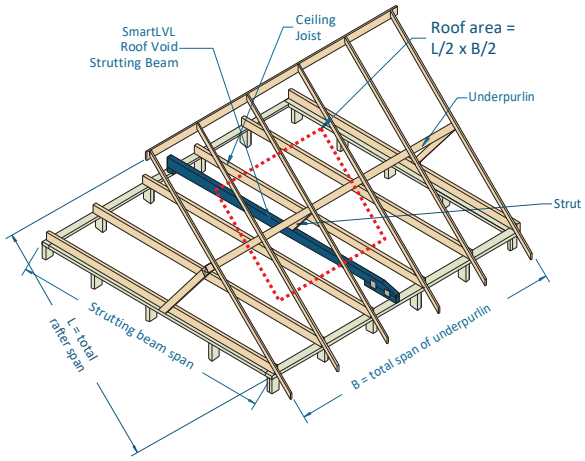
Construction detailing

The roof construction detailing of the pre-fabricated SmartSplay roof-void beam are the same as for non-chamfered roof beams, and must be installed and restrained in accordance with AS 1684 and good building practice. Restraint examples suitable for SmartLVL Roof-void beams are shown on page 5.

Limitations of use

The tables for the SmartSplay 13 Roof-void beams are specific to the use clearly shown. The use of a SmartSplay 13 Roof-void beam in any other application (e.g. floor joists) is outside the scope of this Design Guide. SmartSplay 13 Roof-void beams may have applications in other areas but prospective users should contact Tilling Timber on 1300 668 690 or techsupport@tilling.com.au for further engineering advice.

SmartSplay 13 strutting beams supporting underpurlins ONLY
AS 4055 wind classification N1-N4



EXAMPLE:

single span
sheet roof
strutting beam span = 4500 mm
total of underpurlin span B = 4.5 m
total of rafter span L = 4.0 m
roof area supported = L/2 x B/2 =
4.0/2 x 4.5/2 = 4.5 m^2

Enter table at 5 m^2 roof area supported column and read down to span equal to or greater than 4500 mm

ADOPT

SmartSplay 13 Roof-void beam
240 x 45

Roof area supported (m^2)	Roof mass (kg/m^2)	2	3	4	5	6	7	8	10
Size DxB (mm)		Maximum recommended roof strutting beam span (mm)							
150x45	20	3800	3500	3100	2800	2500	2400	2200	1800
	60	2900	2400	2000	1800	1700	1500	NS	NS
170x45	20	4500	4200	3700	3300	3100	2800	2700	2100
	60	3400	2800	2500	2200	2000	1900	1700	NS
200x45	20	5500	5200	4600	4200	3900	3600	3400	2400
	60	4300	3600	3100	2800	2600	2400	2200	NS
240x45	20	6600	6300	5900	5400	5000	4700	4400	2900
	60	5500	4700	4100	3700	3400	3100	2700	1700
300x45	20	6600	6600	6600	6600	6500	6200	6000	3600
	60	6600	6200	5600	5100	4700	4400	3400	2100
360x45	20	6600	6600	6600	6600	6600	6600	6600	4200
	60	6600	6600	6600	6400	6000	5700	4000	2500
400x45	20	6600	6600	6600	6600	6600	6600	6600	4600
	60	6600	6600	6600	6600	6600	6400	4400	2800
150x63	20	4500	4000	3600	3200	3000	2800	2600	1900
	60	3300	2800	2400	2200	2000	1800	1700	NS
170x63	20	5200	4800	4300	3900	3600	3300	3100	2100
	60	4000	3300	2900	2600	2400	2200	2000	NS
200x63	20	6200	5900	5300	4800	4500	4200	4000	2500
	60	5000	4200	3700	3300	3000	2800	2300	NS
240x63	20	6600	6600	6400	6100	5700	5400	5100	2900
	60	6200	5400	4800	4300	4000	3700	2800	1700
300x63	20	6600	6600	6600	6600	6600	6600	6600	3600
	60	6600	6600	6300	5900	5500	5100	3400	2100
360x63	20	6600	6600	6600	6600	6600	6600	6600	4200
	60	6600	6600	6600	6600	6600	6300	4000	2500
400x63	20	6600	6600	6600	6600	6600	6600	6600	4600
	60	6600	6600	6600	6600	6600	6600	4400	2800
450x63	20	6600	6600	6600	6600	6600	6600	6600	5000
	60	6600	6600	6600	6600	6600	6600	4800	3100
300x75	20	6600	6600	6600	6600	6600	6600	6500	2900
	60	6600	6600	6600	6200	5900	4000	2800	1900
400x75	20	6600	6600	6600	6600	6600	6600	6600	3700
	60	6600	6600	6600	6600	6600	5000	3500	2500

