Structural SpecRite™
Manufactured For Results.

# GL17 MERBAU POSTS AND BEAMS

## PRODUCT INFORMATION, WARRANTY & DESIGN GUIDE

AS/NZS 1328.1:1998 - GLTAA ENDORSED - FSC® 100% CERTIFIED

AS/NZS 1328.1 1998 Compliant

Grade A Appearance

Class A Bond E0 Emissions Glue

15 Year Limited Warranty

GLTAA GL17S Certified

FSC www.fsc.org FSC® C128536 The mark of responsible forestry

**VERSION 1** - 2023

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# GL17S Merbau Pre-Oiled FJL Posts and Beams Features and Benefits

SpecRite™ GL17 merbau posts and beams are made using multiple pieces of merbau timber, joined together with a Class A Bond structural glue. Our merbau posts and beams are created with solid pieces of no-join merbau on two sides, creating an attractive, robust and straight product that can be used in structural and aesthetic applications specified to GL17 or lower.

SpecRite™ GL17 merbau posts and beams can be used in both indoor and outdoor applications including pergola posts and beams, roof beams, garage openings and handrails. Highly durable, they can be used in a range of external environments, including bushfire-prone areas and are naturally resistant to termites and dry wood borers.

## Applications

Pergolas, roof beams, garage openings and handrails.

## Structural Integrity

SpecRite™ GL17 merbau posts and beams have been certified to AS1328 and are backed by GLTAA (Glue Laminated Timber Association of Australia) approval.

## Timber Quality

Our posts are made from Select Grade merbau timber, and are kiln dried for a long lasting, Grade A quality appearance.

## Durability

Merbau has a Class 1 durability rating above ground, with a life expectancy of 40+ years.

## Stability

Merbau is a highly stable timber species with low dimensional movement resulting in a reduced risk of splitting, cupping and twisting.

## Bushfire Resistant

Merbau is approved for use in bushfire-prone areas, and is compliant to BAL29.

## Resistant to Termites and Wood Borers

Merbau is naturally resistant to fungi and insects like termites and dry wood borers.

## Pre-Oiled for 360° Protection

This product has been primed with Feast Watson® Industrial Timber Oil. A single coat has been applied to all four sides and is designed to help seal and protect your timber from moisture and UV before final topcoating.

## FSC®-Certified timber

This FSC 100% product is made using merbau hardwood from well-managed, FSC-certified forests.

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# GL17S Merbau Pre-Oiled FJL Posts and Beams Handling, Care and Maintenance Instructions

**TANNIN WARNING**

Merbau's superior strength and stability are attributable to its tannin-rich properties, resulting in low shrinkage and minimal surface and end splitting. Tannin is a naturally occurring substance in timber which will leach the first few times it is exposed to moisture; staining timber, paved areas, and other nearby surfaces. Objects left on the timber surface will also draw tannin out, creating surface marks. SpecRite™ GL17 should be kept dry to maintain its optimal appearance and avoid tannin-bleed. If tannin-bleed does occur it should be sanded off the timber surface before coatings are applied, to achieve optimal appearance.

The information in this document is provided as a guide only. Specific design items need to be addressed by an engineer or designer with reference to AS1684 and AS1720.

## Storage

SpecRite™ GL17 should be stored flat, off the ground using gluts no more than 1.2m apart, and protected from the weather prior to installation.

## Do not drop or roughly handle SpecRite™ GL17

SpecRite™ GL17 should never be dropped or roughly dragged as excessive shear forces can over-strain glue-joints.

## Avoid use in non-draining surfaces

Saturation under water for long periods of time will cause timber to swell excessively and strain glue-joints. Therefore, non-draining horizontal surfaces should be kept to a minimum and should be extra well coated.

## Use above ground only

Merbau has class 1 durability above ground (>40 years), but exhibits class 3 durability in-ground (7-15 years). For this reason and because excessive swelling of timber can strain glue-joints, SpecRite™ GL17 should not be used in-ground or in contact with the ground or concrete.

## Pre-drilling

SpecRite™ GL17 products should be pre-drilled to minimise the risk of splitting and cracking around screws, nails or other fixings. Pre-drilling will also reduce pressure on the glue lines.

## Cutting and drilling

Tungsten carbide tipped cutting tools and high-quality drill bits are recommended for best results. Ensure appropriate eye, ear and breathing protection is used when cutting and drilling timber.

## Service holes

Service holes should be restricted to the middle third of a beam's depth and span. They should be no more than 25mm in diameter and limited to not more than one hole per 1.8m of span, unless advised otherwise by a qualified structural engineer.

## Stainless steel wire balustrading

Nut and bolt type fixings are recommended for stainless steel balustrading. Screw-in type fixings can cause lamina separation of posts and beams if wires are over-tightened.

## Fixings and other construction components

GL17 posts and beams should be fixed using hot dipped galvanised or stainless steel fixings and other construction components as required. Fixing holes should be pre-drilled to avoid splitting the timber and to provide the best possible finish. Stainless steel fixings are recommended for coastal or poolside applications.

## Pre-oiled coating

SpecRite™ GL17 has been primed with Feast Watson Industrial Timber Oil. A single coat has been applied to all four sides and is designed to help seal and protect your timber from moisture and UV before final topcoating. To fully protect your pre-oiled timber, we recommend topcoating the product as soon as possible following installation.

## Topcoating

Your pre-oiled merbau can be topcoated with most water-based and oil-based finishes. When choosing a topcoat, the most suitable product is best determined by the preferred finish. To maintain or highlight the natural appearance of the timber, a transparent, lightly pigmented oil is recommended. For longer lasting protection, a high quality water based finish can be used. To transform the colour of the timber, a semi-transparent stain will impart a deeper colour whilst allowing the timber grain to show through. Timber will naturally go grey if left unfinished.

To ensure you are completely satisfied with your chosen coating and colour, we recommend you first test the coating on a small inconspicuous area.

Step 1
To prepare timber for topcoating, ensure the surface is clean. If required, thoroughly scrub with an oxalic acid-based timber cleaner. A high strength timber cleaner removes dirt, grease, tannin stains and other contaminants to optimise topcoat performance.

Step 2
Allow the timber to dry and apply two coats of your chosen finish following label instructions.

## Coating maintenance

Protective finishes will prolong the life of SpecRite™ GL17 by reducing UV light and moisture ingress which cause timber to split and swell. Two coats of good quality decking oil should be applied to all surfaces including ends prior to installation followed by one coat every year or more frequently in harsh environments. Alternatively, SpecRite™ GL17 can be painted.

Refer to the topcoat label for product specific maintenance information. We recommend regularly monitoring the coated timber for signs of colour loss, dryness and weathering. Recoat the timber when it begins to show signs of dryness to help maintain its natural beauty and protection. When required, clean the surface using an oxalic acid-based timber cleaner, allow the surface to dry and recoat with one coat of your original coating, following label instructions. For a longer lasting finish, apply a second coat. Merbau will turn grey if left uncoated or if existing coatings are allowed to deteriorate.

**For further information on Feast Watson products contact Feast Watson Customer Service on 1800 252 502 or visit feastwatson.com.au.**

## Repairing glue-line cracks

It is quite common for glue-lines to open slightly at the surface due to changes in humidity. This is not to be confused with de-lamination which will open glue lines to a much greater extent. All fine cracks and some localised de-laminations can be repaired using an epoxy glue. Consult your distributor if in doubt. Take extra care to keep SpecRite™ GL17 well coated on the more exposed sides of dwellings.

## Repair of cracks not on glue-lines

Whilst Merbau is much less prone to surface cracking than most timbers, cracks can arise in exposed conditions if the surfaces are not regularly oiled or painted. Surface cracking is a natural feature of timber and consequently is never the fault of the manufacturer. Surface cracks can be filled using epoxy glue.

## Iron-stain

The naturally occurring tannins in timber will react with the presence of metal particles and moisture and may result in a black, mould-like "iron-stain" developing on the timber surface. Iron particles can be inadvertently introduced via:

- trace elements of iron found in the water supply; or
- water run-off from iron roofs and gutters, or some garden chemicals, or soils transferred via boots, animal feet or wind; or
- welding, grinding and drilling works; or
- metal fixings and other products in contact with the timber.

Iron-stain will not structurally affect the timber. If iron-stain occurs, clean the affected area with oxalic acid, water and a stiff bristle brush.

## Disposal

Offcuts should be disposed of in accordance with environmental guidelines. Do not burn offcuts in open fires, stoves, fire places or any confined space.

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# GL17S Merbau Pre-Oiled FJL Posts and Beams Product Warranty

PT Sinar Wijaya Plywood Industries (SWPI) Jl Gajah Mada, Serui Kota, Yapen Selatan Yapen Waropen, Indonesia, 98616 ("the Manufacturer") warrants the buyer ("the Buyer") the quality of the glue laminated timber products ("Products") in accordance with AS/NZS 1328.1:1998 and subject to the following conditions:

1. Such warranty shall be to repair or replace any Products or part of Products which have been manufactured by the Manufacturer and which within fifteen (15) years after date of delivery ("the Warranty Period") be defective either because of faulty manufacturing or workmanship or the use of defective material on the Manufacturer's part. This warranty is in addition to other rights and remedies under Australian Consumer Law.

2. No liability on the Manufacturer's part shall arise hereunder unless within fourteen days (14) after discovery of the defect the Buyer submits to the Manufacturer via its Distributor, written notice including photos describing and showing the alleged defect and such notice is received by the Manufacturer within the Warranty Period. A defect in workmanship or material of any part of the Products shall not alone condemn the entire Products installed and the Manufacturer is only required to repair or replace those parts of the Products that are defective.

3. The Manufacturer shall be entitled by its workmen, servants, or agents to enter on the Buyers' premises to inspect the alleged defective Products.

4. The cost of inspection and labour associated with the removal and replacement of any defective Products (including the cost of travel and accommodation) shall be the responsibility of and at the expense of the Buyer until it is verified by the Manufacturer to be a warranty claim at which time these expenses shall be the responsibility of and at the expense of the Manufacturer.

5. The warranty shall not cover any defect or damage which may be caused or partly caused by or arise through any or all of the following:

   a. Fair wear and tear during the Warranty Period; or,

   b. Inadequate or improper maintenance or care of the Products; or,

   c. Products that have been installed in an inappropriate or un-tradesman-like manner or installed by un-tradesman-like installers or persons unskilled and/or unqualified in the installation of the Products; or,

   d. Natural disasters including but not limited to fire, floods, lightening, earthquakes, hail or hurricane; or,

   e. Acts of negligence, accidents or misuse, including but not limited to, vandalism, civil disobedience, or acts of war; or,

   f. Acids or harmful chemicals and the like being brought into contact with the Products; or,

   g. Discolouration or change in appearance of the Products due to natural or extreme conditions including but not limited to ultraviolet damage and other weather exposure; or,

   h. Failure to properly maintain the Products; or,

   i. Structural and/or design modifications after installation of the Products without the Manufacturer's prior written consent (or the written approval from a qualified structural engineer); or,

   j. Additional loads to which the Products are subjected without the Manufacturer's prior written consent (or the written approval from a qualified structural engineer) and/or use of the Products not in accordance with the structural design specifications and/or technical support data of the Products as provided by the Manufacturer; or,

   k. Long term exposure of the Products to moisture which causes the Equilibrium Moisture Content ("EMC") of the Products or part of the Products to increase over 25% for prolonged periods; or,

   l. Any departure from and/or use outside of the structural design specifications and/or technical support data of the Products as provided by the Manufacturer; or,

   m. Any products or services supplied or provided by a supplier or manufacturer other than the Manufacturer; or,

   n. Any misuse or abuse of structures, fittings or attachments connected to or contained within the structure hosting the Products.

6. If the Buyer is a Consumer (as defined by Section 3 of the Competition and Consumer Act 2010) the Products come with guarantees that cannot be excluded under Australians Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the Products repaired or replaced if the Products fail to be of acceptable quality and if the failure does not amount to a major failure.

7. In the event that the Manufacturer is liable to the Buyer under this warranty, or any warranty so given, the Manufacturer's liability is limited to repairing or replacing the Products or part of the Products that do not comply with such warranty and in no case shall the Manufacturer be liable for consequential loss or costs greater than the price of the Products (or part thereof) that does not comply.

8. The decision to repair or replace Products (or part of the Products) under this Warranty is the sole discretion of the Manufacturer.

9. The Buyer does not reply on any representation, warranty or other term made by or on behalf of the Manufacturer which is not set out in this warranty and the Manufacturer is not liable for any damage, economic loss or loss of profits whether direct, indirect, general, special or consequential arising out of a breach of an implied or expressed term or suffered as a result for negligence of the Manufacturer or its employers or agents, apart from liability as set out in this warranty.

10. The Buyer cannot assign this warranty without the prior written approval of the Manufacturer.

11. All terms which would otherwise be implied are excluded (in the case of any terms that would be implied or incorporated by statute, any such terms are excluded to the extent that they are able to be excluded) except if stated in this warranty.

**How to make a claim**

To make a warranty claim, check and present the following to the place of purchase:

1. Check the product has been used and installed following the requirements outlined within this warranty and design guide and in accordance with AS1684 and AS1720 before making a claim.
2. Present proof of purchase clearly showing the date within the warranty period.
3. Present photographic evidence and written descriptions clearly outlining the alleged defect.
4. Present contact information including your name, job site address and phone number.

The place of purchase will escalate your warranty claim to the wholesale supplier of the product, who will then escalate to the manufacturer detailed in the above warranty.

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# GL17S Span Tables Terminology

## Span

For the purpose of using these tables, span may be interpreted as the clear distance between supports measured along the beam. Single Span Beams are beams supported at two points only. Continuous Span Beams are beams supported at three or more points along their length.

Continuous span values given in the tables should only be used where:

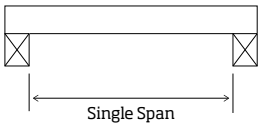
a. the beam is not notched or partially cut through at internal support points; and

b. if the spans are not equal, the largest span is not greater than twice the smallest adjacent span.

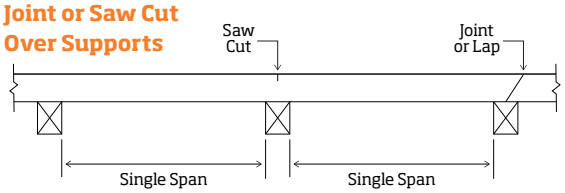
However, if either of the above conditions are not met, use the single span tables for the purpose of obtaining the appropriate size.

## Spacing and Span

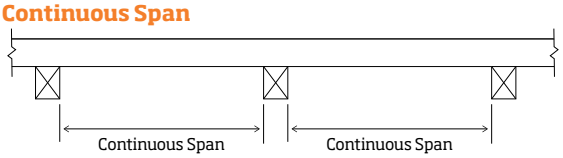
### Two Supports




### Joint or Saw Cut Over Supports



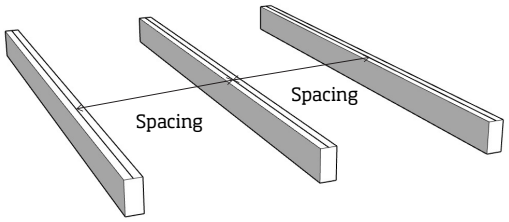

### Continuous Span



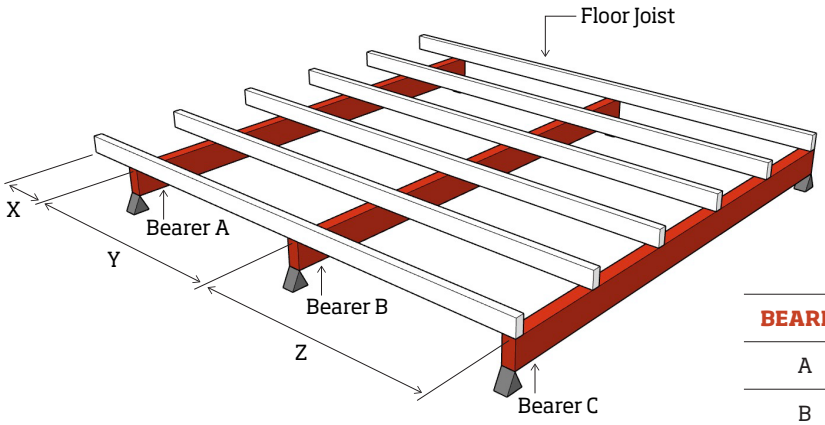

**Note:** The design span is the average span unless one span is more than 10% longer than another, in which case the design span is the longest span.

## Spacing

Tables, such as those for rafters, floor joists and ceiling joists require the spacing of members to be known or selected in order to obtain the required size for a given span. Spacing should be interpreted as the centre to centre distance between adjacent parallel members.

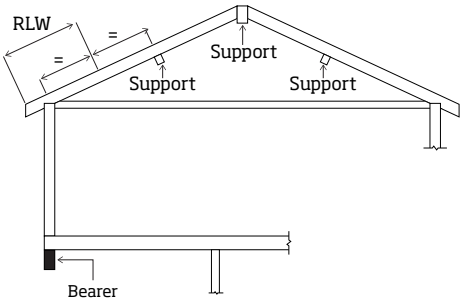



## Determination of Floor Load Width

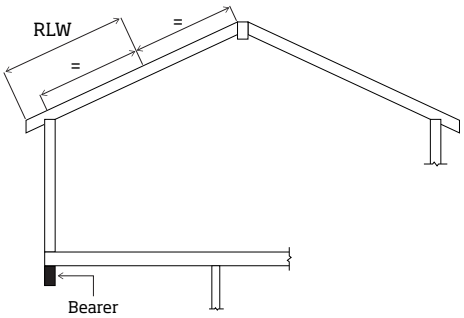



| BEARER | FLOOR LOAD WIDTH 'FLW' |
|---|---|
| A | $FLW = X + \frac{Y}{2}$ |
| B | $FLW = \frac{Y + Z}{2}$ |
| C | $FLW = \frac{Z}{2}$ |

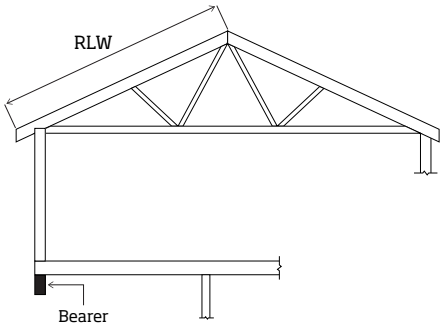
## Determination of Roof Load Width



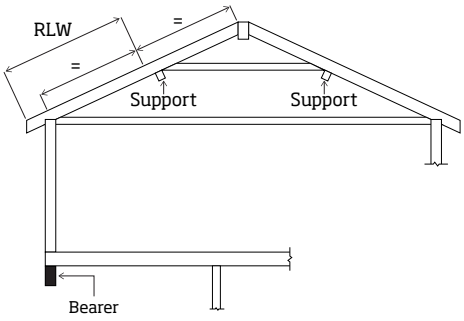

**CONVENTIONAL ROOF**
COUPLED, STRUTTED RIDGE



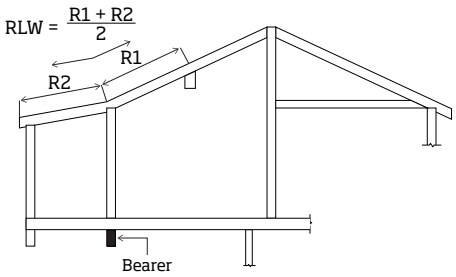

**CATHEDRAL ROOF**




**TRUSSED ROOF**




**CONVENTIONAL ROOF**
COUPLED, UNSTRUTTED RIDGE




**CATHEDRAL ROOF**

These diagrams may also be used to determine roof load width for floor joists supporting load bearing walls and lintels in lower storey load bearing walls.

## Maximum Building Masses - Roof Framing

| Description | Max. building mass (kg/m²) |
|---|---|
| Ceiling joists, hanging beams, and counter beams - ceiling lining (including battens) | 12 |
| Combined strutting/hanging beams and combined counter/struttung beams:<br>(a) Sheet roofing plus ceiling lining (including battens)<br>(b) Tile roofing plus ceiling lining (including battens) | <br>32<br>72 |
| Strutting beams and underpurlins:<br>(a) Sheet roof<br>(b) Tile roof | <br>20<br>60 |
| Rafters supporting roof loads only:<br>(a) Sheet roof<br>(b) Tile roof | <br>20<br>60 |
| Rafters supporting roof and ceiling loads:<br>(a) Sheet roof<br>(b) Tile roof | <br>40<br>90 |
| Ridge and intermediate beams:<br>(a) Sheet roof<br>(b) Tile roof | <br>40<br>90 |
| Roof battens:<br>(a) Sheet roof<br>(b) Tile roof | <br>10<br>60 |

# 1: POSTS - WA ONLY - N3

## Table 1.1: Wind Classification: N3 / Sheet Roof 40kg

| Post Height (m) | Post Spacing (m) | Roof Load Only | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Roof Load Width 'RLW' (m) | | | | | | | |
| | | 1.5 | 2.4 | 3.3 | 4.2 | 5.1 | 6.0 | 6.9 | 7.8 |
| | | Minimum Post Section (mm x mm) | | | | | | | |
| 2.4 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 4.2 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 5.4 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 |
| | 6.6 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 |
| 3.0 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 4.2 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 |
| | 5.4 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 |
| | 6.6 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 |
| 3.6 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 |
| | 4.2 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 |
| | 5.4 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 | 120x120 |
| | 6.6 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 |
| 4.2 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 |
| | 4.2 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 | 140x140 |
| | 5.4 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 | 140x140 |
| | 6.6 | 95x95 | 95x95 | 120x120 | 120x120 | 140x140 | 140x140 | 140x140 | - |

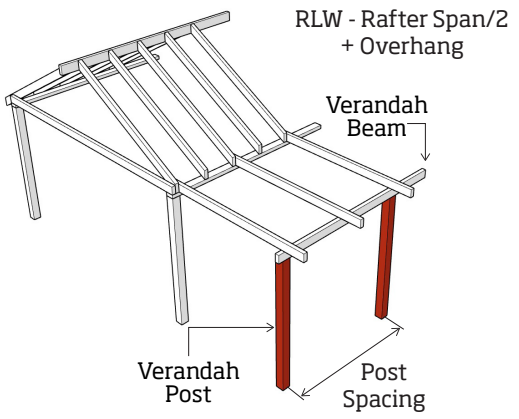
## Table 1.2: Wind Classification: N3 / Tiled Roof 90kg

| Post Height (m) | Post Spacing (m) | Roof Load Only | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Roof Load Width 'RLW' (m) | | | | | | | |
| | | 1.5 | 2.4 | 3.3 | 4.2 | 5.1 | 6.0 | 6.9 | 7.8 |
| | | Minimum Post Section (mm x mm) | | | | | | | |
| 2.4 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 |
| | 4.2 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 |
| | 5.4 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 |
| | 6.6 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 | 140x140 |
| 3.0 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 |
| | 4.2 | 95x95 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 |
| | 5.4 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 | 140x140 |
| | 6.6 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 | - | - |
| 3.6 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 95x95 | 120x120 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 |
| | 4.2 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 | 140x140 | - |
| | 5.4 | 95x95 | 120x120 | 120x120 | 140x140 | 140x140 | - | - | - |
| | 6.6 | 120x120 | 120x120 | 140x140 | 140x140 | - | - | - | - |
| 4.2 | 1.8 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 | 95x95 |
| | 3.0 | 95x95 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 | 140x140 | - |
| | 4.2 | 120x120 | 120x120 | 120x120 | 140x140 | 140x140 | - | - | - |
| | 5.4 | 120x120 | 120x120 | 140x140 | 140x140 | - | - | - | - |
| | 6.6 | 140x140 | 140x140 | 140x140 | - | - | - | - | - |

## Notes

1. These posts are supporting roof loads only
2. For allowable roof load masses, see AS1684 - Clause 1.6.11.
3. Verandah posts shall not be nail-laminated.
4. The minimum post sizes given above may need to be increased in size to provide sufficient bearing area for verandah beams.
5. Maximum notch for verandah bear to be a maximum of half the post width.