NOTES

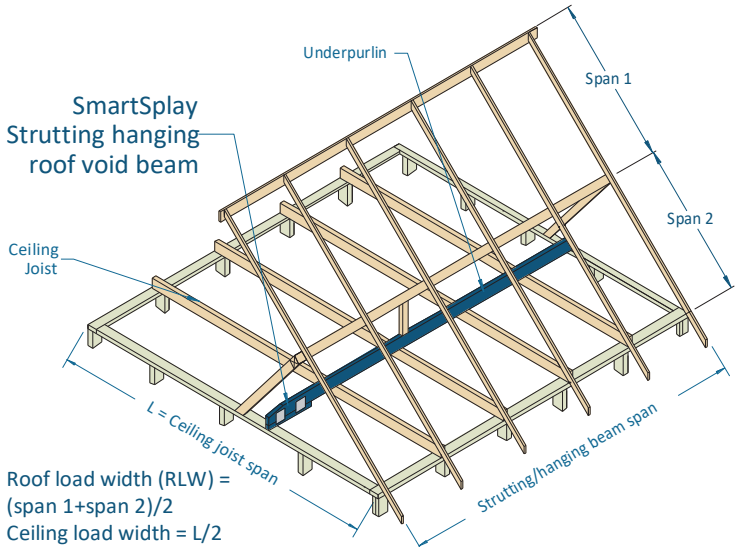
Roof void chamfer on one end only

i. Minimum end bearing length = 65 mm

ii. Top edge of strutting beams with D/B >3 shall be laterally restrained as per details on page 5

iii. A minimum initial clearance of 25 mm at mid span to ceiling framing members should be provided

SmartSplay 13 strutting / hanging beams supporting underpurlins & ceiling joists AS 4055 wind classification N1 - N3



EXAMPLE:

single span
sheet roof
strutting / hanging beam span = 3500 mm
total ceiling joist span A = 6000 mm
ceiling load width = A/2 = 3000 mm
span 1 = 3 m
span 2 = 4 m
roof load width = (3+4)/2 = 3.5 m

Enter table at 3000 mm ceiling load width, 3.6 m roof load width and read down to span equal to or greater than 3500 mm

ADOPT

SmartSplay 13 Roof-void beam
240 x 45

Ceiling load width (mm)	Roof mass (kg/m^2)	2400				3000				4200			
Roof load width (m)		1.8	2.4	3.0	3.6	1.8	2.4	3.0	3.6	1.8	2.4	3.0	3.6
Size DxB (mm)		Maximum recommended strutting/hanging beam span (mm)											
150x45	20	2700	2600	2500	2400	2500	2500	2400	2300	2300	2200	2100	2100
	60	2300	2200	2000	NS	2200	2100	2000	NS	2000	NS	NS	NS
170x45	20	3100	3000	2900	2800	2900	2800	2700	2700	2600	2500	2500	2400
	60	2700	2500	2400	2300	2600	2400	2300	2200	2400	2200	2100	2000
200x45	20	3700	3600	3500	3400	3500	3400	3300	3200	3100	3000	3000	2900
	60	3300	3100	2900	2800	3100	3000	2800	2700	2900	2700	2600	2500
240x45	20	4300	4200	4100	4000	4000	4000	3900	3800	3700	3700	3600	3600
	60	3900	3800	3700	3500	3800	3700	3500	3400	3500	3400	3300	3100
300x45	20	5100	5000	4900	4800	4800	4700	4700	4600	4400	4400	4300	4300
	60	4700	4600	4400	4300	4500	4400	4300	4200	4200	4100	4000	3900
360x45	20	5800	5700	5600	5600	5500	5400	5400	5300	5100	5000	5000	4900
	60	5500	5300	5200	5000	5300	5100	5000	4900	4900	4800	4700	4600
150x63	20	3100	3000	2900	2800	2900	2800	2700	2600	2600	2500	2400	2400
	60	2700	2500	2300	2200	2500	2400	2300	2100	2300	2200	2100	2000
170x63	20	3500	3400	3300	3200	3300	3200	3100	3000	2900	2900	2800	2700
	60	3100	2900	2800	2600	2900	2800	2600	2500	2700	2600	2500	2400
200x63	20	4000	3900	3800	3800	3800	3700	3700	3600	3500	3400	3300	3300
	60	3700	3600	3400	3200	3600	3400	3200	3100	3200	3100	3000	2900
240x63	20	4600	4500	4500	4400	4400	4300	4300	4200	4000	4000	3900	3900
	60	4300	4200	4000	3900	4100	4000	3900	3800	3800	3700	3700	3600
300x63	20	5500	5400	5300	5200	5200	5100	5100	5000	4800	4700	4700	4600
	60	5200	5000	4900	4700	4900	4800	4700	4600	4600	4500	4400	4300
360x63	20	6300	6200	6100	6000	6000	5900	5800	5800	5500	5400	5400	5300
	60	6000	5800	5600	5500	5700	5600	5400	5300	5300	5200	5100	5000
400x63	20	6600	6600	6600	6500	6400	6400	6300	6300	5900	5900	5800	5800
	60	6500	6300	6200	6000	6200	6100	5900	5800	5700	5600	5500_5	5500_5
450x63	20	6600	6600	6600	6600	6600	6600	6600	6600	6500	6400	6400	6300
	60	6600	6600	6600	6600	6600	6600	6500	6400	6300_5	6200_5	6100_{10}	6000_{10}
300x75	20	5700	5600	5500	5500	5400	5300	5300	5200	5000	4900	4900	4800
	60	5400	5200	5100	4900	5200	5000	4900	4800	4800	4700	4600	4500_5
400x75	20	6600	6600	6600	6600	6600	6600	6600	6500	6200	6100	6100	6000_5
	60	6600	6600	6400	6300	6400	6300	6200	6100	6000_5	5900_{10}	5800_{10}	5700_{15}

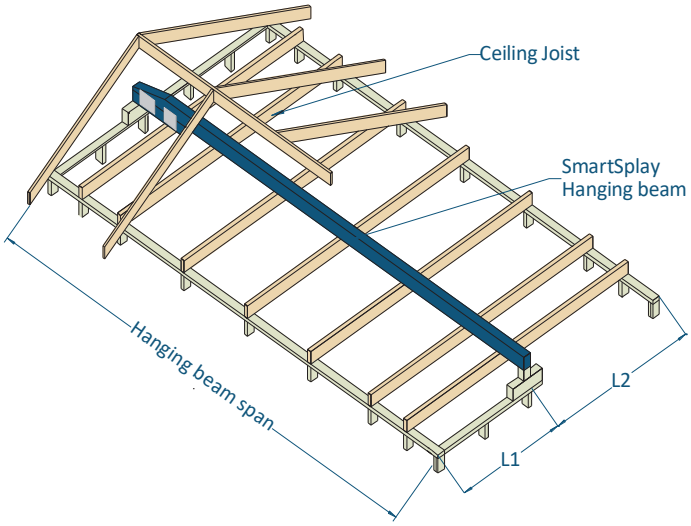
NOTES

Roof void chamfer on one end only

i. Minimum end bearing length = 65 mm.

ii. Top edge of strutting beams with D/B >3 shall be laterally restrained as per details on page 5

SmartSplay 13 Counter beams supporting hanging beams
AS 4055 wind classification N1 - N4



EXAMPLE:

single span
counter beam span = 5500
total of hanging beam span L1 + L2 = 6400 mm
Average hanging beam span = 6400/2 = 3200 mm

Enter table at 3600 mm load width column and read down to span equal to or greater than 5500 mm