## Verandah Posts



# 2: POSTS - ALL STATES (EXC. WA) - N3

## Table 2.1: Wind Classification: N3 / Sheet Roof 40kg

| Post Height (m) | Post Spacing (m) | Roof Load Only | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Roof Load Width 'RLW' (m) | | | | | | | |
| | | 1.5 | 2.4 | 3.3 | 4.2 | 5.1 | 6.0 | 6.9 | 7.8 |
| | | Minimum Post Section (mm x mm) | | | | | | | |
| 2.4 | 1.8 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 |
| | 3.0 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 |
| | 4.2 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 |
| | 5.4 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 |
| | 6.6 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 |
| 3.0 | 1.8 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 |
| | 3.0 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 |
| | 4.2 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 |
| | 5.4 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 115x115 |
| | 6.6 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 115x115 |
| 3.6 | 1.8 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 |
| | 3.0 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 |
| | 4.2 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 |
| | 5.4 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 115x115 | 140x140 |
| | 6.6 | 90x90 | 90x90 | 115x115 | 140x140 | 140x140 | 140x140 | 140x140 | 140x140 |
| 4.2 | 1.8 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 |
| | 3.0 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 |
| | 4.2 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 |
| | 5.4 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 |
| | 6.6 | 90x90 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | - |

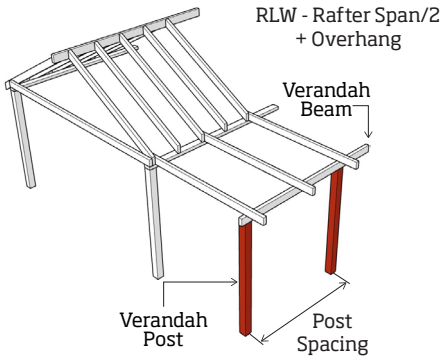
## Table 2.2: Wind Classification: N3 / Tiled Roof 90kg

| Post Height (m) | Post Spacing (m) | Roof Load Only | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Roof Load Width 'RLW' (m) | | | | | | | |
| | | 1.5 | 2.4 | 3.3 | 4.2 | 5.1 | 6.0 | 6.9 | 7.8 |
| | | Minimum Post Section (mm x mm) | | | | | | | |
| 2.4 | 1.8 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 |
| | 3.0 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 |
| | 4.2 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 140x140 |
| | 5.4 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 |
| | 6.6 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | 140x140 | 140x140 |
| 3.0 | 1.8 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 |
| | 3.0 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 115x115 |
| | 4.2 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 |
| | 5.4 | 90x90 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | 140x140 |
| | 6.6 | 90x90 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | - | - |
| 3.6 | 1.8 | 90x90 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 |
| | 3.0 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 |
| | 4.2 | 90x90 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | 140x140 | - |
| | 5.4 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | - | - | - |
| | 6.6 | 115x115 | 115x115 | 140x140 | 140x140 | - | - | - | - |
| 4.2 | 1.8 | 90x90 | 90x90 | 90x90 | 115x115 | 115x115 | 115x115 | 115x115 | 140x140 |
| | 3.0 | 90x90 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | 140x140 | - |
| | 4.2 | 115x115 | 115x115 | 140x140 | 140x140 | 140x140 | - | - | - |
| | 5.4 | 115x115 | 140x140 | 140x140 | 140x140 | - | - | - | - |
| | 6.6 | 140x140 | 140x140 | 140x140 | - | - | - | - | - |

## Notes

1. These posts are supporting roof loads only
2. For allowable roof load masses, see AS1684 - Clause 1.6.11.
3. Verandah posts shall not be nail-laminated.
4. The minimum post sizes given above may need to be increased in size to provide sufficient bearing area for verandah beams.
5. Maximum notch for verandah bear to be a maximum of half the post width.

## Verandah Posts



# 3: LINTEL SUPPORT ROOF AND FLOOR - LOWER STOREY OF TWO-STOREY CONSTRUCTION - N3

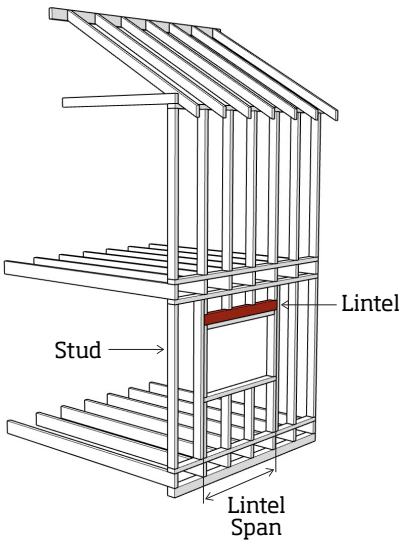
## Table 3.1: Wind Classification: N3 / Sheet Roof 40kg

| Section D x B (mm) | FLW = 1.2m | | | | | FLW = 2.1m | | | | | FLW = 3.0m | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | | | | | |
| | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 |
| | Maximum Single Lintel Span (m) | | | | | | | | | | | | | | |
| 90 x 32 | 1.1 | 1.0 | 1.0 | 0.9 | 0.8 | 1.0 | 1.0 | 0.9 | 0.9 | 0.8 | 0.9 | 0.9 | 0.9 | 0.8 | 0.7 |
| 140 x 32 | 1.7 | 1.6 | 1.5 | 1.5 | 1.3 | 1.5 | 1.5 | 1.4 | 1.4 | 1.2 | 1.4 | 1.4 | 1.3 | 1.3 | 1.1 |
| 190 x 32 | 2.3 | 2.2 | 2.1 | 2.0 | 1.7 | 2.1 | 2.0 | 1.9 | 1.9 | 1.6 | 1.9 | 1.9 | 1.8 | 1.8 | 1.5 |
| 240 x 32 | 2.9 | 2.8 | 2.6 | 2.4 | 2.2 | 2.6 | 2.5 | 2.4 | 2.4 | 2.0 | 2.4 | 2.3 | 2.3 | 2.2 | 1.9 |
| 290 x 32 | 3.4 | 3.1 | 2.7 | 2.5 | 2.3 | 3.2 | 3.0 | 2.6 | 2.4 | 2.2 | 2.8 | 2.7 | 2.6 | 2.3 | 2.2 |
| 90 x 42 | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | 1.1 | 1.0 | 1.0 | 1.0 | 0.9 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 |
| 120 x 42 | 1.6 | 1.5 | 1.4 | 1.4 | 1.3 | 1.5 | 1.4 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.2 | 1.2 |
| 140 x 42 | 1.9 | 1.8 | 1.7 | 1.6 | 1.6 | 1.7 | 1.6 | 1.6 | 1.5 | 1.5 | 1.6 | 1.5 | 1.5 | 1.4 | 1.4 |
| 190 x 42 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.3 | 2.2 | 2.1 | 2.1 | 2.0 | 2.1 | 2.1 | 2.0 | 1.9 | 1.9 |
| 240 x 42 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 | 2.7 | 2.6 | 2.5 | 2.4 | 2.4 |
| 290 x 42 | 3.7 | 3.5 | 3.4 | 3.3 | 3.2 | 3.4 | 3.3 | 3.2 | 3.1 | 3.0 | 3.2 | 3.1 | 3.0 | 3.0 | 2.9 |
| 140 x 65 | 2.1 | 2.0 | 1.9 | 1.9 | 1.8 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.8 | 1.7 | 1.7 | 1.7 | 1.6 |
| 190 x 65 | 2.9 | 2.8 | 2.6 | 2.5 | 2.4 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 | 2.5 | 2.4 | 2.3 | 2.2 | 2.2 |
| 240 x 65 | 3.6 | 3.4 | 3.3 | 3.2 | 3.1 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 | 3.1 | 3.0 | 2.9 | 2.8 | 2.8 |
| 265 x 65 | 3.8 | 3.7 | 3.5 | 3.4 | 3.4 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 | 3.4 | 3.3 | 3.2 | 3.1 | 3.0 |
| 290 x 65 | 4.1 | 3.9 | 3.8 | 3.7 | 3.6 | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 | 3.6 | 3.5 | 3.4 | 3.4 | 3.3 |

## Table 3.2: Wind Classification: N3 / Tile Roof 90kg

| Section D x B (mm) | FLW = 1.2m | | | | | FLW = 2.1m | | | | | FLW = 3.0m | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | | | | | |
| | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 |
| | Maximum Single Lintel Span (m) | | | | | | | | | | | | | | |
| 90 x 32 | 1.0 | 0.9 | 0.9 | 0.7 | 0.6 | 0.9 | 0.9 | 0.8 | 0.7 | 0.6 | 0.9 | 0.8 | 0.8 | 0.6 | 0.5 |
| 140 x 32 | 1.5 | 1.4 | 1.3 | 1.1 | 0.9 | 1.4 | 1.3 | 1.3 | 1.0 | 0.9 | 1.3 | 1.3 | 1.2 | 1.0 | 0.8 |
| 190 x 32 | 2.1 | 1.9 | 1.8 | 1.4 | 1.2 | 1.9 | 1.8 | 1.7 | 1.4 | 1.2 | 1.8 | 1.7 | 1.6 | 1.3 | 1.1 |
| 240 x 32 | 2.6 | 2.4 | 2.3 | 1.8 | 1.5 | 2.5 | 2.3 | 2.1 | 1.7 | 1.5 | 2.3 | 2.1 | 2.0 | 1.7 | 1.4 |
| 290 x 32 | 3.2 | 2.7 | 2.4 | 2.1 | 1.9 | 3.0 | 2.6 | 2.3 | 2.1 | 1.8 | 2.6 | 2.5 | 2.3 | 2.0 | 1.7 |
| 90 x 42 | 1.1 | 1.0 | 0.9 | 0.9 | 0.8 | 1.0 | 0.9 | 0.9 | 0.8 | 0.7 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 |
| 120 x 42 | 1.5 | 1.3 | 1.2 | 1.2 | 1.0 | 1.3 | 1.3 | 1.2 | 1.1 | 1.0 | 1.3 | 1.2 | 1.1 | 1.1 | 0.9 |
| 140 x 42 | 1.7 | 1.5 | 1.4 | 1.4 | 1.2 | 1.6 | 1.5 | 1.4 | 1.3 | 1.1 | 1.5 | 1.4 | 1.3 | 1.3 | 1.1 |
| 190 x 42 | 2.3 | 2.1 | 2.0 | 1.9 | 1.6 | 2.1 | 2.0 | 1.9 | 1.8 | 1.5 | 2.0 | 1.9 | 1.8 | 1.7 | 1.5 |
| 240 x 42 | 2.9 | 2.7 | 2.5 | 2.3 | 2.0 | 2.7 | 2.5 | 2.4 | 2.2 | 1.9 | 2.5 | 2.4 | 2.3 | 2.2 | 1.9 |
| 290 x 42 | 3.4 | 3.2 | 3.0 | 2.8 | 2.4 | 3.2 | 3.0 | 2.8 | 2.7 | 2.3 | 3.0 | 2.9 | 2.7 | 2.6 | 2.3 |
| 140 x 65 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 | 1.8 | 1.7 | 1.6 | 1.5 | 1.5 | 1.7 | 1.6 | 1.5 | 1.5 | 1.4 |
| 190 x 65 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 2.5 | 2.3 | 2.2 | 2.1 | 2.0 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 |
| 240 x 65 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 |
| 265 x 65 | 3.6 | 3.3 | 3.2 | 3.0 | 2.8 | 3.4 | 3.2 | 3.0 | 2.9 | 2.7 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 |
| 290 x 65 | 3.8 | 3.6 | 3.4 | 3.3 | 3.1 | 3.6 | 3.4 | 3.3 | 3.1 | 3.0 | 3.4 | 3.3 | 3.1 | 3.0 | 2.9 |

## Lintel - Lower Storey of Two-Storey Construction



# 4: LINTELS - SINGLE OR UPPER STOREY - N2

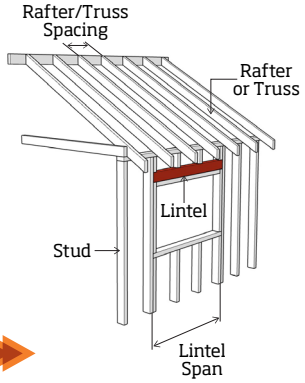
## Table 4.1: Wind Classification: N2 / Sheet Roof 40kg / Trusses or Rafters at 1200mm Centres Maximum

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.9 | 2.6 | 2.4 | 2.2 | 1.9 | 1.6 | 1.4 | 1.3 | 1.2 | 1.1 | 1.0 |
| 190 x 32 | 3.7 | 3.3 | 2.9 | 2.6 | 2.4 | 2.1 | 1.9 | 1.7 | 1.6 | 1.4 | 1.3 |
| 240 x 32 | 4.4 | 3.5 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 1.8 | 1.7 | 1.5 | 1.4 |
| 290 x 32 | 4.4 | 3.4 | 3.0 | 2.7 | 2.4 | 2.2 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 |
| 2/140 x 32 | 3.5 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.2 | 2.0 | 1.9 | 1.7 |
| 2/190 x 32 | 4.4 | 3.9 | 3.7 | 3.4 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 |
| 2/240 x 32 | 5.2 | 4.7 | 4.4 | 3.8 | 3.4 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 |
| 2/290 x 32 | 5.9 | 5.0 | 4.3 | 3.7 | 3.4 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.3 |
| 140 x 42 | 3.1 | 2.8 | 2.6 | 2.4 | 2.3 | 2.1 | 1.9 | 1.7 | 1.5 | 1.4 | 1.3 |
| 190 x 42 | 4.0 | 3.6 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.0 |
| 240 x 42 | 4.8 | 4.3 | 3.9 | 3.7 | 3.5 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 | 2.4 |
| 290 x 42 | 5.4 | 4.9 | 4.6 | 4.3 | 3.8 | 3.5 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 |
| 2/140 x 42 | 3.7 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.4 | 2.2 | 2.1 |
| 2/190 x 42 | 4.7 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 |
| 2/240 x 42 | 5.4 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 |
| 2/290 x 42 | 6.2 | 5.7 | 5.3 | 5.1 | 4.9 | 4.7 | 4.5 | 4.3 | 4.1 | 3.9 | 3.6 |
| 140 x 65 | 3.5 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 | 1.8 |
| 190 x 65 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 |
| 240 x 65 | 5.2 | 4.8 | 4.4 | 4.1 | 3.9 | 3.7 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 |
| 265 x 65 | 5.5 | 5.1 | 4.8 | 4.5 | 4.2 | 4.1 | 3.9 | 3.8 | 3.6 | 3.5 | 3.4 |
| 290 x 65 | 5.9 | 5.4 | 5.1 | 4.8 | 4.6 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 | 3.7 |
| 2/140 x 65 | 4.1 | 3.7 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 |
| 2/190 x 65 | 5.0 | 4.7 | 4.3 | 4.1 | 3.9 | 3.7 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 |
| 2/240 x 65 | 5.9 | 5.4 | 5.1 | 4.9 | 4.7 | 4.5 | 4.3 | 4.1 | 4.0 | 3.9 | 3.8 |
| 2/265 x 65 | 6.3 | 5.8 | 5.5 | 5.2 | 5.0 | 4.8 | 4.6 | 4.5 | 4.3 | 4.2 | 4.1 |
| 2/290 x 65 | 6.7 | 6.2 | 5.8 | 5.5 | 5.3 | 5.1 | 5.0 | 4.8 | 4.7 | 4.5 | 4.4 |

## Table 4.2: Wind Classification: N2 / Tile Roof 90kg / Trusses or Rafters at 600mm Centres Maximum

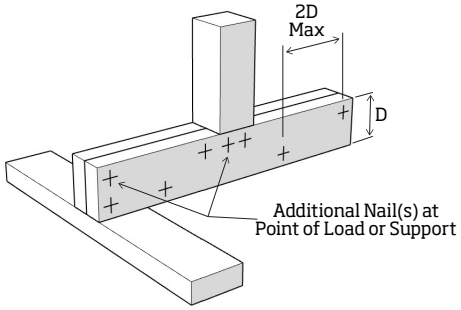
| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.3 | 2.0 | 1.8 | 1.6 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 | 1.2 | 1.0 |
| 190 x 32 | 3.1 | 2.7 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.7 | 1.6 | 1.6 | 1.5 |
| 240 x 32 | 3.7 | 3.3 | 3.0 | 2.7 | 2.5 | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 | 1.6 |
| 290 x 32 | 4.2 | 3.6 | 3.1 | 2.8 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 |
| 2/140 x 32 | 2.8 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 |
| 2/190 x 32 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 2/240 x 32 | 4.3 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 |
| 2/290 x 32 | 5.0 | 4.5 | 4.2 | 3.9 | 3.6 | 3.3 | 3.0 | 2.8 | 2.7 | 2.6 | 2.5 |
| 140 x 42 | 2.5 | 2.2 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 |
| 190 x 42 | 3.3 | 2.9 | 2.7 | 2.5 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.8 |
| 240 x 42 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 |
| 290 x 42 | 4.5 | 4.1 | 3.8 | 3.6 | 3.4 | 3.3 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 |
| 2/140 x 42 | 3.1 | 2.7 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |
| 2/190 x 42 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 |
| 2/240 x 42 | 4.6 | 4.2 | 3.9 | 3.7 | 3.6 | 3.4 | 3.3 | 3.1 | 3.0 | 2.9 | 2.8 |
| 2/290 x 42 | 5.3 | 4.8 | 4.5 | 4.3 | 4.1 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 |
| 140 x 65 | 2.8 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 |
| 190 x 65 | 3.7 | 3.3 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.1 |
| 240 x 65 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 |
| 265 x 65 | 4.7 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 |
| 290 x 65 | 5.0 | 4.5 | 4.2 | 4.0 | 3.8 | 3.7 | 3.6 | 3.4 | 3.3 | 3.2 | 3.1 |
| 2/140 x 65 | 3.5 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 |
| 2/190 x 65 | 4.3 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 |
| 2/240 x 65 | 5.1 | 4.6 | 4.3 | 4.1 | 3.9 | 3.8 | 3.7 | 3.5 | 3.4 | 3.3 | 3.3 |
| 2/265 x 65 | 5.4 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 |
| 2/290 x 65 | 5.8 | 5.3 | 5.0 | 4.7 | 4.5 | 4.3 | 4.2 | 4.1 | 3.9 | 3.8 | 3.8 |

## Lintels - Single or Upper Storey




## Vertical Nail Lamination

(Example - Strutting Beams)



# 5: LINTELS - SINGLE OR UPPER STOREY - N3

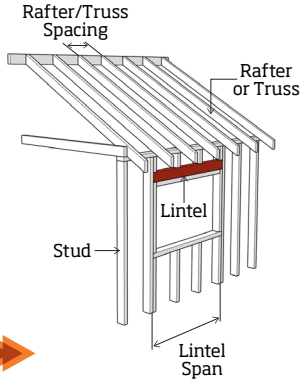
## Table 5.1: Wind Classification: N3 / Sheet Roof 40kg / Trusses or Rafters at 1200mm Centres Maximum

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.9 | 2.6 | 2.3 | 1.9 | 1.6 | 1.4 | 1.2 | 1.1 | 1.0 | 0.9 | 0.8 |
| 190 x 32 | 3.7 | 3.1 | 2.7 | 2.4 | 2.1 | 1.8 | 1.6 | 1.5 | 1.3 | 1.2 | 1.1 |
| 240 x 32 | 4.0 | 3.2 | 2.8 | 2.5 | 2.3 | 2.0 | 1.8 | 1.6 | 1.4 | 1.4 | 1.3 |
| 290 x 32 | 3.9 | 3.1 | 2.7 | 2.5 | 2.2 | 1.9 | 1.7 | 1.6 | 1.6 | 1.5 | 1.4 |
| 2/140 x 32 | 3.5 | 3.1 | 2.9 | 2.7 | 2.6 | 2.4 | 2.2 | 1.9 | 1.8 | 1.6 | 1.5 |
| 2/190 x 32 | 4.4 | 3.9 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 2.0 |
| 2/240 x 32 | 5.2 | 4.7 | 3.9 | 3.5 | 3.1 | 2.9 | 2.7 | 2.6 | 2.4 | 2.3 | 2.1 |
| 2/290 x 32 | 5.6 | 4.6 | 3.9 | 3.4 | 3.1 | 2.8 | 2.7 | 2.5 | 2.4 | 2.2 | 2.1 |
| 140 x 42 | 3.1 | 2.8 | 2.6 | 2.4 | 2.1 | 1.8 | 1.6 | 1.5 | 1.3 | 1.2 | 1.1 |
| 190 x 42 | 4.0 | 3.6 | 3.3 | 3.1 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 |
| 240 x 42 | 4.8 | 4.3 | 3.9 | 3.6 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 |
| 290 x 42 | 5.4 | 4.9 | 4.5 | 3.9 | 3.5 | 3.2 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 |
| 2/140 x 42 | 3.7 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.3 | 2.1 | 1.9 |
| 2/190 x 42 | 4.7 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.1 | 3.0 | 2.8 | 2.7 |
| 2/240 x 42 | 5.4 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.7 | 3.4 | 3.3 | 3.1 |
| 2/290 x 42 | 6.2 | 5.7 | 5.3 | 5.1 | 4.9 | 4.7 | 4.3 | 4.0 | 3.7 | 3.5 | 3.3 |
| 140 x 65 | 3.5 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.3 | 2.1 | 1.9 | 1.7 | 1.6 |
| 190 x 65 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.8 | 2.7 | 2.6 | 2.5 |
| 240 x 65 | 5.2 | 4.8 | 4.4 | 4.1 | 3.9 | 3.7 | 3.6 | 3.5 | 3.4 | 3.2 | 3.0 |
| 265 x 65 | 5.5 | 5.1 | 4.8 | 4.5 | 4.2 | 4.1 | 3.9 | 3.8 | 3.6 | 3.5 | 3.4 |
| 290 x 65 | 5.9 | 5.4 | 5.1 | 4.8 | 4.6 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 | 3.7 |
| 2/140 x 65 | 4.1 | 3.7 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 |
| 2/190 x 65 | 5.0 | 4.7 | 4.3 | 4.1 | 3.9 | 3.7 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 |
| 2/240 x 65 | 5.9 | 5.4 | 5.1 | 4.9 | 4.7 | 4.5 | 4.3 | 4.1 | 4.0 | 3.9 | 3.8 |
| 2/265 x 65 | 6.3 | 5.8 | 5.5 | 5.2 | 5.0 | 4.8 | 4.6 | 4.5 | 4.3 | 4.2 | 4.1 |
| 2/290 x 65 | 6.7 | 6.2 | 5.8 | 5.5 | 5.3 | 5.1 | 5.0 | 4.8 | 4.7 | 4.5 | 4.4 |