ADOPT

SmartSplay 13 roof void beam
300 x 45

Average hanging beam span (mm)	2400	3000	3600	4200	4800	5400	6000	6600
Size DxB (mm)	Maximum recommended counter beam span (mm)							
150x45	3700	3400	3100	2900	2700	2600	2400	2300
170x45	4200	3900	3600	3300	3100	2900	2800	2600
200x45	4800	4500	4200	3900	3600	3400	3200	3100
240x45	5500	5200	5000	4700	4400	4100	3900	3700
300x45	6500	6200	5900	5700	5400	5100	4900	4600
360x45	6600	6600	6600	6500	6300	6100	5500	5000
150x63	4100	3800	3600	3400	3200	3000	2900	2700
170x63	4600	4300	4100	3900	3700	3400	3300	3100
200x63	5200	4900	4700	4500	4300	4100	3800	3700
240x63	6000	5700	5400	5200	5000	4900	4600	4400
300x63	6600	6600	6400	6200	6000	5800	5500	5000
360x63	6600	6600	6600	6600	6600	6100	5500	5000
400x63	6600	6600	6600	6600	6600	6100	5500	5000
450x63	6600	6600	6600	6600	6600	6100	5500	5000
300x75	6600	6600	6600	6400	6200	5700	5100	4600
400x75	6600	6600	6600	6600	6300	5600	5100	4600

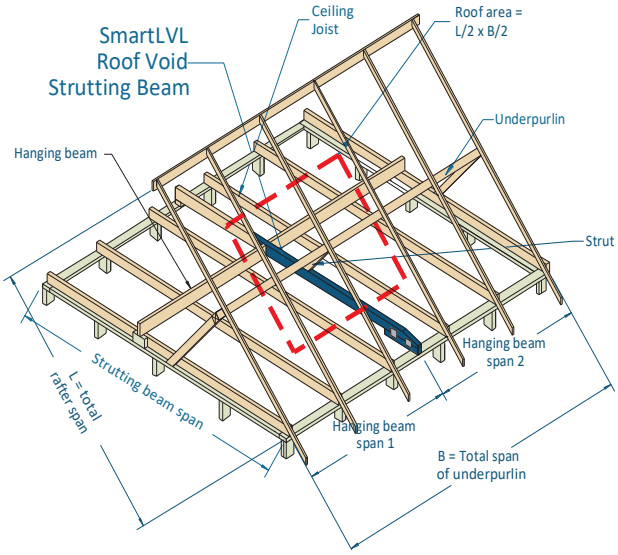
NOTES

Roof void chamfer on one end only

i. Minimum end bearing length = 70 mm

ii. Top edge of strutting beams with D/B >3 shall be laterally restrained as per details on page 5

SmartSplay 13 strutting/counter beams supporting underpurlins and hanging beams
AS 4055 wind classification N1 - N3



EXAMPLE:

single span
sheet roof
strutting/counter beam span = 3500 mm
total of underpurlin span B = 4.5 m
total of rafter span L = 4.0 m
total of hanging beam span = H1 + H2 = 4500 mm
roof area supported = L/2 x B/2 = (4/2) x (4.5/2) = 4.25 m^2
average hanging beam span = (H1 + H2)/2 = 4500/2 = 2250 mm

Enter table at 2400 mm average hanging beam span column, 6 m^2 roof area supported and read down to span equal to or greater than 3500 mm

ADOPT

SmartSplay 13 Roof-void beam
240 x 45

Average hanging beam span (mm)	Roof Mass (kg/m^2)	2400					4200				
Roof area supported (m^2)		2	4	6	8	10	2	4	6	8	10
Size DxB (mm)		Maximum recommended strutting/counter beam span (mm)									
170x45	20	3300	2900	2600	2400	2200	2900	2600	2400	2200	2100
	60	2800	2200	1900	1700	1500	2500	2100	1800	1600	1500
200x45	20	3800	3500	3200	2900	2700	3400	3200	2900	2700	2600
	60	3400	2800	2400	2100	1900	3100	2600	2300	2100	1900
240x45	20	4400	4100	3900	3700	3500	4000	3800	3600	3400	3200
	60	4000	3500	3100	2800	2500	3700	3300	2900	2700	2400
300x45	20	5200	4900	4700	4500	4300	4700	4500	4300	4200	4000
	60	4800	4300	4000	3700	3500	4500	4100	3800	3600	3300
360x45	20	6000	5700	5400	5200	5000	5400	5200	5000	4900	4700
	60	5600	5100	4700	4400	4100	5100	4800	4500	4200	4000
170x63	20	3700	3300	3000	2700	2500	3200	3000	2800	2600	2400
	60	3200	2600	2200	2000	1800	2900	2500	2100	1900	1700
200x63	20	4100	3900	3600	3400	3200	3800	3600	3300	3100	3000
	60	3800	3200	2800	2500	2300	3500	3000	2700	2400	2200
240x63	20	4800	4500	4200	4000	3900	4300	4100	3900	3800	3700
	60	4400	3900	3600	3200	2900	4100	3700	3400	3100	2800
300x63	20	5600	5300	5100	4900	4700	5100	4900	4700	4600	4400
	60	5200	4700	4400	4100	3900	4800	4500	4200	3900	3800
360x63	20	6400	6100	5900	5700	5500	5800	5600	5500	5300	5200
	60	6000	5500	5100	4800	4600	5600	5200	4900	4600	4400
400x63	20	6600	6600	6400	6200	6000	6300	6100	5900	5800	5600
	60	6500	6000	5600	5300	5100	6000	5700	5400	5100	4900
450x63	20	6600	6600	6600	6600	6600	6600	6600	6500	6300	6200
	60	6600	6600	6200	5900	5600	6600	6200	5900	5600	5400
300x75	20	5800	5600	5300	5100	4900	5300	5100	4900	4800	4600
	60	5500	5000	4600	4300	4100	5100	4700	4400	4200	4000
400x75	20	6600	6600	6600	6400	6200	6500	6300	6200	6000	5900
	60	6600	6300	5900	5600	5300	6300	5900	5600	5300	4600

NOTES

Roof void chamfer on one end only

i. Minimum end bearing length = 70 mm

ii. Top edge of strutting beams with D/B >3 shall be laterally restrained as per details on page 5

Pryda® WA Beam Hanger

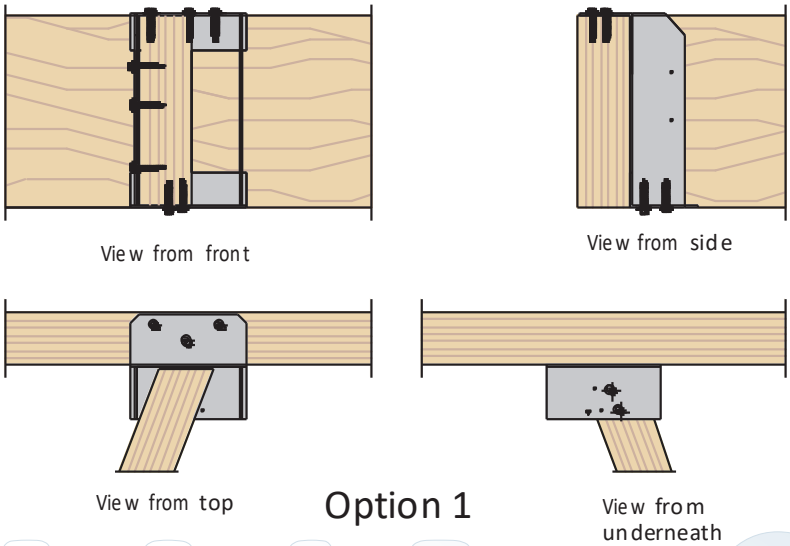
Pryda WA Beam hangers are heavy duty welded hangers for connection of large sized strutting beams placed at angles between 30 and 60 degrees. This bracket is specially developed for the Western Australian market and are available as part of the SmartFrame order.

All fixings are No 12 x 35 Type 17 hex-head screws and capacities shown adjacent are based upon a minimum joint strength group of JD4.