## Table 5.2: Wind Classification: N3 / Tile Roof 90kg / Trusses or Rafters at 600mm Centres Maximum

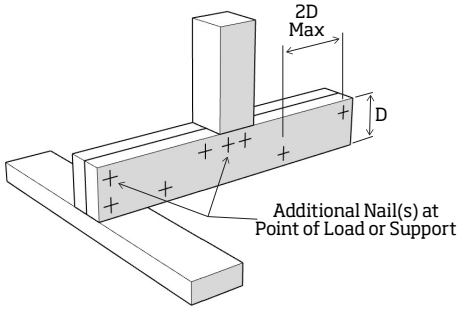
| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.3 | 2.0 | 1.8 | 1.6 | 1.5 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 | 1.0 |
| 190 x 32 | 3.1 | 2.7 | 2.5 | 2.3 | 2.1 | 1.9 | 1.7 | 1.6 | 1.5 | 1.5 | 1.4 |
| 240 x 32 | 3.7 | 3.3 | 2.8 | 2.6 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 |
| 290 x 32 | 4.2 | 3.4 | 2.9 | 2.6 | 2.4 | 2.2 | 2.0 | 1.8 | 1.7 | 1.6 | 1.6 |
| 2/140 x 32 | 2.8 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 |
| 2/190 x 32 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 2/240 x 32 | 4.3 | 3.9 | 3.7 | 3.5 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 |
| 2/290 x 32 | 5.0 | 4.5 | 4.1 | 3.7 | 3.3 | 3.1 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 |
| 140 x 42 | 2.5 | 2.2 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 |
| 190 x 42 | 3.3 | 2.9 | 2.7 | 2.5 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 |
| 240 x 42 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.3 | 2.1 |
| 290 x 42 | 4.5 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 |
| 2/140 x 42 | 3.1 | 2.7 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |
| 2/190 x 42 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 |
| 2/240 x 42 | 4.6 | 4.2 | 3.9 | 3.7 | 3.6 | 3.4 | 3.3 | 3.1 | 3.0 | 2.9 | 2.8 |
| 2/290 x 42 | 5.3 | 4.8 | 4.5 | 4.3 | 4.1 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 |
| 140 x 65 | 2.8 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 |
| 190 x 65 | 3.7 | 3.3 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.1 |
| 240 x 65 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 |
| 265 x 65 | 4.7 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 |
| 290 x 65 | 5.0 | 4.5 | 4.2 | 4.0 | 3.8 | 3.7 | 3.6 | 3.4 | 3.3 | 3.2 | 3.1 |
| 2/140 x 65 | 3.5 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 |
| 2/190 x 65 | 4.3 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 |
| 2/240 x 65 | 5.1 | 4.6 | 4.3 | 4.1 | 3.9 | 3.8 | 3.7 | 3.5 | 3.4 | 3.3 | 3.3 |
| 2/265 x 65 | 5.4 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 |
| 2/290 x 65 | 5.8 | 5.3 | 5.0 | 4.7 | 4.5 | 4.3 | 4.2 | 4.1 | 3.9 | 3.8 | 3.8 |

## Lintels - Single or Upper Storey




## Vertical Nail Lamination

(Example - Strutting Beams)



# 6: LINTELS - SINGLE OR UPPER STOREY - C2

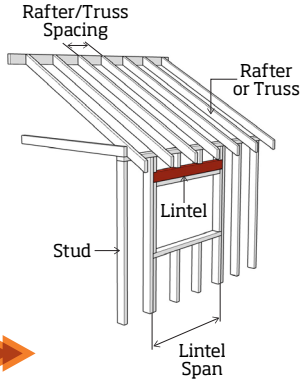
## Table 6.1: Wind Classification: C2 / Sheet Roof 40kg / Trusses or Rafters at 1200mm Centres Maximum

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.6 | 2.0 | 1.5 | 1.2 | 1.0 | 0.9 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 |
| 190 x 32 | 3.0 | 2.5 | 2.1 | 1.7 | 1.4 | 1.2 | 1.1 | 1.0 | 0.9 | 0.8 | 0.7 |
| 240 x 32 | 3.1 | 2.6 | 2.2 | 1.8 | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 | 1.1 | 1.0 |
| 290 x 32 | 3.1 | 2.6 | 2.2 | 1.8 | 1.6 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 | 1.1 |
| 2/140 x 32 | 3.4 | 2.9 | 2.6 | 2.3 | 1.9 | 1.7 | 1.5 | 1.3 | 1.2 | 1.1 | 1.0 |
| 2/190 x 32 | 4.3 | 3.4 | 3.0 | 2.7 | 2.5 | 2.3 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 |
| 2/240 x 32 | 4.6 | 3.6 | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 | 1.9 | 1.8 | 1.6 | 1.5 |
| 2/290 x 32 | 4.5 | 3.5 | 3.0 | 2.7 | 2.5 | 2.4 | 2.1 | 1.9 | 1.7 | 1.7 | 1.6 |
| 140 x 42 | 3.0 | 2.5 | 2.0 | 1.7 | 1.4 | 1.2 | 1.1 | 1.0 | 0.7 | 0.6 | 0.5 |
| 190 x 42 | 4.0 | 3.2 | 2.8 | 2.5 | 2.3 | 2.0 | 1.8 | 1.6 | 1.4 | 1.3 | 1.2 |
| 240 x 42 | 4.8 | 3.7 | 3.2 | 2.9 | 2.6 | 2.5 | 2.3 | 2.0 | 1.9 | 1.7 | 1.6 |
| 290 x 42 | 5.1 | 4.1 | 3.5 | 3.1 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 |
| 2/140 x 42 | 3.7 | 3.3 | 2.9 | 2.7 | 2.5 | 2.2 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 |
| 2/190 x 42 | 4.7 | 4.2 | 3.9 | 3.5 | 3.2 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.2 |
| 2/240 x 42 | 5.4 | 5.0 | 4.7 | 4.1 | 3.7 | 3.4 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 |
| 2/290 x 42 | 6.2 | 5.7 | 5.1 | 4.5 | 4.0 | 3.7 | 3.4 | 3.2 | 3.0 | 2.9 | 2.7 |
| 140 x 65 | 3.4 | 3.0 | 2.6 | 2.4 | 2.1 | 1.8 | 1.6 | 1.4 | 1.3 | 1.2 | 1.1 |
| 190 x 65 | 4.4 | 4.0 | 3.5 | 3.1 | 2.9 | 2.7 | 2.5 | 2.4 | 2.2 | 2.0 | 1.8 |
| 240 x 65 | 5.2 | 4.8 | 4.4 | 4.0 | 3.6 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 |
| 265 x 65 | 5.5 | 5.1 | 4.8 | 4.5 | 4.0 | 3.7 | 3.4 | 3.2 | 3.0 | 2.9 | 2.8 |
| 290 x 65 | 5.9 | 5.4 | 5.1 | 4.8 | 4.5 | 4.1 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 |
| 2/140 x 65 | 4.1 | 3.7 | 3.4 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 2.0 |
| 2/190 x 65 | 5.0 | 4.7 | 4.3 | 4.1 | 3.9 | 3.7 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 |
| 2/240 x 65 | 5.9 | 5.4 | 5.1 | 4.9 | 4.7 | 4.5 | 4.3 | 4.1 | 3.9 | 3.7 | 3.5 |
| 2/265 x 65 | 6.3 | 5.8 | 5.5 | 5.2 | 5.0 | 4.8 | 4.6 | 4.5 | 4.3 | 4.1 | 3.9 |
| 2/290 x 65 | 6.7 | 6.2 | 5.8 | 5.5 | 5.3 | 5.1 | 5.0 | 4.8 | 4.7 | 4.5 | 4.3 |

## Table 6.2: Wind Classification: C2 / Tile Roof 90kg / Trusses or Rafters at 600mm Centres Maximum

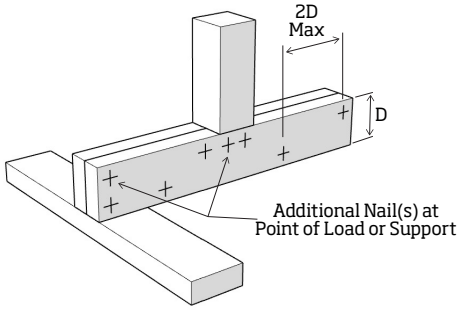
| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.3 | 1.9 | 1.7 | 1.5 | 1.4 | 1.3 | 1.2 | 1.0 | 0.9 | 0.9 | 0.8 |
| 190 x 32 | 3.0 | 2.5 | 2.1 | 1.9 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 |
| 240 x 32 | 3.4 | 2.8 | 2.4 | 2.1 | 1.9 | 1.7 | 1.6 | 1.5 | 1.4 | 1.4 | 1.3 |
| 290 x 32 | 3.5 | 2.8 | 2.4 | 2.1 | 1.9 | 1.8 | 1.6 | 1.5 | 1.5 | 1.4 | 1.3 |
| 2/140 x 32 | 2.8 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 | 1.6 | 1.5 | 1.5 | 1.4 | 1.3 |
| 2/190 x 32 | 3.7 | 3.3 | 3.0 | 2.7 | 2.5 | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 | 1.7 |
| 2/240 x 32 | 4.3 | 3.9 | 3.4 | 3.0 | 2.7 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 |
| 2/290 x 32 | 4.9 | 4.0 | 3.5 | 3.0 | 2.8 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 |
| 140 x 42 | 2.5 | 2.2 | 1.9 | 1.7 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 | 1.1 | 1.0 |
| 190 x 42 | 3.3 | 2.9 | 2.7 | 2.4 | 2.2 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 | 1.5 |
| 240 x 42 | 3.9 | 3.6 | 3.2 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 |
| 290 x 42 | 4.5 | 4.1 | 3.6 | 3.2 | 2.9 | 2.7 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 |
| 2/140 x 42 | 3.1 | 2.7 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 |
| 2/190 x 42 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.2 | 2.1 |
| 2/240 x 42 | 4.6 | 4.2 | 3.9 | 3.7 | 3.6 | 3.4 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 |
| 2/290 x 42 | 5.3 | 4.8 | 4.5 | 4.3 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.0 | 2.9 |
| 140 x 65 | 2.8 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.4 |
| 190 x 65 | 3.7 | 3.3 | 3.0 | 2.8 | 2.7 | 2.5 | 2.3 | 2.2 | 2.0 | 1.9 | 1.8 |
| 240 x 65 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 | 2.4 |
| 265 x 65 | 4.7 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 |
| 290 x 65 | 5.0 | 4.5 | 4.2 | 4.0 | 3.8 | 3.7 | 3.6 | 3.3 | 3.2 | 3.0 | 2.9 |
| 2/140 x 65 | 3.5 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 |
| 2/190 x 65 | 4.3 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 |
| 2/240 x 65 | 5.1 | 4.6 | 4.3 | 4.1 | 3.9 | 3.8 | 3.7 | 3.5 | 3.4 | 3.3 | 3.3 |
| 2/265 x 65 | 5.4 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 |
| 2/290 x 65 | 5.8 | 5.3 | 5.0 | 4.7 | 4.5 | 4.3 | 4.2 | 4.1 | 3.9 | 3.8 | 3.8 |

## Lintels - Single or Upper Storey




## Vertical Nail Lamination

(Example - Strutting Beams)



# 7: GARAGE PITCHING BEAMS - N2 (page 1 of 2)

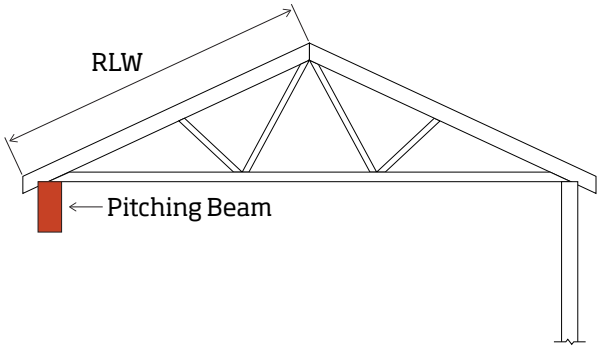
## Table 7.1: Wind Classification: N2 / Sheet Roof 40kg / Trusses or Rafters at 1200mm Centres Maximum (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 3.3 | 2.9 | 2.7 | 2.5 | 2.3 | 2.1 | 1.9 | 1.7 | 1.5 | 1.4 | 1.3 |
| 190 x 42 | 4.5 | 3.9 | 3.5 | 3.3 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.0 |
| 240 x 42 | 5.3 | 4.9 | 4.5 | 3.9 | 3.5 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 | 2.4 |
| 290 x 42 | 6.1 | 5.6 | 4.9 | 4.3 | 3.8 | 3.5 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 |
| 140 x 65 | 3.8 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.1 | 2.0 | 1.8 |
| 190 x 65 | 5.0 | 4.5 | 4.1 | 3.8 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.6 |
| 240 x 65 | 5.9 | 5.3 | 5.0 | 4.7 | 4.5 | 4.2 | 4.0 | 3.8 | 3.6 | 3.5 | 3.3 |
| 265 x 65 | 6.3 | 5.7 | 5.4 | 5.1 | 4.8 | 4.6 | 4.4 | 4.2 | 4.0 | 3.9 | 3.7 |
| 290 x 65 | 6.7 | 6.1 | 5.7 | 5.4 | 5.2 | 4.9 | 4.8 | 4.6 | 4.4 | 4.3 | 4.0 |
| 2/140 x 65 | 4.6 | 4.1 | 3.7 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 |
| 2/190 x 65 | 5.7 | 5.2 | 4.9 | 4.7 | 4.4 | 4.2 | 3.9 | 3.8 | 3.6 | 3.5 | 3.4 |
| 2/240 x 65 | 6.7 | 6.2 | 5.8 | 5.5 | 5.3 | 5.1 | 4.9 | 4.7 | 4.6 | 4.4 | 4.3 |
| 2/265 x 65 | 7.2 | 6.6 | 6.2 | 5.9 | 5.6 | 5.4 | 5.2 | 5.1 | 4.9 | 4.8 | 4.7 |
| 2/290 x 65 | 7.6 | 7.1 | 6.6 | 6.3 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 5.1 | 5.0 |

## Table 7.2: Wind Classification: N2 / Sheet Roof 40kg / Trusses or Rafters at 1200mm Centres Maximum (Continuous Span)

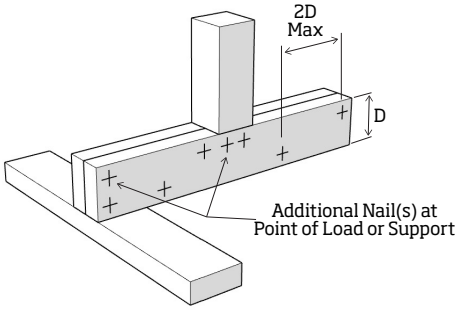
| Section D x B (mm) | Continous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 4.4 | 3.8 | 3.4 | 3.1 | 2.8 | 2.6 | 2.4 | 2.1 | 1.9 | 1.9 | 1.8 |
| 190 x 42 | 5.6 | 5.0 | 4.5 | 4.0 | 3.6 | 3.3 | 3.0 | 2.8 | 2.7 | 2.6 | 2.4 |
| 240 x 42 | 6.6 | 6.0 | 5.4 | 4.9 | 4.3 | 4.0 | 3.7 | 3.4 | 3.2 | 3.0 | 2.9 |
| 290 x 42 | 7.5 | 6.9 | 6.3 | 5.6 | 5.0 | 4.6 | 4.2 | 4.0 | 3.8 | 3.5 | 3.3 |
| 140 x 65 | 4.9 | 4.4 | 4.0 | 3.7 | 3.4 | 3.2 | 2.9 | 2.8 | 2.6 | 2.5 | 2.3 |
| 190 x 65 | 6.1 | 5.6 | 5.2 | 4.9 | 4.7 | 4.4 | 4.1 | 3.9 | 3.6 | 3.4 | 3.2 |
| 240 x 65 | 7.2 | 6.6 | 6.1 | 5.8 | 5.5 | 5.3 | 5.1 | 4.9 | 4.5 | 4.2 | 4.1 |
| 265 x 65 | 7.8 | 7.1 | 6.6 | 6.2 | 5.9 | 5.6 | 5.5 | 5.3 | 5.0 | 4.8 | 4.5 |
| 290 x 65 | 8.2 | 7.6 | 7.1 | 6.6 | 6.3 | 6.1 | 5.8 | 5.6 | 5.5 | 5.2 | 5.0 |
| 2/140 x 65 | 5.7 | 5.2 | 4.9 | 4.6 | 4.3 | 4.0 | 3.9 | 3.7 | 3.5 | 3.4 | 3.2 |
| 2/190 x 65 | 7.1 | 6.4 | 6.0 | 5.7 | 5.5 | 5.3 | 5.1 | 4.9 | 4.8 | 4.7 | 4.5 |
| 2/240 x 65 | 8.3 | 7.6 | 7.2 | 6.8 | 6.4 | 6.2 | 6.0 | 5.8 | 5.6 | 5.5 | 5.3 |
| 2/265 x 65 | 8.8 | 8.1 | 7.7 | 7.3 | 7.0 | 6.7 | 6.4 | 6.2 | 6.0 | 5.9 | 5.7 |
| 2/290 x 65 | 9.4 | 8.7 | 8.1 | 7.8 | 7.4 | 7.2 | 6.9 | 6.6 | 6.4 | 6.3 | 6.1 |

## Pitching Beams




## Vertical Nail Lamination

(Example - Strutting Beams)



## 7: GARAGE PITCHING BEAMS - N2 (page 2 of 2)

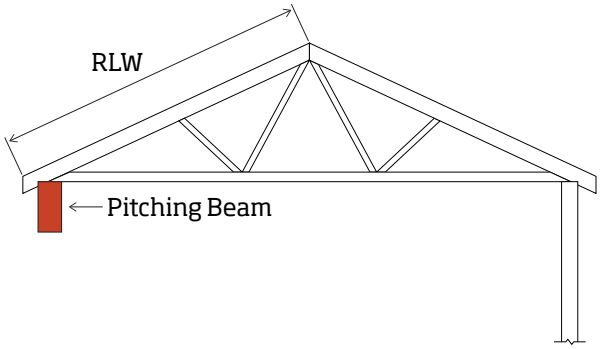
### Table 7.3: Wind Classification: N2 / Tile Roof 90kg / Trusses or Rafters at 600mm Centres Maximum (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 2.6 | 2.3 | 2.1 | 1.9 | 1.6 | 1.4 | 1.3 | 1.2 | 1.1 | 0.8 | 0.6 |
| 190 x 42 | 3.5 | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 |
| 240 x 42 | 4.5 | 3.9 | 3.4 | 3.0 | 2.7 | 2.5 | 2.4 | 2.2 | 2.0 | 1.9 | 1.8 |
| 290 x 42 | 5.1 | 4.3 | 3.6 | 3.2 | 2.9 | 2.7 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 |
| 140 x 65 | 3.0 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 | 1.3 |
| 190 x 65 | 4.0 | 3.5 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 | 2.5 | 2.3 | 2.1 | 2.0 |
| 240 x 65 | 5.0 | 4.5 | 4.1 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 |
| 265 x 65 | 5.3 | 4.8 | 4.5 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.9 |
| 290 x 65 | 5.7 | 5.2 | 4.8 | 4.6 | 4.3 | 4.0 | 3.8 | 3.7 | 3.5 | 3.3 | 3.1 |
| 2/140 x 65 | 3.7 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 2/190 x 65 | 4.9 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.8 |
| 2/240 x 65 | 5.7 | 5.3 | 4.9 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.7 | 3.5 | 3.4 |
| 2/265 x 65 | 6.2 | 5.6 | 5.3 | 5.0 | 4.8 | 4.6 | 4.4 | 4.2 | 4.1 | 3.9 | 3.8 |
| 2/290 x 65 | 6.6 | 6.0 | 5.6 | 5.4 | 5.1 | 4.9 | 4.8 | 4.6 | 4.5 | 4.3 | 4.2 |

### Table 7.4: Wind Classification: N2 / Tile Roof 90kg / Trusses or Rafters at 600mm Centres Maximum (Continuous Span)

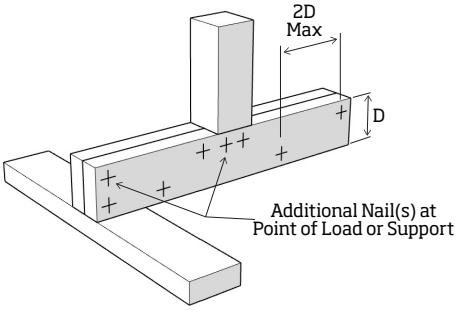
| Section D x B (mm) | Continous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 3.5 | 3.0 | 2.6 | 2.4 | 2.1 | 1.9 | 1.8 | 1.6 | 1.2 | 1.0 | 1.0 |
| 190 x 42 | 4.6 | 4.0 | 3.6 | 3.2 | 2.9 | 2.7 | 2.3 | 2.1 | 2.0 | 1.8 | 1.4 |
| 240 x 42 | 5.5 | 4.8 | 4.2 | 3.8 | 3.6 | 3.3 | 3.1 | 2.9 | 2.3 | 2.1 | 2.0 |
| 290 x 42 | 6.3 | 5.4 | 4.8 | 4.4 | 4.0 | 3.8 | 3.6 | 3.3 | 3.1 | 2.5 | 2.3 |
| 140 x 65 | 4.0 | 3.5 | 3.2 | 2.9 | 2.6 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 |
| 190 x 65 | 5.1 | 4.7 | 4.3 | 3.9 | 3.6 | 3.3 | 3.0 | 2.9 | 2.7 | 2.6 | 2.3 |
| 240 x 65 | 6.1 | 5.5 | 5.2 | 4.9 | 4.5 | 4.1 | 3.9 | 3.7 | 3.4 | 3.2 | 3.1 |
| 265 x 65 | 6.5 | 6.0 | 5.5 | 5.2 | 5.0 | 4.6 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 |
| 290 x 65 | 7.0 | 6.4 | 5.9 | 5.6 | 5.3 | 5.0 | 4.7 | 4.4 | 4.1 | 3.9 | 3.6 |
| 2/140 x 65 | 4.8 | 4.3 | 4.0 | 3.7 | 3.5 | 3.2 | 3.1 | 3.0 | 2.8 | 2.7 | 2.6 |
| 2/190 x 65 | 6.0 | 5.5 | 5.1 | 4.8 | 4.6 | 4.4 | 4.2 | 4.0 | 3.8 | 3.6 | 3.5 |
| 2/240 x 65 | 7.1 | 6.5 | 6.1 | 5.7 | 5.5 | 5.3 | 5.1 | 4.9 | 4.8 | 4.6 | 4.3 |
| 2/265 x 65 | 7.6 | 7.0 | 6.5 | 6.2 | 5.9 | 5.7 | 5.5 | 5.3 | 5.2 | 5.0 | 4.8 |
| 2/290 x 65 | 8.1 | 7.4 | 7.0 | 6.6 | 6.3 | 6.1 | 5.9 | 5.7 | 5.5 | 5.4 | 5.2 |

### Pitching Beams




### Vertical Nail Lamination

(Example - Strutting Beams)