Design capacities

Load Direction	Capacity (kN)
Downward	15.0
Uplift (light fixing)	4.0
Uplift (medium fixing)	10.0
Uplift (heavy fixing)	20.0

Order code BBT125240 or WABBT

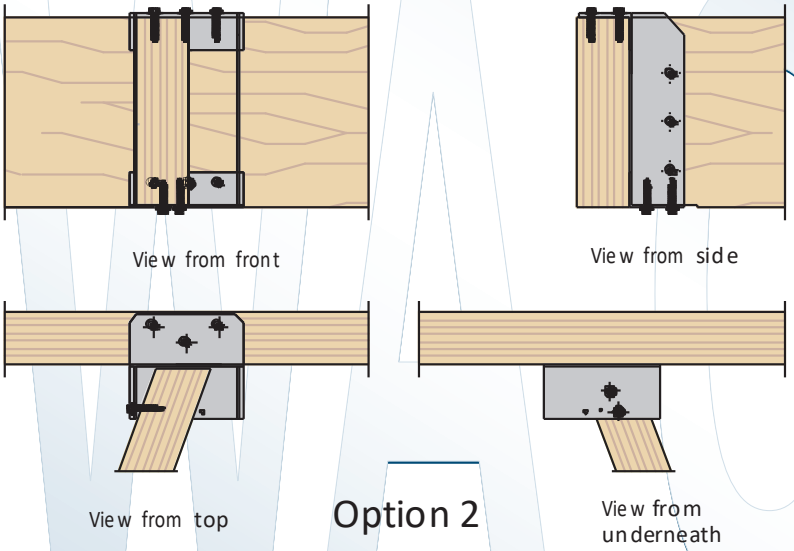


Option 1

Light fixing

Supporting beam:
3 screws on top

Supported beam:
2 screws into bottom

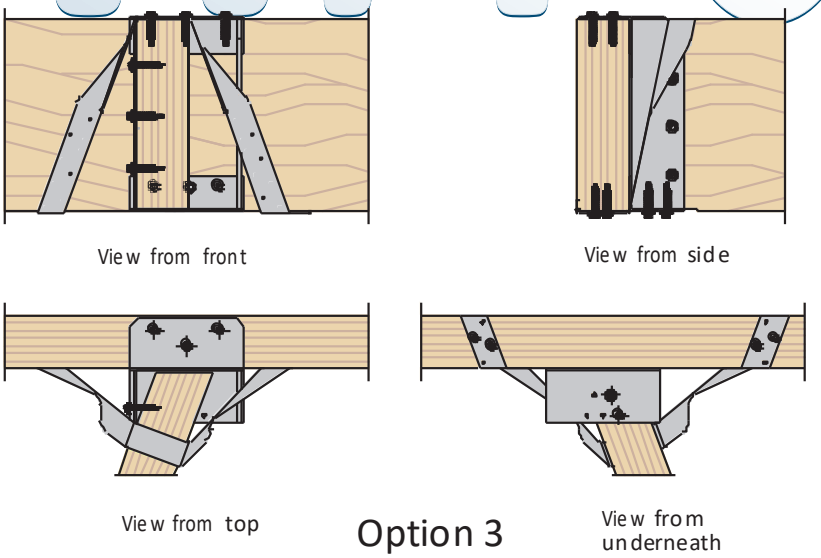


Option 2

Medium fixing

Supporting beam:
3 screws on top and 3 screws through side

Supported beam:
3 screws from side
2 screws into bottom



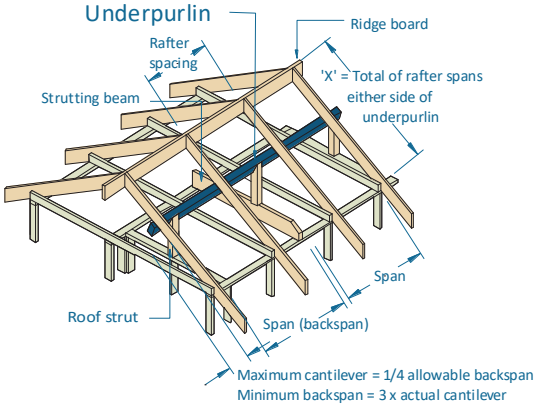
Option 3

Heavy fixing

Medium fixing in combination with a cyclonic strap

SmartLVL 12

Underpurlins – sheet and tiled roof
AS 4055 wind classification N1 - N4 and C1



RLW = X/2 where ridge is strutted

EXAMPLE:

single span
sheet roof - 20 kg/m^2
rafter spacing = 1200 mm
Underpurlin span = 1800 mm
X = 2800 mm
roof load width = X/2 = 1400
Enter single span table at 1800 roof load width column, 1200 rafter spacing and read down to span equal to or greater than 1800 mm