# 8: GARAGE PITCHING BEAMS - N3 (page 1 of 2)

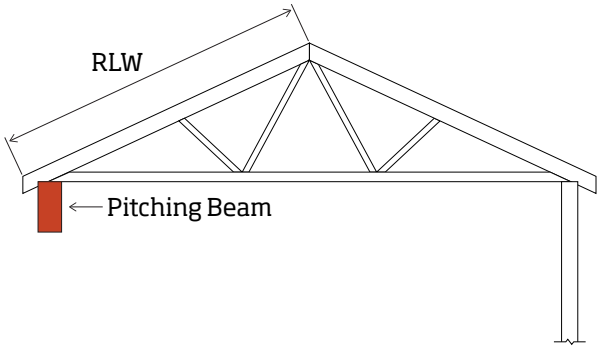
## Table 8.1: Wind Classification: N3 / Sheet Roof 40kg / Trusses or Rafters at 1200mm Centres Maximum (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 3.3 | 2.9 | 2.6 | 2.4 | 2.1 | 1.8 | 1.6 | 1.5 | 1.3 | 1.2 | 1.1 |
| 190 x 42 | 4.5 | 3.9 | 3.5 | 3.1 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 |
| 240 x 42 | 5.3 | 4.9 | 4.1 | 3.6 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 |
| 290 x 42 | 6.1 | 5.2 | 4.5 | 3.9 | 3.5 | 3.2 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 |
| 140 x 65 | 3.8 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 1.9 | 1.7 | 1.6 |
| 190 x 65 | 5.0 | 4.5 | 4.1 | 3.8 | 3.5 | 3.3 | 3.0 | 2.8 | 2.7 | 2.6 | 2.5 |
| 240 x 65 | 5.9 | 5.3 | 5.0 | 4.7 | 4.5 | 4.2 | 3.9 | 3.6 | 3.4 | 3.2 | 3.0 |
| 265 x 65 | 6.3 | 5.7 | 5.4 | 5.1 | 4.8 | 4.6 | 4.3 | 4.0 | 3.7 | 3.5 | 3.4 |
| 290 x 65 | 6.7 | 6.1 | 5.7 | 5.4 | 5.2 | 4.9 | 4.8 | 4.4 | 4.1 | 3.9 | 3.7 |
| 2/140 x 65 | 4.6 | 4.1 | 3.7 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 |
| 2/190 x 65 | 5.7 | 5.2 | 4.9 | 4.7 | 4.4 | 4.2 | 3.9 | 3.8 | 3.6 | 3.5 | 3.4 |
| 2/240 x 65 | 6.7 | 6.2 | 5.8 | 5.5 | 5.3 | 5.1 | 4.9 | 4.7 | 4.6 | 4.4 | 4.3 |
| 2/265 x 65 | 7.2 | 6.6 | 6.2 | 5.9 | 5.6 | 5.4 | 5.2 | 5.1 | 4.9 | 4.8 | 4.7 |
| 2/290 x 65 | 7.6 | 7.1 | 6.6 | 6.3 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 5.1 | 5.0 |

## Table 8.2: Wind Classification: N3 / Sheet Roof 40kg / Trusses or Rafters at 1200mm Centres Maximum (Continuous Span)

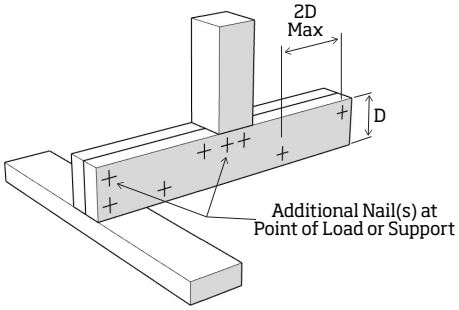
| Section D x B (mm) | Continous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 4.4 | 3.8 | 3.3 | 2.9 | 2.6 | 2.4 | 2.0 | 1.9 | 1.8 | 1.7 | 1.5 |
| 190 x 42 | 5.6 | 4.9 | 4.1 | 3.7 | 3.3 | 3.0 | 2.8 | 2.7 | 2.4 | 2.1 | 2.0 |
| 240 x 42 | 6.6 | 5.9 | 5.0 | 4.4 | 4.1 | 3.7 | 3.4 | 3.2 | 3.0 | 2.8 | 2.6 |
| 290 x 42 | 7.5 | 6.8 | 5.9 | 5.1 | 4.8 | 4.2 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 |
| 140 x 65 | 4.9 | 4.4 | 4.0 | 3.7 | 3.3 | 2.9 | 2.8 | 2.6 | 2.4 | 2.1 | 2.0 |
| 190 x 65 | 6.1 | 5.6 | 5.2 | 4.9 | 4.4 | 4.1 | 3.8 | 3.6 | 3.3 | 3.1 | 2.9 |
| 240 x 65 | 7.2 | 6.6 | 6.1 | 5.8 | 5.5 | 5.2 | 4.9 | 4.5 | 4.2 | 4.0 | 3.8 |
| 265 x 65 | 7.8 | 7.1 | 6.6 | 6.2 | 5.9 | 5.6 | 5.3 | 5.0 | 4.8 | 4.4 | 4.2 |
| 290 x 65 | 8.2 | 7.6 | 7.1 | 6.6 | 6.3 | 6.1 | 5.8 | 5.4 | 5.1 | 4.9 | 4.6 |
| 2/140 x 65 | 5.7 | 5.2 | 4.9 | 4.6 | 4.3 | 4.0 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 |
| 2/190 x 65 | 7.1 | 6.4 | 6.0 | 5.7 | 5.5 | 5.3 | 5.1 | 4.9 | 4.8 | 4.5 | 4.2 |
| 2/240 x 65 | 8.3 | 7.6 | 7.2 | 6.8 | 6.4 | 6.2 | 6.0 | 5.8 | 5.6 | 5.5 | 5.3 |
| 2/265 x 65 | 8.8 | 8.1 | 7.7 | 7.3 | 7.0 | 6.7 | 6.4 | 6.2 | 6.0 | 5.9 | 5.7 |
| 2/290 x 65 | 9.4 | 8.7 | 8.1 | 7.8 | 7.4 | 7.2 | 6.9 | 6.6 | 6.4 | 6.3 | 6.1 |

## Pitching Beams




## Vertical Nail Lamination

(Example - Strutting Beams)



# 8: GARAGE PITCHING BEAMS - N3 (page 2 of 2)

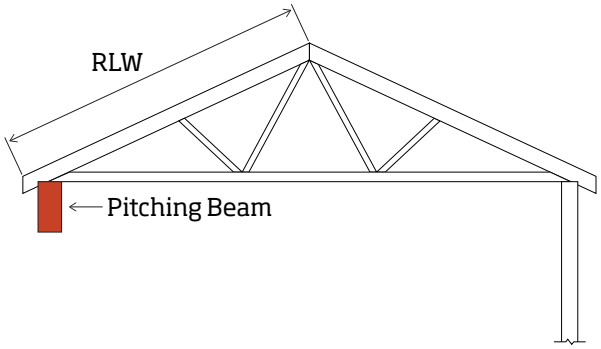
## Table 8.3: Wind Classification: N3 / Tile Roof 90kg / Trusses or Rafters at 600mm Centres Maximum (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 2.6 | 2.3 | 2.0 | 1.7 | 1.5 | 1.3 | 1.2 | 1.0 | 1.0 | 0.8 | 0.6 |
| 190 x 42 | 3.5 | 3.1 | 2.8 | 2.5 | 2.3 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 | 1.3 |
| 240 x 42 | 4.5 | 3.7 | 3.2 | 2.8 | 2.6 | 2.4 | 2.2 | 2.0 | 1.9 | 1.7 | 1.6 |
| 290 x 42 | 5.0 | 4.0 | 3.4 | 3.1 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 |
| 140 x 65 | 3.0 | 2.6 | 2.4 | 2.2 | 2.0 | 1.8 | 1.6 | 1.5 | 1.4 | 1.2 | 1.2 |
| 190 x 65 | 4.0 | 3.5 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 |
| 240 x 65 | 5.0 | 4.5 | 4.1 | 3.7 | 3.5 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 |
| 265 x 65 | 5.3 | 4.8 | 4.5 | 4.2 | 3.9 | 3.6 | 3.4 | 3.2 | 3.0 | 2.9 | 2.7 |
| 290 x 65 | 5.7 | 5.2 | 4.8 | 4.6 | 4.3 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 |
| 2/140 x 65 | 3.7 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 2/190 x 65 | 4.9 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.8 |
| 2/240 x 65 | 5.7 | 5.3 | 4.9 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.7 | 3.5 | 3.4 |
| 2/265 x 65 | 6.2 | 5.6 | 5.3 | 5.0 | 4.8 | 4.6 | 4.4 | 4.2 | 4.1 | 3.9 | 3.8 |
| 2/290 x 65 | 6.6 | 6.0 | 5.6 | 5.4 | 5.1 | 4.9 | 4.8 | 4.6 | 4.5 | 4.3 | 4.2 |

## Table 8.4: Wind Classification: N3 / Tile Roof 90kg / Trusses or Rafters at 600mm Centres Maximum (Continuous Span)

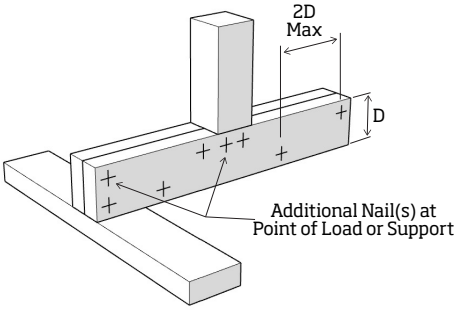
| Section D x B (mm) | Continous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 42 | 3.5 | 3.0 | 2.6 | 2.4 | 2.1 | 1.9 | 1.8 | 1.6 | 1.2 | 1.0 | 1.0 |
| 190 x 42 | 4.6 | 4.0 | 3.6 | 3.2 | 2.9 | 2.7 | 2.3 | 2.1 | 2.0 | 1.8 | 1.4 |
| 240 x 42 | 5.5 | 4.8 | 4.2 | 3.8 | 3.6 | 3.3 | 3.1 | 2.9 | 2.3 | 2.1 | 2.0 |
| 290 x 42 | 6.3 | 5.4 | 4.8 | 4.4 | 4.0 | 3.8 | 3.6 | 3.3 | 3.1 | 2.5 | 2.3 |
| 140 x 65 | 4.0 | 3.5 | 3.2 | 2.9 | 2.6 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 |
| 190 x 65 | 5.1 | 4.7 | 4.3 | 3.9 | 3.6 | 3.3 | 3.0 | 2.9 | 2.7 | 2.6 | 2.3 |
| 240 x 65 | 6.1 | 5.5 | 5.2 | 4.9 | 4.5 | 4.1 | 3.9 | 3.7 | 3.4 | 3.2 | 3.1 |
| 265 x 65 | 6.5 | 6.0 | 5.5 | 5.2 | 5.0 | 4.6 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 |
| 290 x 65 | 7.0 | 6.4 | 5.9 | 5.6 | 5.3 | 5.0 | 4.7 | 4.4 | 4.1 | 3.9 | 3.6 |
| 2/140 x 65 | 4.8 | 4.3 | 4.0 | 3.7 | 3.5 | 3.2 | 3.1 | 3.0 | 2.8 | 2.7 | 2.6 |
| 2/190 x 65 | 6.0 | 5.5 | 5.1 | 4.8 | 4.6 | 4.4 | 4.2 | 4.0 | 3.8 | 3.6 | 3.5 |
| 2/240 x 65 | 7.1 | 6.5 | 6.1 | 5.7 | 5.5 | 5.3 | 5.1 | 4.9 | 4.8 | 4.6 | 4.3 |
| 2/265 x 65 | 7.6 | 7.0 | 6.5 | 6.2 | 5.9 | 5.7 | 5.5 | 5.3 | 5.2 | 5.0 | 4.8 |
| 2/290 x 65 | 8.1 | 7.4 | 7.0 | 6.6 | 6.3 | 6.1 | 5.9 | 5.7 | 5.5 | 5.4 | 5.2 |

### Pitching Beams




### Vertical Nail Lamination

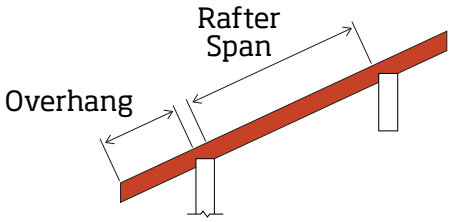
(Example - Strutting Beams)



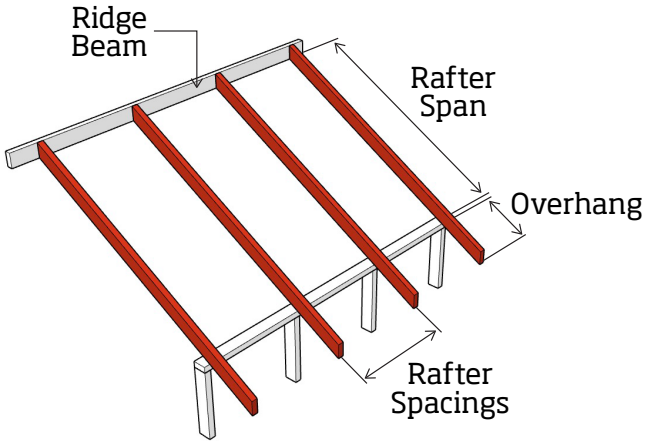
## Table 9.1: Wind Classification: N2 / Restraint 1200mm Top and Span Bottom (32mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 70 x 32 | 10 | 3.2 | 3.0 | 1.7 | 1.6 | 4.3 | 3.8 | 2.6 | 2.1 |
| | 20 | 2.7 | 2.4 | 1.7 | 1.6 | 3.6 | 3.3 | 2.6 | 2.1 |
| | 30 | 2.4 | 2.2 | 1.7 | 1.6 | 3.2 | 2.9 | 2.4 | 2.1 |
| | 40 | 2.2 | 2.0 | 1.7 | 1.6 | 2.9 | 2.7 | 2.3 | 2.1 |
| | 60 | 1.9 | 1.7 | 1.5 | 1.4 | 2.6 | 2.3 | 2.1 | 1.9 |
| | 90 | 1.7 | 1.5 | 1.3 | 1.2 | 2.3 | 2.1 | 1.8 | 1.6 |
| 90 x 32 | 10 | 4.0 | 3.8 | 3.4 | 2.5 | 5.4 | 4.9 | 3.9 | 3.4 |
| | 20 | 3.4 | 3.1 | 2.8 | 2.5 | 4.5 | 4.2 | 3.7 | 3.4 |
| | 30 | 3.0 | 2.8 | 2.4 | 2.2 | 4.0 | 3.7 | 3.3 | 3.0 |
| | 40 | 2.8 | 2.5 | 2.2 | 2.0 | 3.7 | 3.4 | 3.0 | 2.7 |
| | 60 | 2.4 | 2.2 | 2.0 | 1.8 | 3.3 | 3.0 | 2.6 | 2.4 |
| | 90 | 2.2 | 2.0 | 1.7 | 1.6 | 2.9 | 2.6 | 2.3 | 2.1 |
| 140 x 32 | 10 | 5.9 | 5.6 | 5.1 | 4.7 | 7.4 | 7.1 | 6.0 | 5.2 |
| | 20 | 5.1 | 4.7 | 4.2 | 3.9 | 6.6 | 6.2 | 5.7 | 5.1 |
| | 30 | 4.6 | 4.2 | 3.8 | 3.4 | 6.1 | 5.7 | 5.0 | 4.6 |
| | 40 | 4.2 | 3.9 | 3.4 | 3.1 | 5.7 | 5.2 | 4.6 | 4.2 |
| | 60 | 3.8 | 3.4 | 3.0 | 2.8 | 5.0 | 4.6 | 4.1 | 3.7 |
| | 90 | 3.3 | 3.0 | 2.7 | 2.4 | 4.4 | 4.1 | 3.6 | 3.3 |
| 190 x 32 | 10 | 7.2 | 6.9 | 6.5 | 6.2 | 9.0 | 8.7 | 7.2 | 6.2 |
| | 20 | 6.5 | 6.2 | 5.6 | 5.2 | 8.1 | 7.7 | 6.9 | 6.0 |
| | 30 | 6.1 | 5.6 | 5.0 | 4.6 | 7.5 | 7.1 | 6.4 | 5.7 |
| | 40 | 5.6 | 5.2 | 4.6 | 4.2 | 7.1 | 6.7 | 6.0 | 5.3 |
| | 60 | 5.0 | 4.6 | 4.1 | 3.7 | 6.6 | 6.0 | 5.2 | 4.7 |
| | 90 | 4.5 | 4.1 | 3.6 | 3.3 | 5.8 | 5.2 | 4.5 | 4.0 |
| 240 x 32 | 10 | 8.4 | 8.1 | 7.5 | 6.5 | 10.4 | 9.8 | 8.1 | 7.0 |
| | 20 | 7.6 | 7.3 | 6.7 | 6.2 | 9.4 | 8.8 | 7.6 | 6.7 |
| | 30 | 7.1 | 6.7 | 6.2 | 5.8 | 8.6 | 8.0 | 7.2 | 6.3 |
| | 40 | 6.7 | 6.4 | 5.8 | 5.3 | 8.0 | 7.4 | 6.6 | 5.9 |
| | 60 | 6.2 | 5.8 | 5.1 | 4.7 | 7.2 | 6.6 | 5.8 | 5.3 |
| | 90 | 5.6 | 5.1 | 4.5 | 4.1 | 6.4 | 5.8 | 5.1 | 4.6 |
| 290 x 32 | 10 | 9.4 | 8.9 | 7.4 | 6.4 | 10.9 | 10.5 | 9.0 | 7.8 |
| | 20 | 8.6 | 8.2 | 6.9 | 6.1 | 9.8 | 9.2 | 8.4 | 7.4 |
| | 30 | 8.1 | 7.7 | 6.5 | 5.7 | 9.0 | 8.4 | 7.5 | 6.9 |
| | 40 | 7.7 | 7.3 | 6.2 | 5.4 | 8.4 | 7.8 | 7.0 | 6.4 |
| | 60 | 7.1 | 6.7 | 5.6 | 4.9 | 7.5 | 7.0 | 6.2 | 5.7 |
| | 90 | 6.5 | 6.1 | 5.0 | 4.4 | 6.7 | 6.2 | 5.5 | 5.0 |

### Rafter



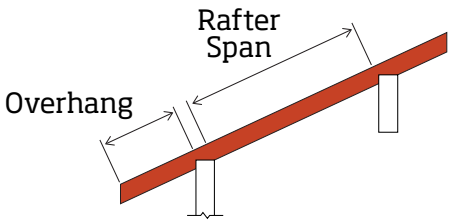

### Rafters - Non-Coupled (Cathedral) Roof



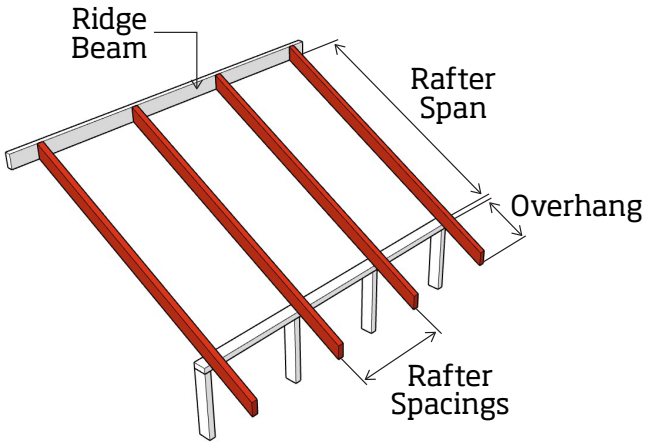
## Table 9.2: Wind Classification: N2 / Restraint 1200mm Top and Span Bottom (42mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 70 x 42 | 10 | 3.4 | 3.2 | 2.2 | 1.9 | 4.6 | 4.3 | 3.5 | 2.4 |
| | 20 | 2.9 | 2.6 | 2.2 | 1.9 | 3.8 | 3.6 | 3.2 | 2.4 |
| | 30 | 2.6 | 2.4 | 2.1 | 1.9 | 3.4 | 3.2 | 2.8 | 2.4 |
| | 40 | 2.4 | 2.2 | 1.9 | 1.7 | 3.2 | 2.9 | 2.5 | 2.3 |
| | 60 | 2.1 | 1.9 | 1.7 | 1.5 | 2.8 | 2.5 | 2.2 | 2.0 |
| | 90 | 1.8 | 1.7 | 1.5 | 1.3 | 2.5 | 2.2 | 2.0 | 1.8 |
| 90 x 42 | 10 | 4.3 | 4.0 | 3.6 | 2.9 | 5.7 | 5.4 | 4.5 | 3.9 |
| | 20 | 3.6 | 3.4 | 3.0 | 2.8 | 4.9 | 4.5 | 4.0 | 3.7 |
| | 30 | 3.3 | 3.0 | 2.7 | 2.4 | 4.4 | 4.0 | 3.6 | 3.3 |
| | 40 | 3.0 | 2.8 | 2.4 | 2.2 | 4.0 | 3.7 | 3.3 | 3.0 |
| | 60 | 2.7 | 2.4 | 2.1 | 2.0 | 3.6 | 3.3 | 2.9 | 2.6 |
| | 90 | 2.3 | 2.1 | 1.9 | 1.7 | 3.1 | 2.9 | 2.5 | 2.3 |
| 120 x 42 | 10 | 5.5 | 5.2 | 4.7 | 4.4 | 7.0 | 6.7 | 6.1 | 5.2 |
| | 20 | 4.7 | 4.4 | 3.9 | 3.6 | 6.2 | 5.9 | 5.3 | 4.9 |
| | 30 | 4.3 | 3.9 | 3.5 | 3.2 | 5.7 | 5.3 | 4.7 | 4.3 |
| | 40 | 3.9 | 3.6 | 3.2 | 2.9 | 5.3 | 4.9 | 4.3 | 3.9 |
| | 60 | 3.5 | 3.2 | 2.8 | 2.6 | 4.7 | 4.3 | 3.8 | 3.5 |
| | 90 | 3.1 | 2.8 | 2.5 | 2.3 | 4.2 | 3.8 | 3.3 | 3.1 |
| 140 x 42 | 10 | 6.2 | 5.9 | 5.4 | 5.1 | 7.7 | 7.4 | 6.9 | 6.1 |
| | 20 | 5.4 | 5.1 | 4.6 | 4.2 | 6.9 | 6.6 | 6.1 | 5.6 |
| | 30 | 4.9 | 4.6 | 4.1 | 3.7 | 6.4 | 6.1 | 5.5 | 5.0 |
| | 40 | 4.6 | 4.2 | 3.7 | 3.4 | 6.1 | 5.6 | 5.0 | 4.6 |
| | 60 | 4.1 | 3.7 | 3.3 | 3.0 | 5.5 | 5.0 | 4.4 | 4.0 |
| | 90 | 3.6 | 3.3 | 2.9 | 2.7 | 4.8 | 4.4 | 3.9 | 3.6 |
| 190 x 42 | 10 | 7.5 | 7.2 | 6.8 | 6.5 | 9.3 | 9.0 | 8.5 | 8.1 |
| | 20 | 6.8 | 6.5 | 6.0 | 5.6 | 8.5 | 8.1 | 7.5 | 7.1 |
| | 30 | 6.4 | 6.0 | 5.4 | 5.0 | 7.9 | 7.5 | 6.9 | 6.5 |
| | 40 | 6.0 | 5.6 | 5.0 | 4.6 | 7.5 | 7.1 | 6.5 | 6.1 |
| | 60 | 5.4 | 5.0 | 4.4 | 4.1 | 6.9 | 6.5 | 6.0 | 5.5 |
| | 90 | 4.8 | 4.4 | 3.9 | 3.6 | 6.4 | 6.0 | 5.3 | 4.8 |
| 240 x 42 | 10 | 8.6 | 8.3 | 7.9 | 7.6 | 10.7 | 10.4 | 9.9 | 9.5 |
| | 20 | 7.9 | 7.6 | 7.1 | 6.7 | 9.9 | 9.5 | 8.8 | 8.4 |
| | 30 | 7.4 | 7.1 | 6.6 | 6.2 | 9.3 | 8.8 | 8.2 | 7.7 |
| | 40 | 7.1 | 6.7 | 6.2 | 5.8 | 8.8 | 8.4 | 7.7 | 7.3 |
| | 60 | 6.6 | 6.2 | 5.6 | 5.1 | 8.2 | 7.7 | 7.1 | 6.6 |
| | 90 | 6.0 | 5.6 | 4.9 | 4.5 | 7.5 | 7.1 | 6.4 | 5.7 |
| 290 x 42 | 10 | 9.6 | 9.4 | 8.9 | 8.6 | 12.0 | 11.7 | 11.1 | 10.7 |
| | 20 | 8.9 | 8.6 | 8.1 | 7.7 | 11.1 | 10.7 | 10.0 | 9.5 |
| | 30 | 8.4 | 8.1 | 7.5 | 7.1 | 10.5 | 10.0 | 9.3 | 8.8 |
| | 40 | 8.1 | 7.7 | 7.1 | 6.7 | 10.0 | 9.5 | 8.8 | 8.3 |
| | 60 | 7.5 | 7.1 | 6.5 | 6.1 | 9.3 | 8.8 | 8.0 | 7.3 |
| | 90 | 6.9 | 6.5 | 5.9 | 5.4 | 8.6 | 8.0 | 7.0 | 6.3 |