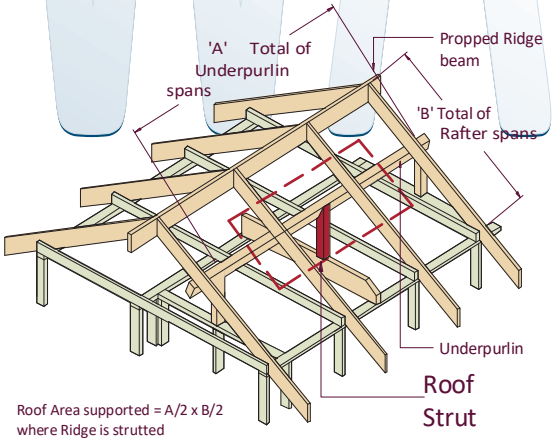
ADOPT
SmartLVL 12 96 x 51

Roof load width (mm)		1800		2700		3000		3600		1800		2700		3000		3600	
Rafter spacing (mm)		600	1200	600	1200	600	1200	600	1200	600	1200	600	1200	600	1200	600	1200
Member size DxB (mm)	Roof mass (kg/m^2)	Single span								Continuous span							
96x51	10	2800	2800	2400	2400	2300	2200	2100	1900	3000	3000	2500	2600	2300	2500	2100	2000
	20	2300	2300	2000	2000	1900	1900	1800	1800	3100	3000	2600	2600	2500	2600	2200	2200
	40	1800	1800	1600	1500	1500	1400	1400	1300	2500	2500	2100	2100	2100	2000	1900	1900
	60	1600	1500	1400	1200	1300	1100	1300	1000	2100	2100	1900	1800	1800	1800	1700	1500

NOTES:

End bearing lengths = 45 mm at end supports and 45 mm at internal for continuous members.

Roof struts – sheet and tiled roof
AS 4055 wind classification N1 - N4 and C1



NOTE: See fixing details of SmartLVL 12 roof struts on page 5

EXAMPLE:

sheet roof - 20 kg/m^2
strut length = 1500 mm
total of underpurlin span A = 4.5 m
total of rafter span B = 4.0 m
roof area supported = A/2 x B/2 =
4.5/2 x 4.0/2 = 4.25 m^2
Enter table at 5.4 roof area supported column and read down to span equal to or greater than 1500 mm

ADOPT
SmartLVL 12 65 x 63

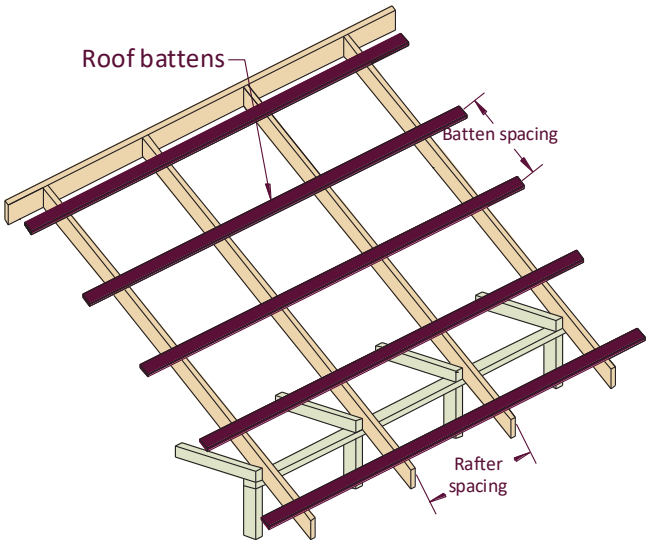
Roof area supported (m^2)		4	5.4	6	8	10	12
Member size DxB (mm)	Roof mass (kg/m^2)	Maximum Strut length (mm)					
65x63	10	6800	5900	5600	4800	4300	3900
	20	6400	5500	5200	4500	4000	3700
	40	5600	4900	4600	4000	3600	3200
	60	4700	4100	3900	3300	3000	2700