### Rafter



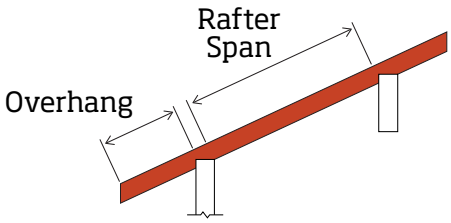

### Rafters - Non-Coupled (Cathedral) Roof



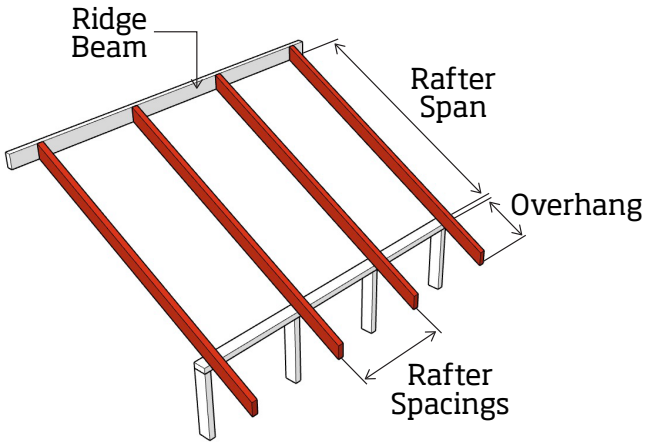
## Table 9.3: Wind Classification: N2 / Restraint 1200mm Top and Span Bottom (65mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 140 x 65 | 10 | 6.5 | 6.3 | 6.0 | 5.6 | 8.1 | 7.8 | 7.4 | 7.1 |
| | 20 | 6.0 | 5.6 | 5.1 | 4.7 | 7.4 | 7.1 | 6.6 | 6.3 |
| | 30 | 5.5 | 5.1 | 4.6 | 4.2 | 7.0 | 6.6 | 6.1 | 5.7 |
| | 40 | 5.1 | 4.7 | 4.2 | 3.9 | 6.6 | 6.3 | 5.7 | 5.2 |
| | 60 | 4.6 | 4.2 | 3.8 | 3.5 | 6.1 | 5.7 | 5.1 | 4.6 |
| | 90 | 4.1 | 3.8 | 3.3 | 3.0 | 5.5 | 5.1 | 4.5 | 4.1 |
| 190 x 65 | 10 | 7.8 | 7.6 | 7.2 | 7.0 | 9.7 | 9.5 | 9.0 | 8.7 |
| | 20 | 7.2 | 7.0 | 6.5 | 6.2 | 9.0 | 8.7 | 8.1 | 7.7 |
| | 30 | 6.8 | 6.5 | 6.1 | 5.7 | 8.5 | 8.1 | 7.6 | 7.2 |
| | 40 | 6.5 | 6.2 | 5.7 | 5.2 | 8.1 | 7.7 | 7.2 | 6.7 |
| | 60 | 6.1 | 5.7 | 5.1 | 4.6 | 7.6 | 7.2 | 6.6 | 6.2 |
| | 90 | 5.5 | 5.1 | 4.5 | 4.1 | 7.0 | 6.6 | 6.0 | 5.5 |
| 240 x 65 | 10 | 8.9 | 8.7 | 8.4 | 8.1 | 11.1 | 10.9 | 10.4 | 10.1 |
| | 20 | 8.4 | 8.1 | 7.6 | 7.3 | 10.4 | 10.1 | 9.5 | 9.1 |
| | 30 | 8.0 | 7.6 | 7.1 | 6.8 | 9.9 | 9.5 | 8.9 | 8.4 |
| | 40 | 7.6 | 7.3 | 6.8 | 6.4 | 9.5 | 9.1 | 8.4 | 8.0 |
| | 60 | 7.1 | 6.8 | 6.2 | 5.8 | 8.9 | 8.4 | 7.8 | 7.3 |
| | 90 | 6.6 | 6.2 | 5.6 | 5.2 | 8.2 | 7.8 | 7.1 | 6.7 |
| 265 x 65 | 10 | 9.4 | 9.2 | 8.9 | 8.6 | 11.8 | 11.5 | 11.1 | 10.7 |
| | 20 | 8.9 | 8.6 | 8.1 | 7.8 | 11.1 | 10.7 | 10.1 | 9.7 |
| | 30 | 8.5 | 8.1 | 7.6 | 7.2 | 10.6 | 10.1 | 9.5 | 9.0 |
| | 40 | 8.1 | 7.8 | 7.2 | 6.8 | 10.1 | 9.7 | 9.0 | 8.5 |
| | 60 | 7.6 | 7.2 | 6.7 | 6.3 | 9.5 | 9.0 | 8.3 | 7.8 |
| | 90 | 7.1 | 6.7 | 6.1 | 5.7 | 8.8 | 8.3 | 7.6 | 7.2 |
| 290 x 65 | 10 | 9.9 | 9.7 | 9.4 | 9.1 | 12.4 | 12.1 | 11.7 | 11.3 |
| | 20 | 9.4 | 9.1 | 8.6 | 8.3 | 11.7 | 11.3 | 10.7 | 10.3 |
| | 30 | 9.0 | 8.6 | 8.1 | 7.7 | 11.2 | 10.7 | 10.1 | 9.6 |
| | 40 | 8.6 | 8.3 | 7.7 | 7.3 | 10.7 | 10.3 | 9.6 | 9.1 |
| | 60 | 8.1 | 7.7 | 7.1 | 6.7 | 10.1 | 9.6 | 8.9 | 8.4 |
| | 90 | 7.5 | 7.1 | 6.5 | 6.1 | 9.4 | 8.9 | 8.2 | 7.7 |

### Rafter




### Rafters - Non-Coupled (Cathedral) Roof

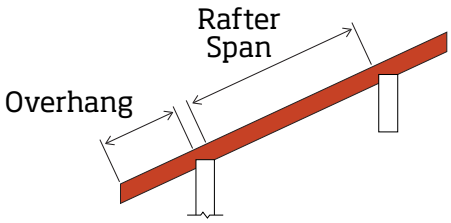


## 10: RAFTERS - N3 (page 1 of 3)

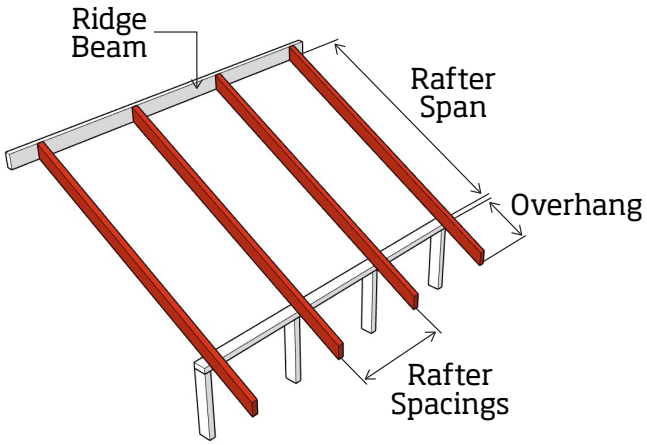
### Table 10.1: Wind Classification: N3 / Restraint 1200mm Top and Span Bottom (32mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 70 x 32 | 10 | 3.1 | 2.8 | 1.7 | 1.6 | 3.4 | 2.9 | 2.4 | 2.1 |
| | 20 | 2.7 | 2.4 | 1.7 | 1.6 | 3.5 | 3.0 | 2.5 | 2.1 |
| | 30 | 2.4 | 2.2 | 1.7 | 1.6 | 3.2 | 2.9 | 2.4 | 2.1 |
| | 40 | 2.2 | 2.0 | 1.7 | 1.6 | 2.9 | 2.7 | 2.3 | 2.0 |
| | 60 | 1.9 | 1.7 | 1.5 | 1.4 | 2.6 | 2.3 | 2.1 | 1.9 |
| | 90 | 1.7 | 1.5 | 1.3 | 1.2 | 2.3 | 2.1 | 1.8 | 1.6 |
| 90 x 32 | 10 | 3.9 | 3.6 | 3.1 | 2.5 | 4.4 | 3.8 | 3.1 | 2.7 |
| | 20 | 3.4 | 3.1 | 2.8 | 2.5 | 4.5 | 3.9 | 3.2 | 2.8 |
| | 30 | 3.0 | 2.8 | 2.4 | 2.2 | 4.0 | 3.7 | 3.1 | 2.7 |
| | 40 | 2.8 | 2.5 | 2.2 | 2.0 | 3.7 | 3.4 | 3.0 | 2.6 |
| | 60 | 2.4 | 2.2 | 2.0 | 1.8 | 3.3 | 3.0 | 2.6 | 2.4 |
| | 90 | 2.2 | 2.0 | 1.7 | 1.6 | 2.9 | 2.6 | 2.3 | 2.1 |
| 140 x 32 | 10 | 5.9 | 5.6 | 4.7 | 4.0 | 6.7 | 5.8 | 4.7 | 4.0 |
| | 20 | 5.1 | 4.7 | 4.2 | 3.9 | 6.6 | 6.0 | 4.8 | 4.2 |
| | 30 | 4.6 | 4.2 | 3.8 | 3.4 | 6.1 | 5.7 | 4.7 | 4.1 |
| | 40 | 4.2 | 3.9 | 3.4 | 3.1 | 5.7 | 5.2 | 4.5 | 3.9 |
| | 60 | 3.8 | 3.4 | 3.0 | 2.8 | 5.0 | 4.6 | 4.1 | 3.6 |
| | 90 | 3.3 | 3.0 | 2.7 | 2.4 | 4.4 | 4.1 | 3.6 | 3.3 |
| 190 x 32 | 10 | 7.2 | 6.9 | 56.0 | 4.8 | 8.0 | 6.9 | 5.6 | 4.8 |
| | 20 | 6.5 | 6.2 | 5.6 | 5.0 | 8.1 | 7.1 | 5.8 | 5.0 |
| | 30 | 6.1 | 5.6 | 5.0 | 4.6 | 7.5 | 6.8 | 5.6 | 4.9 |
| | 40 | 5.6 | 5.2 | 4.6 | 4.2 | 7.1 | 6.5 | 5.4 | 4.7 |
| | 60 | 5.0 | 4.6 | 4.1 | 3.7 | 6.6 | 6.0 | 5.0 | 4.3 |
| | 90 | 4.5 | 4.1 | 3.6 | 3.3 | 5.8 | 5.2 | 4.5 | 3.9 |
| 240 x 32 | 10 | 8.4 | 7.2 | 5.9 | 5.0 | 9.1 | 7.8 | 6.3 | 5.4 |
| | 20 | 7.6 | 7.3 | 6.1 | 5.2 | 9.0 | 7.9 | 6.5 | 5.6 |
| | 30 | 7.1 | 6.7 | 5.8 | 5.1 | 8.6 | 7.5 | 6.2 | 5.4 |
| | 40 | 6.7 | 6.4 | 5.6 | 4.9 | 8.0 | 7.2 | 6.0 | 5.2 |
| | 60 | 6.2 | 5.8 | 5.1 | 4.7 | 7.2 | 6.6 | 5.6 | 4.8 |
| | 90 | 5.6 | 5.1 | 4.5 | 4.1 | 6.4 | 5.8 | 5.1 | 4.4 |
| 290 x 32 | 10 | 8.4 | 7.2 | 5.8 | 5.0 | 10.1 | 8.7 | 7.0 | 6.0 |
| | 20 | 8.1 | 7.1 | 5.9 | 5.1 | 9.8 | 8.7 | 7.2 | 6.2 |
| | 30 | 7.8 | 6.8 | 5.7 | 4.9 | 9.0 | 8.3 | 6.9 | 6.0 |
| | 40 | 7.5 | 6.6 | 5.4 | 4.7 | 8.4 | 7.8 | 6.6 | 5.8 |
| | 60 | 7.0 | 6.1 | 5.1 | 4.4 | 7.5 | 7.0 | 6.1 | 5.3 |
| | 90 | 6.4 | 5.6 | 4.6 | 4.0 | 6.7 | 6.2 | 5.5 | 4.9 |

### Rafter



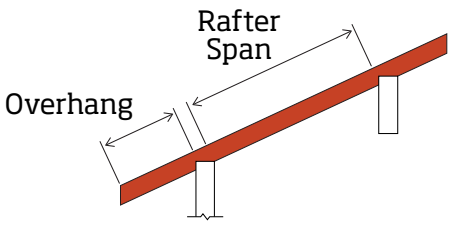

### Rafters - Non-Coupled (Cathedral) Roof



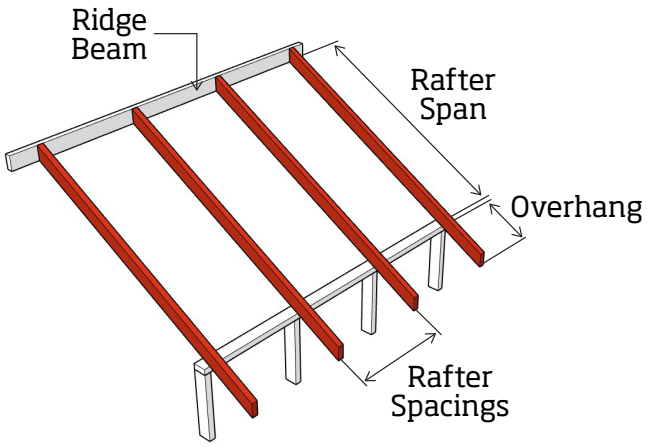
## Table 10.2: Wind Classification: N3 / Restraint 1200mm Top and Span Bottom (42mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 70 x 42 | 10 | 3.3 | 3.0 | 2.2 | 1.9 | 3.9 | 3.4 | 2.7 | 2.4 |
| | 20 | 2.9 | 2.6 | 2.2 | 1.9 | 3.8 | 3.5 | 2.8 | 2.4 |
| | 30 | 2.6 | 2.4 | 2.1 | 1.9 | 3.4 | 3.2 | 2.8 | 2.4 |
| | 40 | 2.4 | 2.2 | 1.9 | 1.7 | 3.2 | 2.9 | 2.5 | 2.3 |
| | 60 | 2.1 | 1.9 | 1.7 | 1.5 | 2.8 | 2.5 | 2.2 | 2.0 |
| | 90 | 1.8 | 1.7 | 1.5 | 1.3 | 2.5 | 2.2 | 2.0 | 1.8 |
| 90 x 42 | 10 | 4.3 | 3.9 | 3.4 | 2.9 | 5.0 | 4.4 | 3.5 | 3.1 |
| | 20 | 3.6 | 3.4 | 3.0 | 2.8 | 4.9 | 4.5 | 3.7 | 3.2 |
| | 30 | 3.3 | 3.0 | 2.7 | 2.4 | 4.4 | 4.0 | 3.6 | 3.1 |
| | 40 | 3.0 | 2.8 | 2.4 | 2.2 | 4.0 | 3.7 | 3.3 | 3.0 |
| | 60 | 2.7 | 2.4 | 2.1 | 2.0 | 3.6 | 3.3 | 2.9 | 2.6 |
| | 90 | 2.3 | 2.1 | 1.9 | 1.7 | 3.1 | 2.9 | 2.5 | 2.3 |
| 120 x 42 | 10 | 5.5 | 5.2 | 4.6 | 4.1 | 6.8 | 5.8 | 4.7 | 4.1 |
| | 20 | 4.7 | 4.4 | 3.9 | 3.6 | 6.2 | 5.9 | 4.9 | 4.2 |
| | 30 | 4.3 | 3.9 | 3.5 | 3.2 | 5.7 | 5.3 | 4.7 | 4.1 |
| | 40 | 3.9 | 3.6 | 3.2 | 2.9 | 5.3 | 4.9 | 4.3 | 3.9 |
| | 60 | 3.5 | 3.2 | 2.8 | 2.6 | 4.7 | 4.3 | 3.8 | 3.5 |
| | 90 | 3.1 | 2.8 | 2.5 | 2.3 | 4.2 | 3.8 | 3.3 | 3.1 |
| 140 x 42 | 10 | 6.2 | 5.9 | 5.3 | 4.8 | 7.7 | 6.8 | 5.5 | 4.8 |
| | 20 | 5.4 | 5.1 | 4.6 | 4.2 | 6.9 | 6.6 | 5.7 | 4.9 |
| | 30 | 4.9 | 4.6 | 4.1 | 3.7 | 6.4 | 6.1 | 5.5 | 4.8 |
| | 40 | 4.6 | 4.2 | 3.7 | 3.4 | 6.1 | 5.6 | 5.0 | 4.6 |
| | 60 | 4.1 | 3.7 | 3.3 | 3.0 | 5.5 | 5.0 | 4.4 | 4.0 |
| | 90 | 3.6 | 3.3 | 2.9 | 2.7 | 4.8 | 4.4 | 3.9 | 3.6 |
| 190 x 42 | 10 | 7.5 | 7.2 | 6.8 | 6.4 | 9.3 | 9.0 | 7.4 | 6.4 |
| | 20 | 6.8 | 6.5 | 6.0 | 5.6 | 8.5 | 8.1 | 7.5 | 6.6 |
| | 30 | 6.4 | 6.0 | 5.4 | 5.0 | 7.9 | 7.5 | 6.9 | 6.4 |
| | 40 | 6.0 | 5.6 | 5.0 | 4.6 | 7.5 | 7.1 | 6.5 | 6.1 |
| | 60 | 5.4 | 5.0 | 4.4 | 4.1 | 6.9 | 6.5 | 6.0 | 5.5 |
| | 90 | 4.8 | 4.4 | 3.9 | 3.6 | 6.4 | 6.0 | 5.3 | 4.8 |
| 240 x 42 | 10 | 8.6 | 8.3 | 7.9 | 7.4 | 10.7 | 10.4 | 8.6 | 7.4 |
| | 20 | 7.9 | 7.6 | 7.1 | 6.7 | 9.9 | 9.5 | 8.8 | 7.7 |
| | 30 | 7.4 | 7.1 | 6.6 | 6.2 | 9.3 | 8.8 | 8.2 | 7.3 |
| | 40 | 7.1 | 6.7 | 6.2 | 5.8 | 8.8 | 8.4 | 7.7 | 7.0 |
| | 60 | 6.6 | 6.2 | 5.6 | 5.1 | 8.2 | 7.7 | 7.1 | 6.5 |
| | 90 | 6.0 | 5.6 | 4.9 | 4.5 | 7.5 | 7.1 | 6.4 | 5.7 |
| 290 x 42 | 10 | 9.6 | 9.4 | 8.9 | 8.0 | 12.0 | 11.7 | 9.9 | 8.5 |
| | 20 | 8.9 | 8.6 | 8.1 | 7.7 | 11.1 | 10.7 | 10.0 | 8.7 |
| | 30 | 8.4 | 8.1 | 7.5 | 7.1 | 10.5 | 10.0 | 9.3 | 8.4 |
| | 40 | 8.1 | 7.7 | 7.1 | 6.7 | 10.0 | 9.5 | 8.8 | 8.0 |
| | 60 | 7.5 | 7.1 | 6.5 | 6.1 | 9.3 | 8.8 | 8.0 | 7.3 |
| | 90 | 6.9 | 6.5 | 5.9 | 5.4 | 8.6 | 8.0 | 7.0 | 6.3 |

### Rafter



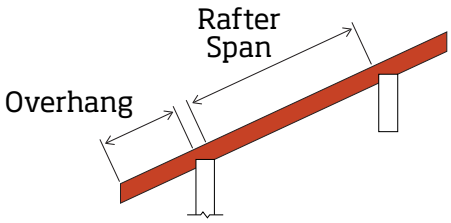

### Rafters - Non-Coupled (Cathedral) Roof



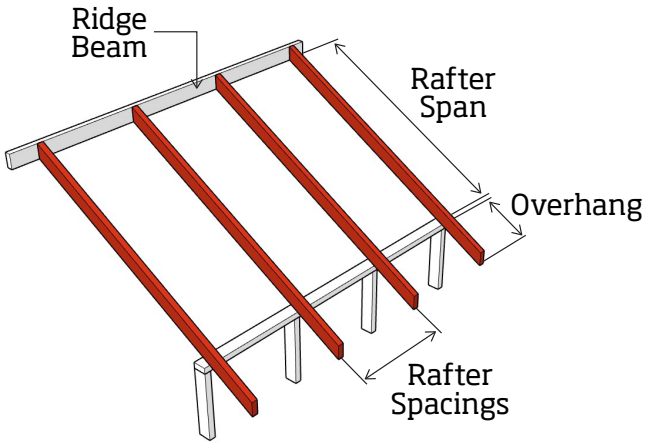
## Table 10.3: Wind Classification: N3 / Restraint 1200mm Top and Span Bottom (65mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 140 x 65 | 10 | 6.5 | 6.3 | 6.0 | 5.6 | 8.1 | 7.8 | 6.9 | 6.0 |
| | 20 | 6.0 | 5.6 | 5.1 | 4.7 | 7.4 | 7.1 | 6.6 | 6.2 |
| | 30 | 5.5 | 5.1 | 4.6 | 4.2 | 7.0 | 6.6 | 6.1 | 5.7 |
| | 40 | 5.1 | 4.7 | 4.2 | 3.9 | 6.6 | 6.3 | 5.7 | 5.2 |
| | 60 | 4.6 | 4.2 | 3.8 | 3.5 | 6.1 | 5.7 | 5.1 | 4.6 |
| | 90 | 4.1 | 3.8 | 3.3 | 3.0 | 5.5 | 5.1 | 4.5 | 4.1 |
| 190 x 65 | 10 | 7.8 | 7.6 | 7.2 | 7.0 | 9.7 | 9.5 | 9.0 | 8.2 |
| | 20 | 7.2 | 7.0 | 6.5 | 6.2 | 9.0 | 8.7 | 8.1 | 7.7 |
| | 30 | 6.8 | 6.5 | 6.1 | 5.7 | 8.5 | 8.1 | 7.6 | 7.2 |
| | 40 | 6.5 | 6.2 | 5.7 | 5.2 | 8.1 | 7.7 | 7.2 | 6.7 |
| | 60 | 6.1 | 5.7 | 5.1 | 4.6 | 7.6 | 7.2 | 6.6 | 6.2 |
| | 90 | 5.5 | 5.1 | 4.5 | 4.1 | 7.0 | 6.6 | 6.0 | 5.5 |
| 240 x 65 | 10 | 8.9 | 8.7 | 8.4 | 8.1 | 11.1 | 10.9 | 10.4 | 10.1 |
| | 20 | 8.4 | 8.1 | 7.6 | 7.3 | 10.4 | 10.1 | 9.5 | 9.1 |
| | 30 | 8.0 | 7.6 | 7.1 | 6.8 | 9.9 | 9.5 | 8.9 | 8.4 |
| | 40 | 7.6 | 7.3 | 6.8 | 6.4 | 9.5 | 9.1 | 8.4 | 8.0 |
| | 60 | 7.1 | 6.8 | 6.2 | 5.8 | 8.9 | 8.4 | 7.8 | 7.3 |
| | 90 | 6.6 | 6.2 | 5.6 | 5.2 | 8.2 | 7.8 | 7.1 | 6.7 |
| 265 x 65 | 10 | 9.4 | 9.2 | 8.9 | 8.6 | 11.8 | 11.5 | 11.1 | 10.7 |
| | 20 | 8.9 | 8.6 | 8.1 | 7.8 | 11.1 | 10.7 | 10.1 | 9.7 |
| | 30 | 8.5 | 8.1 | 7.6 | 7.2 | 10.6 | 10.1 | 9.5 | 9.0 |
| | 40 | 8.1 | 7.8 | 7.2 | 6.8 | 10.1 | 9.7 | 9.0 | 8.5 |
| | 60 | 7.6 | 7.2 | 6.7 | 6.3 | 9.5 | 9.0 | 8.3 | 7.8 |
| | 90 | 7.1 | 6.7 | 6.1 | 5.7 | 8.8 | 8.3 | 7.6 | 7.2 |
| 290 x 65 | 10 | 9.9 | 9.7 | 9.4 | 9.1 | 12.4 | 12.1 | 11.7 | 11.3 |
| | 20 | 9.4 | 9.1 | 8.6 | 8.3 | 11.7 | 11.3 | 10.7 | 10.3 |
| | 30 | 9.0 | 8.6 | 8.1 | 7.7 | 11.2 | 10.7 | 10.1 | 9.6 |
| | 40 | 8.6 | 8.3 | 7.7 | 7.3 | 10.7 | 10.3 | 9.6 | 9.1 |
| | 60 | 8.1 | 7.7 | 7.1 | 6.7 | 10.1 | 9.6 | 8.9 | 8.4 |
| | 90 | 7.5 | 7.1 | 6.5 | 6.1 | 9.4 | 8.9 | 8.2 | 7.7 |

### Rafter



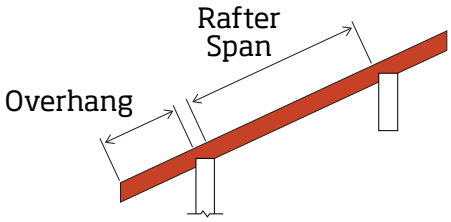

### Rafters - Non-Coupled (Cathedral) Roof



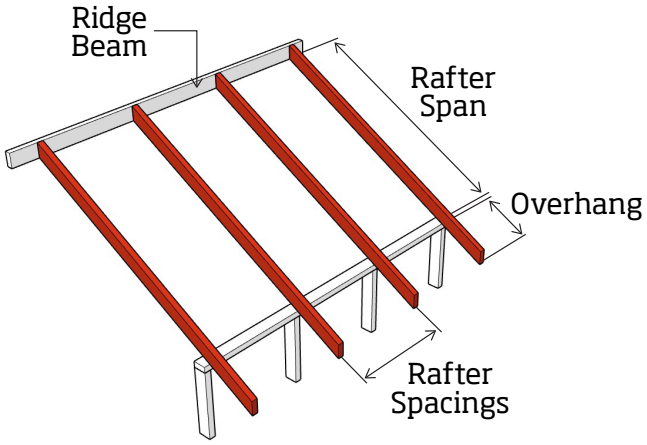
## Table 11.1: Wind Classification: C2 / Restraint 1200mm Top and Span Bottom (32mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 70 x 32 | 10 | 2.3 | 2.0 | 1.6 | 1.4 | 2.3 | 2.0 | 1.6 | 1.4 |
| | 20 | 2.3 | 2.0 | 1.6 | 1.4 | 2.3 | 2.0 | 1.6 | 1.4 |
| | 30 | 2.3 | 2.0 | 1.6 | 1.4 | 2.3 | 2.0 | 1.6 | 1.4 |
| | 40 | 2.2 | 2.0 | 1.7 | 1.4 | 2.4 | 2.0 | 1.7 | 1.4 |
| | 60 | 1.9 | 1.7 | 1.5 | 1.4 | 2.3 | 2.0 | 1.7 | 1.4 |
| | 90 | 1.7 | 1.5 | 1.3 | 1.2 | 2.2 | 1.9 | 1.6 | 1.4 |
| 90 x 32 | 10 | 2.9 | 2.5 | 2.0 | 1.8 | 2.9 | 2.5 | 2.0 | 1.8 |
| | 20 | 3.0 | 2.6 | 2.1 | 1.8 | 3.0 | 2.6 | 2.1 | 1.8 |
| | 30 | 3.0 | 2.6 | 2.1 | 1.8 | 3.0 | 2.6 | 2.1 | 1.8 |
| | 40 | 2.8 | 2.5 | 2.1 | 1.9 | 3.0 | 2.6 | 2.1 | 1.9 |
| | 60 | 2.4 | 2.2 | 2.0 | 1.8 | 3.0 | 2.6 | 2.1 | 1.9 |
| | 90 | 2.2 | 2.0 | 1.7 | 1.6 | 2.8 | 2.5 | 2.0 | 1.7 |
| 140 x 32 | 10 | 4.4 | 3.8 | 3.1 | 2.7 | 4.4 | 3.8 | 3.1 | 2.7 |
| | 20 | 4.5 | 3.9 | 3.2 | 2.7 | 4.5 | 3.9 | 3.2 | 2.7 |
| | 30 | 4.5 | 3.9 | 3.2 | 2.8 | 4.5 | 3.9 | 3.2 | 2.8 |
| | 40 | 4.2 | 3.9 | 3.2 | 2.8 | 4.6 | 4.0 | 3.2 | 2.8 |
| | 60 | 3.8 | 3.4 | 3.0 | 2.8 | 4.5 | 3.9 | 3.2 | 2.8 |
| | 90 | 3.3 | 3.0 | 2.7 | 2.4 | 4.3 | 3.7 | 3.0 | 2.6 |
| 190 x 32 | 10 | 5.3 | 4.5 | 3.7 | 3.2 | 5.3 | 4.5 | 3.7 | 3.2 |
| | 20 | 5.3 | 4.6 | 3.7 | 3.2 | 5.3 | 4.6 | 3.7 | 3.2 |
| | 30 | 5.4 | 4.7 | 3.8 | 3.3 | 5.4 | 4.7 | 3.8 | 3.3 |
| | 40 | 5.5 | 4.8 | 3.9 | 3.3 | 5.5 | 4.8 | 3.9 | 3.3 |
| | 60 | 5.0 | 4.6 | 3.8 | 3.3 | 5.4 | 4.7 | 3.8 | 3.3 |
| | 90 | 4.5 | 4.1 | 3.6 | 3.1 | 5.1 | 4.4 | 3.6 | 3.1 |
| 240 x 32 | 10 | 5.5 | 4.8 | 3.9 | 3.3 | 5.9 | 5.1 | 4.2 | 3.6 |
| | 20 | 5.6 | 4.8 | 3.9 | 3.4 | 6.0 | 5.2 | 4.2 | 3.6 |
| | 30 | 5.7 | 4.9 | 4.0 | 3.4 | 6.1 | 5.3 | 4.3 | 3.7 |
| | 40 | 5.8 | 5.0 | 4.1 | 3.5 | 6.2 | 5.4 | 4.4 | 3.8 |
| | 60 | 5.6 | 4.9 | 4.0 | 3.5 | 6.0 | 5.2 | 4.3 | 3.7 |
| | 90 | 5.3 | 4.6 | 3.8 | 3.3 | 5.7 | 4.9 | 4.0 | 3.5 |
| 290 x 32 | 10 | 5.4 | 4.7 | 3.8 | 3.3 | 6.6 | 5.7 | 4.6 | 4.0 |
| | 20 | 5.5 | 4.8 | 3.9 | 3.3 | 6.7 | 5.8 | 4.7 | 4.0 |
| | 30 | 5.6 | 4.8 | 3.9 | 3.4 | 6.8 | 5.9 | 4.8 | 4.1 |
| | 40 | 5.7 | 4.9 | 4.0 | 3.4 | 6.9 | 6.0 | 4.8 | 4.2 |
| | 60 | 5.4 | 4.7 | 3.9 | 3.4 | 6.6 | 5.8 | 4.7 | 4.1 |
| | 90 | 5.1 | 4.5 | 3.7 | 3.2 | 6.2 | 5.4 | 4.5 | 3.9 |

### Rafter



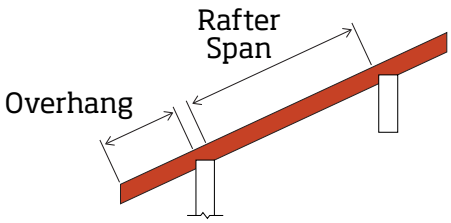

### Rafters - Non-Coupled (Cathedral) Roof



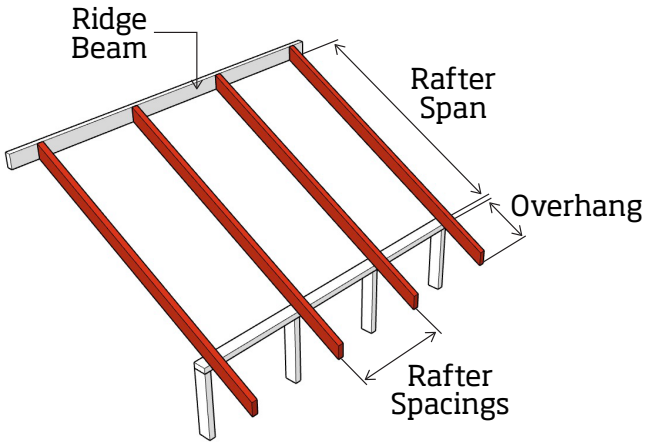
## Table 11.2: Wind Classification: C2 / Restraint 1200mm Top and Span Bottom (42mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 70 x 42 | 10 | 2.6 | 2.2 | 1.8 | 1.6 | 2.6 | 2.2 | 1.8 | 1.6 |
| | 20 | 2.6 | 2.3 | 1.9 | 1.6 | 2.6 | 2.3 | 1.9 | 1.6 |
| | 30 | 2.6 | 2.3 | 1.9 | 1.6 | 2.7 | 2.3 | 1.9 | 1.6 |
| | 40 | 2.4 | 2.2 | 1.9 | 1.7 | 2.7 | 2.3 | 1.9 | 1.7 |
| | 60 | 2.1 | 1.9 | 1.7 | 1.5 | 2.7 | 2.3 | 1.9 | 1.7 |
| | 90 | 1.8 | 1.7 | 1.5 | 1.3 | 2.5 | 2.2 | 1.8 | 1.6 |
| 90 x 42 | 10 | 3.3 | 2.9 | 2.4 | 2.0 | 3.3 | 2.9 | 2.4 | 2.0 |
| | 20 | 3.3 | 2.9 | 2.4 | 2.1 | 3.4 | 2.9 | 2.4 | 2.1 |
| | 30 | 3.3 | 3.0 | 2.4 | 2.1 | 3.4 | 3.0 | 2.4 | 2.1 |
| | 40 | 3.0 | 2.8 | 2.4 | 2.1 | 3.5 | 3.0 | 2.5 | 2.1 |
| | 60 | 2.7 | 2.4 | 2.1 | 2.0 | 3.4 | 3.0 | 2.4 | 2.1 |
| | 90 | 2.3 | 2.1 | 1.9 | 1.7 | 3.1 | 2.8 | 2.3 | 2.0 |
| 120 x 42 | 10 | 4.4 | 3.9 | 3.1 | 2.7 | 4.5 | 3.9 | 3.1 | 2.7 |
| | 20 | 4.4 | 3.9 | 3.2 | 2.8 | 4.5 | 3.9 | 3.2 | 2.8 |
| | 30 | 4.3 | 3.9 | 3.2 | 2.8 | 4.6 | 4.0 | 3.2 | 2.8 |
| | 40 | 3.9 | 3.6 | 3.2 | 2.8 | 4.7 | 4.0 | 3.3 | 2.8 |
| | 60 | 3.5 | 3.2 | 2.8 | 2.6 | 4.6 | 4.0 | 3.3 | 2.8 |
| | 90 | 3.1 | 2.8 | 2.5 | 2.3 | 4.2 | 3.7 | 3.1 | 2.7 |
| 140 x 42 | 10 | 5.2 | 4.5 | 3.7 | 3.2 | 5.2 | 4.5 | 3.7 | 3.2 |
| | 20 | 5.2 | 4.6 | 3.7 | 3.2 | 5.3 | 4.6 | 3.7 | 3.2 |
| | 30 | 4.9 | 4.6 | 3.8 | 3.3 | 5.4 | 4.6 | 3.8 | 3.3 |
| | 40 | 4.6 | 4.2 | 3.7 | 3.3 | 5.5 | 4.7 | 3.8 | 3.3 |
| | 60 | 4.1 | 3.7 | 3.3 | 3.0 | 5.3 | 4.6 | 3.8 | 3.3 |
| | 90 | 3.6 | 3.3 | 2.9 | 2.7 | 4.8 | 4.4 | 3.6 | 3.1 |
| 190 x 42 | 10 | 7.0 | 6.0 | 4.9 | 4.2 | 7.0 | 6.0 | 4.9 | 4.2 |
| | 20 | 6.8 | 6.1 | 5.0 | 4.3 | 7.1 | 6.1 | 5.0 | 4.3 |
| | 30 | 6.4 | 6.0 | 5.0 | 4.4 | 7.2 | 6.2 | 5.0 | 4.4 |
| | 40 | 6.0 | 5.6 | 5.0 | 4.4 | 7.3 | 6.3 | 5.1 | 4.4 |
| | 60 | 5.4 | 5.0 | 4.4 | 4.1 | 6.9 | 6.1 | 5.0 | 4.4 |
| | 90 | 4.8 | 4.4 | 3.9 | 3.6 | 6.4 | 5.8 | 4.8 | 4.1 |
| 240 x 42 | 10 | 8.1 | 7.0 | 5.7 | 4.9 | 8.1 | 7.0 | 5.7 | 4.9 |
| | 20 | 7.9 | 7.1 | 5.7 | 5.0 | 8.2 | 7.1 | 5.7 | 5.0 |
| | 30 | 7.4 | 7.1 | 5.8 | 5.0 | 8.4 | 7.2 | 5.8 | 5.0 |
| | 40 | 7.1 | 6.7 | 5.9 | 5.1 | 8.4 | 7.3 | 5.9 | 5.1 |
| | 60 | 6.6 | 6.2 | 5.6 | 5.0 | 8.1 | 7.0 | 5.8 | 5.0 |
| | 90 | 6.0 | 5.6 | 4.9 | 4.5 | 7.5 | 6.7 | 5.5 | 4.8 |
| 290 x 42 | 10 | 8.8 | 7.6 | 6.1 | 5.3 | 9.3 | 8.0 | 6.5 | 5.6 |
| | 20 | 8.9 | 7.7 | 6.2 | 5.4 | 9.5 | 8.1 | 6.6 | 5.7 |
| | 30 | 8.4 | 7.8 | 6.3 | 5.5 | 9.6 | 8.3 | 6.7 | 5.8 |
| | 40 | 8.1 | 7.7 | 6.4 | 5.5 | 9.6 | 8.4 | 6.8 | 5.9 |
| | 60 | 7.5 | 7.1 | 6.2 | 5.4 | 9.2 | 8.0 | 6.6 | 5.8 |
| | 90 | 6.9 | 6.5 | 5.9 | 5.1 | 8.6 | 7.6 | 6.3 | 5.4 |

### Rafter



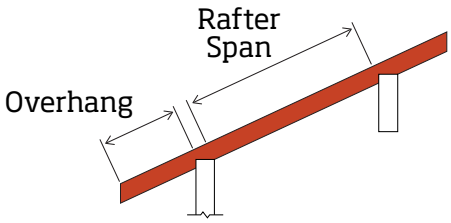

### Rafters - Non-Coupled (Cathedral) Roof



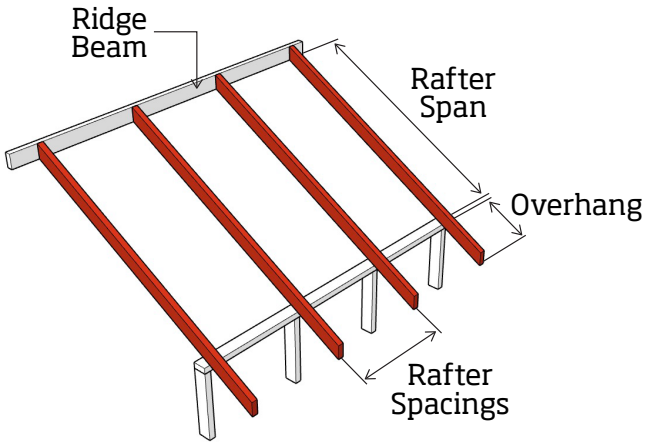
## Table 11.3: Wind Classification: C2 / Restraint 1200mm Top and Span Bottom (65mm Profiles)

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rafter Spacing (mm) | | | | | | | |
| | | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | | Maximum Rafter Span (m) | | | | | | | |
| 140 x 65 | 10 | 6.0 | 5.4 | 4.6 | 4.0 | 6.5 | 5.6 | 4.6 | 4.0 |
| | 20 | 6.0 | 5.4 | 4.6 | 4.0 | 6.6 | 5.7 | 4.6 | 4.0 |
| | 30 | 5.5 | 5.1 | 4.6 | 4.1 | 6.7 | 5.8 | 4.7 | 4.1 |
| | 40 | 4.6 | 4.2 | 3.8 | 3.5 | 6.6 | 5.9 | 4.8 | 4.1 |
| | 60 | 6.1 | 5.7 | 5.1 | 4.6 | 6.1 | 5.7 | 4.7 | 4.1 |
| | 90 | 4.1 | 3.8 | 3.3 | 3.0 | 5.5 | 5.1 | 4.4 | 3.9 |
| 190 x 65 | 10 | 7.8 | 7.4 | 6.2 | 5.4 | 8.9 | 7.7 | 6.2 | 5.4 |
| | 20 | 7.2 | 7.0 | 6.3 | 5.5 | 9.0 | 7.8 | 6.3 | 5.5 |
| | 30 | 6.8 | 6.5 | 6.1 | 5.5 | 8.5 | 7.9 | 6.4 | 5.5 |
| | 40 | 5.1 | 4.7 | 4.2 | 3.9 | 8.1 | 7.7 | 6.5 | 5.6 |
| | 60 | 7.1 | 6.8 | 6.2 | 5.8 | 7.6 | 7.2 | 6.3 | 5.5 |
| | 90 | 5.5 | 5.1 | 4.5 | 4.1 | 7.0 | 6.6 | 6.0 | 5.2 |
| 240 x 65 | 10 | 8.9 | 8.7 | 7.9 | 6.8 | 11.1 | 9.8 | 7.9 | 6.8 |
| | 20 | 8.4 | 8.1 | 7.6 | 6.9 | 10.4 | 9.9 | 8.0 | 6.9 |
| | 30 | 8.0 | 7.6 | 7.1 | 6.8 | 9.9 | 9.5 | 8.1 | 7.0 |
| | 40 | 6.5 | 6.2 | 5.7 | 5.2 | 9.5 | 9.1 | 8.3 | 7.1 |
| | 60 | 7.1 | 6.8 | 6.2 | 5.8 | 8.9 | 8.4 | 7.8 | 6.9 |
| | 90 | 6.6 | 6.2 | 5.6 | 5.2 | 8.2 | 7.8 | 7.1 | 6.6 |
| 265 x 65 | 10 | 9.4 | 9.2 | 8.7 | 7.5 | 11.8 | 10.8 | 8.7 | 7.5 |
| | 20 | 8.9 | 8.6 | 8.1 | 7.6 | 11.1 | 10.7 | 8.9 | 7.6 |
| | 30 | 8.5 | 8.1 | 7.6 | 7.2 | 10.6 | 10.1 | 9.0 | 7.8 |
| | 40 | 7.6 | 7.3 | 6.8 | 6.4 | 10.1 | 9.7 | 9.0 | 7.9 |
| | 60 | 7.6 | 7.2 | 6.7 | 6.3 | 9.5 | 9.0 | 8.3 | 7.7 |
| | 90 | 7.1 | 6.7 | 6.1 | 5.7 | 8.8 | 8.3 | 7.6 | 7.2 |
| 290 x 65 | 10 | 9.9 | 9.7 | 9.4 | 8.3 | 12.4 | 11.9 | 9.6 | 8.3 |
| | 20 | 9.4 | 9.1 | 8.6 | 8.3 | 11.7 | 11.3 | 9.7 | 8.4 |
| | 30 | 9.0 | 8.6 | 8.1 | 7.7 | 11.2 | 10.7 | 9.9 | 8.5 |
| | 40 | 8.6 | 8.3 | 7.7 | 7.3 | 10.7 | 10.3 | 9.6 | 8.6 |
| | 60 | 8.1 | 7.7 | 7.1 | 6.7 | 10.1 | 9.6 | 8.9 | 8.4 |
| | 90 | 7.5 | 7.1 | 6.5 | 6.1 | 9.4 | 8.9 | 8.2 | 7.7 |

### Rafter



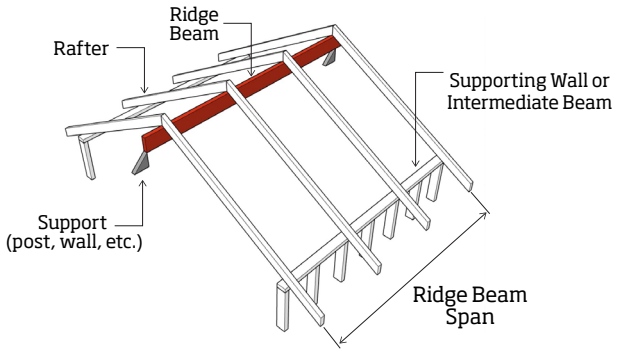

### Rafters - Non-Coupled (Cathedral) Roof



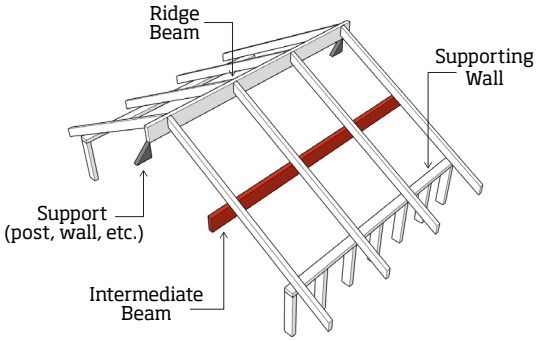
# 12 & 13: ROOF BEAMS

## *REFERENCE DIAGRAMS

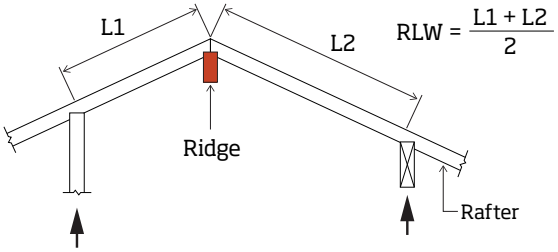
### Ridge Beam



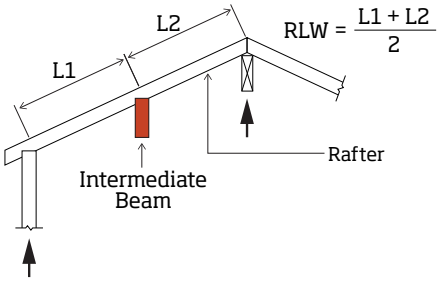

### Ridge and Intermediate Beams




### Ridge Beam

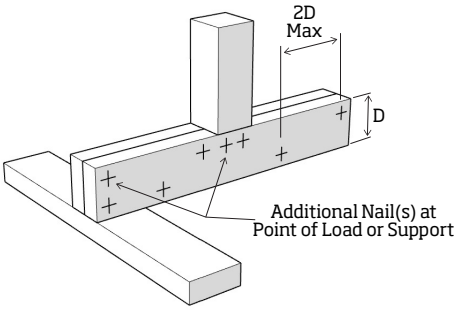



### Intermediate Beam




### Vertical Nail Lamination

(Example - Strutting Beams)