NOTES:

1. Tables assume strut is vertical. Struts lengths will reduce with increased angle from the vertical
2. D = member depth, B = member breadth, NS = not suitable.
3. Minimum bearing length = 70 mm at end supports
4. The strutting tables in AS 1684 are based upon the load associated with an underpurlin span of 1.8 m and a roof load width of 3.0 m. To compare to AS 1684.2 Table 7.6, use a roof area of 5.4 m^2 in the above table
5. Fixing of SmartLVL roof struts as per detail on page 5

SmartLVL 12 Sheet roof battens

Common battens



Batten spacing (mm)			600		900		1200	
SmartLVL 12 size D x B (mm)	AS 4055 wind class	Maximum roof mass (kg/m^2)	Span	O/H	Span	O/H	Span	O/H
			Maximum recommended continuous span (mm)					
35 x 65	N1 - N4	10	1200	450	1200	400	900	350

Notes to Table:

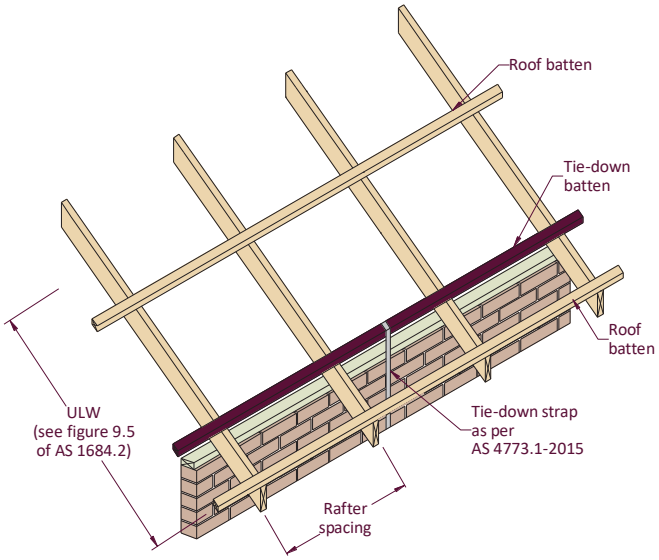
1. D = member depth, B = member breadth, NS = not suitable, O/H = overhang
2. Minimum end bearing lengths = 35 mm at end supports and 35 mm at internal supports for continuous spans
3. Minimum backspan = 200% of overhang, Maximum overhang = 50% of backspan
4. During construction, roof battens should only be walked upon at support points
5. Batten fixing shall comply with the requirements required in AS 1684.2
6. Edge connections are defined as those connections on the two (2) battens closest to the ridge, eaves line and the two (2) batten to rafter connections adjacent to the hip rafters. All other batten connections are deemed to be general connections.

Tie-down battens

Tie-down battens are defined as battens placed vertically above the top of the external cavity wall to provide resistance against uplift of the roof via tie-down straps installed in accordance with Table 6.1(B) of AS 4773.1:2015.

The table below gives the maximum Uplift Load Width (ULW) for two (2) tie down spacing's. For information how to apply this ULW for different roof configurations, refer to Clause 9.6 and Figure 9.5 of AS 1684.2 - 2010.

Rafter spacing (mm)			600		900		1200	
Tie-down spacing (mm)			900	1200	900	1200	900	1200
SmartLVL 12 size D x B (mm)	AS 4055 Wind class	roof mass (kg/m^2)	Maximum recommended (ULW) in mm					
35 x 65	N1	10	7500	7500	7500	6200	6200	4700
	N2	10	6700	5200	4600	3500	3500	2600
	N3	10	3600	2700	2400	1800	1800	1300



Notes to Table:

The design of the tie-down battens in this table does not assume lateral restraint by the sheet roofing, therefore the tie down batten may be installed independently of the normal battens required for sheet fixing.

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