## Table 12.1: Wind Classification: N2 / Sheet Roof 40kg / Restraint 1200mm Top and Span Bottom (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 3.1 | 2.7 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 | 1.6 |
| 190 x 32 | 4.2 | 3.6 | 3.3 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 | 2.2 | 2.0 |
| 240 x 32 | 5.2 | 4.5 | 3.9 | 3.4 | 3.1 | 2.9 | 2.7 | 2.5 | 2.4 | 2.2 | 2.1 |
| 290 x 32 | 5.3 | 4.4 | 3.8 | 3.4 | 3.1 | 2.8 | 2.6 | 2.5 | 2.3 | 2.2 | 2.1 |
| 2/140 x 32 | 3.8 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.2 | 2.1 | 2.0 |
| 2/190 x 32 | 5.1 | 4.5 | 4.1 | 3.8 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 |
| 2/240 x 32 | 6.3 | 5.6 | 5.1 | 4.8 | 4.5 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 | 3.2 |
| 2/290 x 32 | 7.2 | 6.5 | 5.6 | 5.0 | 4.6 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 |
| 140 x 42 | 3.4 | 2.9 | 2.7 | 2.4 | 2.3 | 2.2 | 2.0 | 2.0 | 1.9 | 1.8 | 1.7 |
| 190 x 42 | 4.5 | 4.0 | 3.6 | 3.3 | 3.1 | 2.9 | 2.8 | 2.7 | 2.5 | 2.4 | 2.4 |
| 240 x 42 | 5.7 | 5.0 | 4.5 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.1 | 3.0 |
| 290 x 42 | 6.6 | 6.0 | 5.4 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.7 | 3.5 | 3.4 |
| 2/140 x 42 | 4.1 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 |
| 2/190 x 42 | 5.5 | 4.9 | 4.4 | 4.1 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.1 | 3.0 |
| 2/240 x 42 | 6.6 | 6.1 | 5.6 | 5.2 | 4.9 | 4.6 | 4.4 | 4.2 | 4.0 | 3.9 | 3.7 |
| 2/290 x 42 | 7.6 | 7.0 | 6.5 | 6.2 | 5.8 | 5.5 | 5.3 | 5.0 | 4.8 | 4.7 | 4.5 |
| 140 x 65 | 3.8 | 3.4 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 190 x 65 | 5.1 | 4.5 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 | 2.7 |
| 240 x 65 | 6.3 | 5.7 | 5.2 | 4.8 | 4.5 | 4.2 | 4.0 | 3.8 | 3.7 | 3.6 | 3.4 |
| 265 x 65 | 6.8 | 6.2 | 5.7 | 5.3 | 4.9 | 4.7 | 4.4 | 4.2 | 4.1 | 3.9 | 3.8 |
| 290 x 65 | 7.2 | 6.6 | 6.1 | 5.7 | 5.4 | 5.1 | 4.9 | 4.6 | 4.5 | 4.3 | 4.1 |
| 2/140 x 65 | 4.7 | 4.1 | 3.8 | 3.5 | 3.3 | 3.1 | 3.0 | 2.8 | 2.7 | 2.6 | 2.5 |
| 2/190 x 65 | 6.1 | 5.5 | 5.1 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.7 | 3.5 | 3.4 |
| 2/240 x 65 | 7.2 | 6.6 | 6.2 | 5.9 | 5.5 | 5.2 | 5.0 | 4.8 | 4.6 | 4.4 | 4.3 |
| 2/265 x 65 | 7.7 | 7.1 | 6.7 | 6.3 | 6.1 | 5.8 | 5.5 | 5.3 | 5.1 | 4.9 | 4.7 |
| 2/290 x 65 | 8.2 | 7.6 | 7.1 | 6.8 | 6.5 | 6.2 | 6.0 | 5.8 | 5.5 | 5.3 | 5.2 |

## Table 12.2: Wind Classification: N2 / Sheet Roof 40kg / Restraint 1200mm Top and Span Bottom (Continuous Span)

| Section D x B (mm) | Continous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 4.1 | 3.6 | 3.1 | 2.8 | 2.5 | 2.3 | 2.2 | 2.0 | 1.9 | 1.8 | 1.7 |
| 190 x 32 | 5.3 | 4.3 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.4 | 2.3 | 2.2 | 2.0 |
| 240 x 32 | 5.9 | 4.8 | 4.1 | 3.7 | 3.4 | 3.1 | 2.9 | 2.7 | 2.5 | 2.4 | 2.3 |
| 290 x 32 | 6.3 | 5.3 | 4.6 | 4.1 | 3.7 | 3.4 | 3.2 | 3.0 | 2.8 | 2.7 | 2.5 |
| 2/140 x 32 | 5.1 | 4.5 | 4.1 | 3.8 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 |
| 2/190 x 32 | 6.6 | 6.0 | 5.5 | 4.9 | 4.5 | 4.1 | 3.9 | 3.6 | 3.4 | 3.2 | 3.1 |
| 2/240 x 32 | 7.6 | 6.7 | 6.1 | 5.5 | 5.0 | 4.6 | 4.3 | 4.1 | 3.8 | 3.6 | 3.5 |
| 2/290 x 32 | 8.0 | 7.1 | 6.5 | 6.0 | 5.6 | 5.1 | 4.8 | 4.5 | 4.2 | 4.0 | 3.8 |
| 140 x 42 | 4.5 | 3.9 | 3.6 | 3.3 | 3.0 | 2.7 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 |
| 190 x 42 | 6.0 | 5.3 | 4.8 | 4.3 | 3.9 | 3.6 | 3.4 | 3.2 | 3.0 | 2.8 | 2.7 |
| 240 x 42 | 7.2 | 6.4 | 5.6 | 5.0 | 4.5 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 |
| 290 x 42 | 8.1 | 7.1 | 6.3 | 5.7 | 5.2 | 4.8 | 4.5 | 4.2 | 4.0 | 3.7 | 3.6 |
| 2/140 x 42 | 5.5 | 4.9 | 4.4 | 4.1 | 3.8 | 3.6 | 3.4 | 3.3 | 3.2 | 3.0 | 2.9 |
| 2/190 x 42 | 7.0 | 6.4 | 6.0 | 5.5 | 5.2 | 4.9 | 4.7 | 4.4 | 4.3 | 4.1 | 4.0 |
| 2/240 x 42 | 8.3 | 7.6 | 7.1 | 6.7 | 6.4 | 6.1 | 5.8 | 5.5 | 5.2 | 4.9 | 4.7 |
| 2/290 x 42 | 9.4 | 8.7 | 8.1 | 7.7 | 7.2 | 6.8 | 6.4 | 6.1 | 5.8 | 5.6 | 5.3 |
| 140 x 65 | 5.1 | 4.5 | 4.1 | 3.8 | 3.5 | 3.3 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 |
| 190 x 65 | 6.7 | 6.1 | 5.5 | 5.1 | 4.8 | 4.5 | 4.3 | 4.0 | 3.8 | 3.6 | 3.4 |
| 240 x 65 | 7.9 | 7.2 | 6.7 | 6.3 | 6.0 | 5.7 | 5.4 | 5.1 | 4.7 | 4.5 | 4.2 |
| 265 x 65 | 8.4 | 7.7 | 7.2 | 6.8 | 6.5 | 6.2 | 5.9 | 5.6 | 5.2 | 4.9 | 4.7 |
| 290 x 65 | 9.0 | 8.2 | 7.7 | 7.2 | 6.9 | 6.6 | 6.4 | 6.0 | 5.7 | 5.4 | 5.1 |
| 2/140 x 65 | 6.2 | 5.5 | 5.1 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.6 | 3.5 | 3.4 |
| 2/190 x 65 | 7.7 | 7.0 | 6.6 | 6.2 | 5.9 | 5.6 | 5.3 | 5.1 | 4.9 | 4.7 | 4.6 |
| 2/240 x 65 | 9.0 | 8.3 | 7.8 | 7.4 | 7.0 | 6.8 | 6.5 | 6.3 | 6.1 | 5.9 | 5.7 |
| 2/265 x 65 | 9.6 | 8.9 | 8.3 | 7.9 | 7.6 | 7.3 | 7.0 | 6.8 | 6.6 | 6.4 | 6.2 |
| 2/290 x 65 | 10.2 | 9.4 | 8.9 | 8.4 | 8.1 | 7.8 | 7.5 | 7.2 | 7.0 | 6.8 | 6.7 |

*Refer to diagrams on Page 28.

## Table 12.3: Wind Classification: N2 / Tile Roof 90kg / Restraint 1200mm Top and Span Bottom (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.4 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.2 | 1.2 |
| 190 x 32 | 3.3 | 2.8 | 2.6 | 2.4 | 2.2 | 2.0 | 1.9 | 1.7 | 1.6 | 1.6 | 1.5 |
| 240 x 32 | 4.1 | 3.6 | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 | 2.1 | 1.9 | 1.8 | 1.8 |
| 290 x 32 | 4.4 | 3.6 | 3.1 | 2.7 | 2.5 | 2.3 | 2.2 | 2.0 | 1.9 | 1.8 | 1.7 |
| 2/140 x 32 | 3.0 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |
| 2/190 x 32 | 4.1 | 3.6 | 3.2 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 | 2.3 | 2.2 |
| 2/240 x 32 | 5.1 | 4.5 | 4.1 | 3.8 | 3.5 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 | 2.6 |
| 2/290 x 32 | 6.1 | 5.3 | 4.6 | 4.1 | 3.8 | 3.5 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 |
| 140 x 42 | 2.6 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.6 | 1.5 | 1.4 | 1.4 |
| 190 x 42 | 3.6 | 3.1 | 2.8 | 2.6 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 |
| 240 x 42 | 4.5 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 |
| 290 x 42 | 5.4 | 4.7 | 4.3 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 | 2.8 | 2.7 |
| 2/140 x 42 | 3.3 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 2.0 | 1.9 | 1.8 | 1.8 |
| 2/190 x 42 | 4.4 | 3.9 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 | 2.4 |
| 2/240 x 42 | 5.5 | 4.9 | 4.4 | 4.1 | 3.9 | 3.7 | 3.5 | 3.4 | 3.2 | 3.1 | 3.0 |
| 2/290 x 42 | 6.5 | 5.9 | 5.3 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 | 3.6 |
| 140 x 65 | 3.0 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |
| 190 x 65 | 4.1 | 3.6 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 | 2.4 | 2.4 | 2.3 | 2.2 |
| 240 x 65 | 5.1 | 4.5 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 |
| 265 x 65 | 5.6 | 5.0 | 4.5 | 4.2 | 3.9 | 3.7 | 3.5 | 3.4 | 3.3 | 3.2 | 3.1 |
| 290 x 65 | 6.1 | 5.4 | 4.9 | 4.6 | 4.3 | 4.1 | 3.9 | 3.7 | 3.6 | 3.5 | 3.3 |
| 2/140 x 65 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 2/190 x 65 | 5.0 | 4.4 | 4.0 | 3.8 | 3.5 | 3.3 | 3.2 | 3.1 | 3.0 | 2.8 | 2.8 |
| 2/240 x 65 | 6.2 | 5.6 | 5.1 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 | 3.7 | 3.6 | 3.5 |
| 2/265 x 65 | 6.6 | 6.1 | 5.6 | 5.2 | 4.9 | 4.6 | 4.4 | 4.3 | 4.1 | 4.0 | 3.8 |
| 2/290 x 65 | 7.1 | 6.5 | 6.1 | 5.7 | 5.3 | 5.1 | 4.8 | 4.7 | 4.5 | 4.3 | 4.2 |

## Table 12.4: Wind Classification: N2 / Tile Roof 90kg / Restraint 1200mm Top and Span Bottom (Continuous Span)

| Section D x B (mm) | Continuous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 3.2 | 2.7 | 2.3 | 2.0 | 1.9 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.2 |
| 190 x 32 | 4.0 | 3.4 | 3.0 | 2.7 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.6 |
| 240 x 32 | 4.6 | 3.9 | 3.4 | 3.0 | 2.7 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 |
| 290 x 32 | 5.0 | 4.3 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.2 | 2.1 |
| 2/140 x 32 | 4.0 | 3.5 | 3.2 | 3.0 | 2.8 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 |
| 2/190 x 32 | 5.4 | 4.7 | 4.2 | 3.8 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 |
| 2/240 x 32 | 6.1 | 5.3 | 4.7 | 4.3 | 4.0 | 3.8 | 3.6 | 3.3 | 3.2 | 3.0 | 2.9 |
| 2/290 x 32 | 6.4 | 5.7 | 5.1 | 4.8 | 4.4 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 |
| 140 x 42 | 3.5 | 3.0 | 2.6 | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 | 1.5 |
| 190 x 42 | 4.8 | 4.1 | 3.6 | 3.2 | 2.9 | 2.7 | 2.5 | 2.3 | 2.2 | 2.1 | 2.0 |
| 240 x 42 | 5.6 | 4.8 | 4.2 | 3.8 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 |
| 290 x 42 | 6.3 | 5.4 | 4.8 | 4.4 | 4.0 | 3.8 | 3.5 | 3.4 | 3.2 | 3.0 | 2.9 |
| 2/140 x 42 | 4.4 | 3.8 | 3.5 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 | 2.4 | 2.3 | 2.2 |
| 2/190 x 42 | 5.9 | 5.2 | 4.7 | 4.4 | 4.1 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 |
| 2/240 x 42 | 7.0 | 6.4 | 5.9 | 5.4 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.6 |
| 2/290 x 42 | 8.1 | 7.3 | 6.5 | 6.0 | 5.6 | 5.2 | 5.0 | 4.7 | 4.5 | 4.3 | 4.1 |
| 140 x 65 | 4.1 | 3.5 | 3.2 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 |
| 190 x 65 | 5.5 | 4.8 | 4.4 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 |
| 240 x 65 | 6.6 | 6.0 | 5.5 | 4.9 | 4.5 | 4.1 | 3.9 | 3.6 | 3.4 | 3.2 | 3.1 |
| 265 x 65 | 7.1 | 6.5 | 6.0 | 5.4 | 5.0 | 4.6 | 4.3 | 4.0 | 3.8 | 3.6 | 3.4 |
| 290 x 65 | 7.6 | 6.9 | 6.4 | 5.9 | 5.4 | 5.0 | 4.7 | 4.4 | 4.1 | 3.9 | 3.7 |
| 2/140 x 65 | 5.0 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 |
| 2/190 x 65 | 6.5 | 5.9 | 5.4 | 5.0 | 4.7 | 4.5 | 4.3 | 4.1 | 4.0 | 3.8 | 3.7 |
| 2/240 x 65 | 7.7 | 7.1 | 6.6 | 6.2 | 6.0 | 5.7 | 5.4 | 5.2 | 5.0 | 4.8 | 4.6 |
| 2/265 x 65 | 8.3 | 7.6 | 7.1 | 6.7 | 6.4 | 6.2 | 5.9 | 5.7 | 5.5 | 5.3 | 5.1 |
| 2/290 x 65 | 8.8 | 8.1 | 7.6 | 7.2 | 6.9 | 6.6 | 6.4 | 6.2 | 6.0 | 5.8 | 5.6 |

*Refer to diagrams on Page 28.

## Table 13.1: Wind Classification: N3 / Sheet Roof 40kg / Restraint 1200mm Top and Span Bottom (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 3.1 | 2.7 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 |
| 190 x 32 | 4.2 | 3.6 | 3.3 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 |
| 240 x 32 | 4.8 | 3.9 | 3.4 | 3.0 | 2.8 | 2.5 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 |
| 290 x 32 | 4.7 | 3.8 | 3.3 | 3.0 | 2.7 | 2.5 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 |
| 2/140 x 32 | 3.8 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.2 | 2.2 | 2.1 | 2.0 |
| 2/190 x 32 | 5.1 | 4.5 | 4.1 | 3.8 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 |
| 2/240 x 32 | 6.3 | 5.6 | 5.1 | 4.5 | 4.1 | 3.8 | 3.6 | 3.3 | 3.2 | 3.0 | 2.9 |
| 2/290 x 32 | 6.9 | 5.7 | 5.0 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 |
| 140 x 42 | 3.4 | 2.9 | 2.7 | 2.4 | 2.3 | 2.2 | 2.0 | 2.0 | 1.9 | 1.8 | 1.7 |
| 190 x 42 | 4.5 | 4.0 | 3.6 | 3.3 | 3.1 | 2.9 | 2.8 | 2.7 | 2.5 | 2.4 | 2.4 |
| 240 x 42 | 5.7 | 5.0 | 4.5 | 4.2 | 3.9 | 3.7 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 |
| 290 x 42 | 6.6 | 6.0 | 5.3 | 4.8 | 4.3 | 4.0 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 |
| 2/140 x 42 | 4.1 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 |
| 2/190 x 42 | 5.5 | 4.9 | 4.4 | 4.1 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.1 | 3.0 |
| 2/240 x 42 | 6.6 | 6.1 | 5.6 | 5.2 | 4.9 | 4.6 | 4.4 | 4.2 | 4.0 | 3.9 | 3.7 |
| 2/290 x 42 | 7.6 | 7.0 | 6.5 | 6.2 | 5.8 | 5.5 | 5.3 | 5.0 | 4.8 | 4.7 | 4.5 |
| 140 x 65 | 3.8 | 3.4 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 190 x 65 | 5.1 | 4.5 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 | 2.7 |
| 240 x 65 | 6.3 | 5.7 | 5.2 | 4.8 | 4.5 | 4.2 | 4.0 | 3.8 | 3.7 | 3.6 | 3.4 |
| 265 x 65 | 6.8 | 6.2 | 5.7 | 5.3 | 4.9 | 4.7 | 4.4 | 4.2 | 4.1 | 3.9 | 3.8 |
| 290 x 65 | 7.2 | 6.6 | 6.1 | 5.7 | 5.4 | 5.1 | 4.9 | 4.6 | 4.5 | 4.3 | 4.1 |
| 2/140 x 65 | 4.7 | 4.1 | 3.8 | 3.5 | 3.3 | 3.1 | 3.0 | 2.8 | 2.7 | 2.6 | 2.5 |
| 2/190 x 65 | 6.1 | 5.5 | 5.1 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.7 | 3.5 | 3.4 |
| 2/240 x 65 | 7.2 | 6.6 | 6.2 | 5.9 | 5.5 | 5.2 | 5.0 | 4.8 | 4.6 | 4.4 | 4.3 |
| 2/265 x 65 | 7.7 | 7.1 | 6.7 | 6.3 | 6.1 | 5.8 | 5.5 | 5.3 | 5.1 | 4.9 | 4.7 |
| 2/290 x 65 | 8.2 | 7.6 | 7.1 | 6.8 | 6.5 | 6.2 | 6.0 | 5.8 | 5.5 | 5.3 | 5.2 |

## Table 13.2: Wind Classification: N3 / Sheet Roof 40kg / Restraint 1200mm Top and Span Bottom (Continuous Span)

| Section D x B (mm) | Continuous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 3.9 | 3.2 | 2.7 | 2.4 | 2.2 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 |
| 190 x 32 | 4.6 | 3.8 | 3.3 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 |
| 240 x 32 | 5.2 | 4.2 | 3.6 | 3.3 | 3.0 | 2.7 | 2.5 | 2.4 | 2.3 | 2.1 | 2.0 |
| 290 x 32 | 5.7 | 4.7 | 4.0 | 3.6 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 |
| 2/140 x 32 | 5.1 | 4.5 | 4.1 | 3.7 | 3.3 | 3.1 | 2.9 | 2.7 | 2.5 | 2.4 | 2.3 |
| 2/190 x 32 | 6.6 | 5.6 | 4.9 | 4.4 | 4.0 | 3.7 | 3.4 | 3.2 | 3.0 | 2.9 | 2.7 |
| 2/240 x 32 | 7.6 | 6.3 | 5.5 | 4.9 | 4.4 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.1 |
| 2/290 x 32 | 8.0 | 6.9 | 6.0 | 5.4 | 4.9 | 4.5 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 |
| 140 x 42 | 4.5 | 3.7 | 3.2 | 2.9 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 |
| 190 x 42 | 6.0 | 5.0 | 4.3 | 3.8 | 3.5 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 |
| 240 x 42 | 7.0 | 5.7 | 4.9 | 4.4 | 4.0 | 3.7 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 |
| 290 x 42 | 8.0 | 6.5 | 5.6 | 5.0 | 4.6 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 |
| 2/140 x 42 | 5.5 | 4.9 | 4.4 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.0 | 2.8 | 2.7 |
| 2/190 x 42 | 7.0 | 6.4 | 6.0 | 5.5 | 5.2 | 4.8 | 4.5 | 4.2 | 4.0 | 3.8 | 3.6 |
| 2/240 x 42 | 8.3 | 7.6 | 7.1 | 6.6 | 6.0 | 5.5 | 5.2 | 4.9 | 4.6 | 4.4 | 4.2 |
| 2/290 x 42 | 9.4 | 8.7 | 8.1 | 7.5 | 6.9 | 6.3 | 5.9 | 5.6 | 5.3 | 5.0 | 4.8 |
| 140 x 65 | 5.1 | 4.5 | 4.0 | 3.6 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.2 |
| 190 x 65 | 6.7 | 6.1 | 5.4 | 4.8 | 4.4 | 4.1 | 3.8 | 3.5 | 3.4 | 3.2 | 3.0 |
| 240 x 65 | 7.9 | 7.2 | 6.7 | 6.1 | 5.5 | 5.1 | 4.8 | 4.5 | 4.2 | 4.0 | 3.8 |
| 265 x 65 | 8.4 | 7.7 | 7.2 | 6.7 | 6.1 | 5.6 | 5.3 | 4.9 | 4.7 | 4.4 | 4.2 |
| 290 x 65 | 9.0 | 8.2 | 7.7 | 7.2 | 6.7 | 6.2 | 5.7 | 5.4 | 5.1 | 4.8 | 4.6 |
| 2/140 x 65 | 6.2 | 5.5 | 5.1 | 4.7 | 4.4 | 4.2 | 4.0 | 3.8 | 3.6 | 3.5 | 3.4 |
| 2/190 x 65 | 7.7 | 7.0 | 6.6 | 6.2 | 5.9 | 5.6 | 5.3 | 5.1 | 4.9 | 4.7 | 4.6 |
| 2/240 x 65 | 9.0 | 8.3 | 7.8 | 7.4 | 7.0 | 6.8 | 6.5 | 6.3 | 6.1 | 5.9 | 5.7 |
| 2/265 x 65 | 9.6 | 8.9 | 8.3 | 7.9 | 7.6 | 7.3 | 7.0 | 6.8 | 6.6 | 6.4 | 6.2 |
| 2/290 x 65 | 10.2 | 9.4 | 8.9 | 8.4 | 8.1 | 7.8 | 7.5 | 7.2 | 7.0 | 6.8 | 6.7 |

*Refer to diagrams on Page 28.

## Table 13.3: Wind Classification: N3 / Tile Roof 90kg / Restraint 1200mm Top and Span Bottom (Single Span)

| Section D x B (mm) | Single Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 2.4 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.2 | 1.2 |
| 190 x 32 | 3.3 | 2.8 | 2.6 | 2.4 | 2.2 | 2.0 | 1.9 | 1.7 | 1.6 | 1.6 | 1.5 |
| 240 x 32 | 4.1 | 3.3 | 2.9 | 2.6 | 2.3 | 2.2 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 |
| 290 x 32 | 4.0 | 3.3 | 2.8 | 2.5 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 |
| 2/140 x 32 | 3.0 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |
| 2/190 x 32 | 4.1 | 3.6 | 3.2 | 3.0 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 | 2.3 | 2.2 |
| 2/240 x 32 | 5.1 | 4.5 | 4.1 | 3.8 | 3.5 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 | 2.4 |
| 2/290 x 32 | 5.9 | 4.9 | 4.2 | 3.8 | 3.4 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 |
| 140 x 42 | 2.6 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.6 | 1.5 | 1.4 | 1.4 |
| 190 x 42 | 3.6 | 3.1 | 2.8 | 2.6 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 |
| 240 x 42 | 4.5 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 |
| 290 x 42 | 5.4 | 4.7 | 4.3 | 4.0 | 3.7 | 3.4 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 |
| 2/140 x 42 | 3.3 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 2.0 | 1.9 | 1.8 | 1.8 |
| 2/190 x 42 | 4.4 | 3.9 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 | 2.4 |
| 2/240 x 42 | 5.5 | 4.9 | 4.4 | 4.1 | 3.9 | 3.7 | 3.5 | 3.4 | 3.2 | 3.1 | 3.0 |
| 2/290 x 42 | 6.5 | 5.9 | 5.3 | 5.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 | 3.6 |
| 140 x 65 | 3.0 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.6 |
| 190 x 65 | 4.1 | 3.6 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 | 2.4 | 2.4 | 2.3 | 2.2 |
| 240 x 65 | 5.1 | 4.5 | 4.1 | 3.8 | 3.6 | 3.4 | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 |
| 265 x 65 | 5.6 | 5.0 | 4.5 | 4.2 | 3.9 | 3.7 | 3.5 | 3.4 | 3.3 | 3.2 | 3.1 |
| 290 x 65 | 6.1 | 5.4 | 4.9 | 4.6 | 4.3 | 4.1 | 3.9 | 3.7 | 3.6 | 3.5 | 3.3 |
| 2/140 x 65 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 | 2.1 | 2.0 |
| 2/190 x 65 | 5.0 | 4.4 | 4.0 | 3.8 | 3.5 | 3.3 | 3.2 | 3.1 | 3.0 | 2.8 | 2.8 |
| 2/240 x 65 | 6.2 | 5.6 | 5.1 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 | 3.7 | 3.6 | 3.5 |
| 2/265 x 65 | 6.6 | 6.1 | 5.6 | 5.2 | 4.9 | 4.6 | 4.4 | 4.3 | 4.1 | 4.0 | 3.8 |
| 2/290 x 65 | 7.1 | 6.5 | 6.1 | 5.7 | 5.3 | 5.1 | 4.8 | 4.7 | 4.5 | 4.3 | 4.2 |

## Table 13.4: Wind Classification: N3 / Tile Roof 90kg / Restraint 1200mm Top and Span Bottom (Continuous Span)

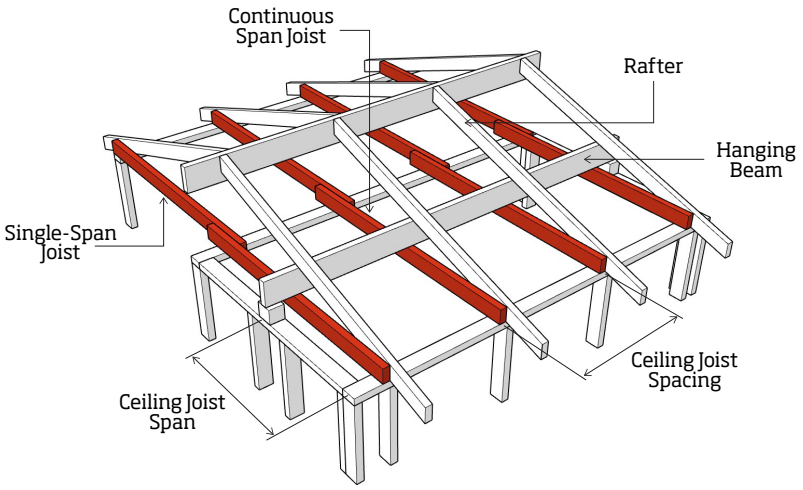
| Section D x B (mm) | Continuous Span | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 | 6.0 | 6.6 | 7.2 |
| | Maximum Span (m) | | | | | | | | | | |
| 140 x 32 | 3.2 | 2.7 | 2.3 | 2.0 | 1.9 | 1.7 | 1.6 | 1.5 | 1.3 | 1.2 | 1.1 |
| 190 x 32 | 3.9 | 3.2 | 2.8 | 2.5 | 2.2 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 |
| 240 x 32 | 4.4 | 3.6 | 3.1 | 2.8 | 2.5 | 2.3 | 2.2 | 2.0 | 1.9 | 1.8 | 1.7 |
| 290 x 32 | 4.8 | 4.0 | 3.4 | 3.1 | 2.8 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 |
| 2/140 x 32 | 4.0 | 3.5 | 3.2 | 3.0 | 2.8 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 |
| 2/190 x 32 | 5.4 | 4.7 | 4.1 | 3.7 | 3.4 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 | 2.3 |
| 2/240 x 32 | 6.1 | 5.3 | 4.6 | 4.1 | 3.8 | 3.5 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 |
| 2/290 x 32 | 6.4 | 5.7 | 5.1 | 4.6 | 4.2 | 3.9 | 3.6 | 3.4 | 3.2 | 3.0 | 2.9 |
| 140 x 42 | 3.5 | 3.0 | 2.6 | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 |
| 190 x 42 | 4.8 | 4.1 | 3.6 | 3.2 | 2.9 | 2.7 | 2.5 | 2.3 | 2.2 | 2.1 | 1.9 |
| 240 x 42 | 5.6 | 4.8 | 4.2 | 3.7 | 3.4 | 3.1 | 2.9 | 2.8 | 2.6 | 2.5 | 2.4 |
| 290 x 42 | 6.3 | 5.4 | 4.8 | 4.3 | 3.9 | 3.6 | 3.4 | 3.2 | 3.0 | 2.8 | 2.7 |
| 2/140 x 42 | 4.4 | 3.8 | 3.5 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 | 2.4 | 2.3 | 2.2 |
| 2/190 x 42 | 5.9 | 5.2 | 4.7 | 4.4 | 4.1 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 3.0 |
| 2/240 x 42 | 7.0 | 6.4 | 5.9 | 5.4 | 5.0 | 4.7 | 4.4 | 4.1 | 3.9 | 3.7 | 3.6 |
| 2/290 x 42 | 8.1 | 7.3 | 6.5 | 6.0 | 5.6 | 5.2 | 5.0 | 4.7 | 4.5 | 4.3 | 4.1 |
| 140 x 65 | 4.1 | 3.5 | 3.2 | 2.9 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 |
| 190 x 65 | 5.5 | 4.8 | 4.4 | 3.9 | 3.6 | 3.3 | 3.1 | 2.9 | 2.7 | 2.6 | 2.5 |
| 240 x 65 | 6.6 | 6.0 | 5.5 | 4.9 | 4.5 | 4.1 | 3.9 | 3.6 | 3.4 | 3.2 | 3.1 |
| 265 x 65 | 7.1 | 6.5 | 6.0 | 5.4 | 5.0 | 4.6 | 4.3 | 4.0 | 3.8 | 3.6 | 3.4 |
| 290 x 65 | 7.6 | 6.9 | 6.4 | 5.9 | 5.4 | 5.0 | 4.7 | 4.4 | 4.1 | 3.9 | 3.7 |
| 2/140 x 65 | 5.0 | 4.4 | 4.0 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 | 2.8 | 2.7 |
| 2/190 x 65 | 6.5 | 5.9 | 5.4 | 5.0 | 4.7 | 4.5 | 4.3 | 4.1 | 4.0 | 3.8 | 3.7 |
| 2/240 x 65 | 7.7 | 7.1 | 6.6 | 6.2 | 6.0 | 5.7 | 5.4 | 5.2 | 5.0 | 4.8 | 4.6 |
| 2/265 x 65 | 8.3 | 7.6 | 7.1 | 6.7 | 6.4 | 6.2 | 5.9 | 5.7 | 5.5 | 5.3 | 5.1 |
| 2/290 x 65 | 8.8 | 8.1 | 7.6 | 7.2 | 6.9 | 6.6 | 6.4 | 6.2 | 6.0 | 5.8 | 5.6 |

*Refer to diagrams on Page 28.

## Table 14.1: Ceiling Joists to Underside

| Section D x B (mm) | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|
| | Ceiling Joist Spacing (mm) | | | | | | | |
| | 450 | 600 | 900 | 1200 | 450 | 600 | 900 | 1200 |
| | Maximum Ceiling Joist Span (m) | | | | | | | |
| 70 x 32 | 1.4 | 1.4 | 1.4 | 1.4 | 1.7 | 1.7 | 1.7 | 1.7 |
| 90 x32 | 2.1 | 2.0 | 2.0 | 2.0 | 2.4 | 2.4 | 2.3 | 2.3 |
| 140 x 32 | 2.9 | 2.9 | 2.8 | 2.8 | 3.2 | 3.2 | 3.2 | 3.1 |
| 190 x 32 | 3.3 | 3.3 | 3.3 | 3.2 | 3.7 | 3.7 | 3.7 | 3.6 |
| 240 x32 | 3.7 | 3.7 | 3.6 | 3.6 | 4.2 | 4.1 | 4.1 | 4.0 |
| 290 x32 | 4.0 | 4.0 | 3.9 | 3.9 | 4.5 | 4.5 | 4.4 | 4.4 |
| 70 x42 | 1.7 | 1.7 | 1.7 | 1.7 | 2.0 | 2.0 | 2.0 | 2.0 |
| 90 x 42 | 2.4 | 2.4 | 2.4 | 2.4 | 2.8 | 2.8 | 2.8 | 2.8 |
| 120 x 42 | 3.7 | 3.7 | 3.7 | 3.6 | 4.4 | 4.3 | 4.3 | 4.2 |
| 140 x 42 | 4.2 | 4.2 | 4.1 | 4.0 | 4.8 | 4.7 | 4.7 | 4.6 |
| 190 x 42 | 4.9 | 4.8 | 4.7 | 4.7 | 5.5 | 5.5 | 5.4 | 5.3 |
| 240 x 42 | 5.4 | 5.3 | 5.2 | 5.1 | 6.1 | 6.0 | 5.9 | 5.8 |
| 290 x 42 | 5.8 | 5.8 | 5.6 | 5.5 | 6.6 | 6.5 | 6.4 | 6.3 |
| 140 x 65 | 5.8 | 5.8 | 5.7 | 5.4 | 6.9 | 6.9 | 6.9 | 6.9 |
| 190 x 65 | 7.7 | 7.4 | 7.1 | 6.8 | 9.6 | 9.3 | 8.8 | 8.4 |
| 240 x 65 | 8.8 | 8.6 | 8.2 | 7.9 | 10.8 | 10.7 | 10.2 | 9.8 |
| 265 x 65 | 9.3 | 9.1 | 8.7 | 8.4 | 11.2 | 11.1 | 10.8 | 10.5 |
| 290 x 65 | 9.8 | 9.6 | 9.2 | 8.9 | 11.6 | 11.4 | 11.2 | 10.9 |

## Ceiling Joists



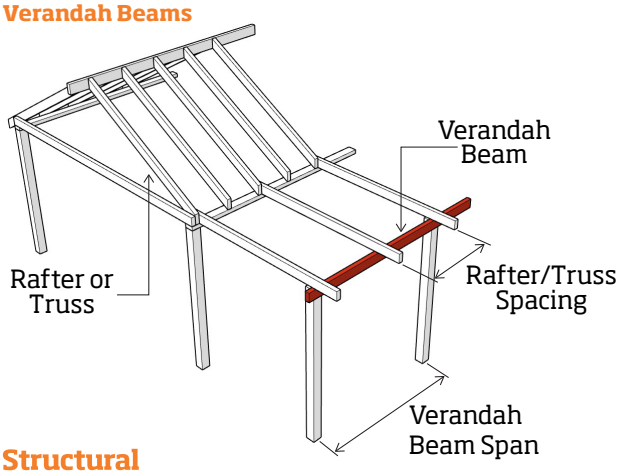
# 15: VERANDAH BEAMS - N2

## Table 15.1: Verandah Beams / Wind Classification: N2 / Restraint 1200mm Top and Bottom

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Roof Load Width 'RLW' (m) | | | | | | | |
| | | 1.2 | 1.8 | 2.4 | 3.0 | 1.2 | 1.8 | 2.4 | 3.0 |
| | | Maximum Verandah Beam Span (m) | | | | | | | |
| 140 x 32 | 10 | 3.8 | 3.4 | 3.1 | 2.8 | 4.1 | 3.8 | 3.6 | 3.4 |
| | 20 | 3.4 | 3.0 | 2.7 | 2.5 | 4.1 | 3.8 | 3.4 | 3.0 |
| | 40 | 2.8 | 2.5 | 2.4 | 2.1 | 3.7 | 3.2 | 2.8 | 2.6 |
| | 90 | 2.2 | 1.9 | 1.6 | 1.5 | 2.9 | 2.5 | 2.0 | 1.9 |
| 190 x 32 | 10 | 5.0 | 4.5 | 3.9 | 3.4 | 5.7 | 4.6 | 4.3 | 4.1 |
| | 20 | 4.4 | 4.0 | 3.4 | 3.0 | 5.5 | 4.6 | 4.2 | 3.7 |
| | 40 | 3.7 | 3.3 | 2.9 | 2.6 | 4.8 | 4.1 | 3.4 | 3.0 |
| | 90 | 2.9 | 2.6 | 2.2 | 1.9 | 3.7 | 2.9 | 2.6 | 2.2 |
| 240 x 32 | 10 | 5.9 | 4.9 | 4.1 | 3.5 | 6.5 | 6.0 | 5.6 | 4.9 |
| | 20 | 5.2 | 4.3 | 3.6 | 3.1 | 6.4 | 5.8 | 4.9 | 4.2 |
| | 40 | 4.5 | 3.5 | 3.0 | 2.7 | 5.6 | 4.8 | 4.1 | 3.6 |
| | 90 | 3.3 | 2.7 | 2.4 | 2.0 | 4.3 | 3.5 | 3.0 | 2.7 |
| 290 x 32 | 10 | 5.9 | 4.8 | 4.0 | 3.5 | 8.0 | 6.7 | 6.2 | 5.4 |
| | 20 | 5.2 | 4.2 | 3.5 | 3.1 | 7.3 | 6.4 | 5.4 | 4.9 |
| | 40 | 4.4 | 3.4 | 3.0 | 2.7 | 6.2 | 5.2 | 4.4 | 4.0 |
| | 90 | 3.2 | 2.6 | 2.3 | 2.0 | 4.9 | 3.9 | 3.3 | 2.9 |
| 140 x 42 | 10 | 4.2 | 3.7 | 3.3 | 3.1 | 4.3 | 4.0 | 3.8 | 3.6 |
| | 20 | 3.7 | 3.2 | 2.9 | 2.7 | 4.3 | 4.0 | 3.8 | 3.5 |
| | 40 | 3.0 | 2.7 | 2.4 | 2.2 | 4.0 | 3.5 | 3.2 | 2.9 |
| | 90 | 2.4 | 2.1 | 1.9 | 1.7 | 3.1 | 2.8 | 2.6 | 2.3 |
| 190 x 42 | 10 | 5.3 | 4.8 | 4.4 | 4.1 | 6.0 | 5.6 | 4.6 | 4.3 |
| | 20 | 4.7 | 4.2 | 3.9 | 3.5 | 5.7 | 5.2 | 4.6 | 4.3 |
| | 40 | 4.1 | 3.5 | 3.2 | 3.0 | 5.0 | 4.6 | 4.2 | 3.9 |
| | 90 | 3.2 | 2.8 | 2.6 | 2.4 | 4.2 | 3.7 | 3.3 | 2.9 |
| 240 x 42 | 10 | 6.1 | 5.6 | 5.2 | 4.9 | 6.9 | 6.4 | 6.0 | 5.7 |
| | 20 | 5.5 | 5.0 | 4.7 | 4.4 | 6.8 | 6.2 | 5.7 | 5.4 |
| | 40 | 4.8 | 4.4 | 4.1 | 3.7 | 5.9 | 5.4 | 5.0 | 4.7 |
| | 90 | 4.0 | 3.5 | 3.2 | 3.0 | 5.0 | 4.5 | 4.1 | 3.6 |
| 290 x 42 | 10 | 7.0 | 6.4 | 5.9 | 5.6 | 8.4 | 7.1 | 6.7 | 6.4 |
| | 20 | 6.3 | 5.7 | 5.3 | 5.0 | 7.8 | 7.1 | 6.6 | 6.2 |
| | 40 | 5.5 | 5.1 | 4.7 | 4.3 | 6.8 | 6.2 | 5.7 | 5.4 |
| | 90 | 4.7 | 4.2 | 3.6 | 3.2 | 5.7 | 5.2 | 4.8 | 4.1 |
| 140 x 65 | 10 | 4.6 | 4.2 | 3.8 | 3.5 | 5.5 | 4.4 | 4.1 | 4.0 |
| | 20 | 4.1 | 3.6 | 3.3 | 3.0 | 5.1 | 4.4 | 4.1 | 4.0 |
| | 40 | 3.4 | 3.0 | 2.8 | 2.6 | 4.4 | 4.0 | 3.6 | 3.3 |
| | 90 | 2.7 | 2.4 | 2.2 | 2.0 | 3.6 | 3.2 | 2.9 | 2.7 |
| 190 x 65 | 10 | 5.7 | 5.2 | 4.8 | 4.5 | 6.5 | 6.0 | 5.7 | 5.5 |
| | 20 | 5.1 | 4.7 | 4.3 | 4.1 | 6.3 | 5.7 | 5.4 | 5.0 |
| | 40 | 4.5 | 4.1 | 3.7 | 3.4 | 5.5 | 5.0 | 4.7 | 4.4 |
| | 90 | 3.7 | 3.2 | 2.9 | 2.7 | 4.7 | 4.2 | 3.9 | 3.6 |
| 240 x 65 | 10 | 6.6 | 6.1 | 5.7 | 5.4 | 8.1 | 6.9 | 6.5 | 6.3 |
| | 20 | 6.0 | 5.5 | 5.1 | 4.8 | 7.4 | 6.8 | 6.3 | 5.9 |
| | 40 | 5.3 | 4.8 | 4.5 | 4.2 | 6.5 | 5.9 | 5.5 | 5.2 |
| | 90 | 4.5 | 4.0 | 3.7 | 3.4 | 5.5 | 5.0 | 4.7 | 4.4 |
| 265 x 65 | 10 | 7.0 | 6.5 | 6.1 | 5.7 | 8.7 | 8.0 | 6.9 | 6.6 |
| | 20 | 6.4 | 5.9 | 5.5 | 5.2 | 7.9 | 7.3 | 6.8 | 6.4 |
| | 40 | 5.7 | 5.2 | 4.9 | 4.6 | 7.0 | 6.4 | 5.9 | 5.6 |
| | 90 | 4.8 | 4.4 | 4.1 | 3.8 | 5.9 | 5.4 | 5.0 | 4.8 |
| 290 x 65 | 10 | 7.5 | 6.9 | 6.5 | 6.1 | 9.1 | 8.5 | 8.0 | 7.0 |
| | 20 | 6.8 | 6.3 | 5.8 | 5.5 | 8.4 | 7.7 | 7.2 | 6.8 |
| | 40 | 6.0 | 5.5 | 5.2 | 4.9 | 7.5 | 6.8 | 6.4 | 6.0 |
| | 90 | 5.1 | 4.7 | 4.4 | 4.1 | 6.3 | 5.7 | 5.4 | 5.1 |

Tables are the minimum of 600 or 1200 centres

### Verandah Beams



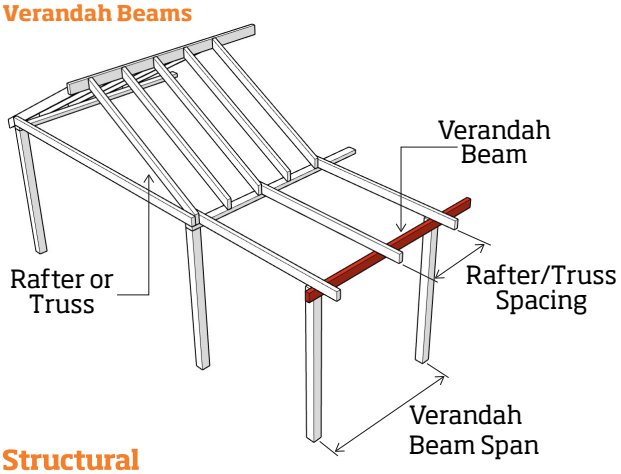
# 16: VERANDAH BEAMS - N3

## Table 16.1: Verandah Beams / Wind Classification: N3 / Restraint 1200mm Top and Bottom

| Section D x B (mm) | Roof Mass kg/m³ | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Roof Load Width 'RLW' (m) | | | | | | | |
| | | 1.2 | 1.8 | 2.4 | 3.0 | 1.2 | 1.8 | 2.4 | 3.0 |
| | | Maximum Verandah Beam Span (m) | | | | | | | |
| 140 x 32 | 10 | 3.3 | 2.9 | 2.7 | 2.5 | 4.1 | 3.8 | 3.3 | 2.9 |
| | 20 | 3.4 | 3.0 | 2.6 | 2.3 | 4.1 | 3.6 | 3.0 | 2.8 |
| | 40 | 2.8 | 2.5 | 2.3 | 1.9 | 3.7 | 3.0 | 2.7 | 2.3 |
| | 90 | 2.2 | 1.9 | 1.6 | 1.3 | 2.9 | 2.4 | 2.0 | 1.8 |
| 190 x 32 | 10 | 4.5 | 3.8 | 3.2 | 2.9 | 5.7 | 4.6 | 4.1 | 3.7 |
| | 20 | 4.4 | 3.5 | 3.0 | 2.7 | 5.5 | 4.3 | 3.8 | 3.3 |
| | 40 | 3.7 | 3.1 | 2.7 | 2.4 | 4.7 | 3.8 | 3.2 | 2.8 |
| | 90 | 2.9 | 2.5 | 2.1 | 1.7 | 3.5 | 2.8 | 2.5 | 2.0 |
| 240 x 32 | 10 | 5.0 | 4.0 | 3.4 | 3.0 | 6.5 | 5.8 | 4.9 | 4.2 |
| | 20 | 4.5 | 3.7 | 3.1 | 2.8 | 6.4 | 5.1 | 4.3 | 3.9 |
| | 40 | 4.0 | 3.2 | 2.8 | 2.5 | 5.4 | 4.3 | 3.8 | 3.3 |
| | 90 | 3.1 | 2.6 | 2.2 | 1.8 | 4.1 | 3.3 | 2.8 | 2.5 |
| 290 x 32 | 10 | 5.0 | 3.9 | 3.3 | 3.0 | 7.9 | 6.4 | 5.3 | 4.9 |
| | 20 | 4.6 | 3.6 | 3.1 | 2.8 | 7.1 | 5.7 | 4.9 | 4.2 |
| | 40 | 3.9 | 3.1 | 2.7 | 2.5 | 6.0 | 4.9 | 4.1 | 3.7 |
| | 90 | 3.0 | 2.5 | 2.1 | 1.8 | 4.6 | 3.7 | 3.2 | 2.8 |
| 140 x 42 | 10 | 3.7 | 3.2 | 2.9 | 2.7 | 4.3 | 4.0 | 3.8 | 3.6 |
| | 20 | 3.7 | 3.2 | 2.9 | 2.7 | 4.3 | 4.0 | 3.8 | 3.3 |
| | 40 | 3.0 | 2.7 | 2.4 | 2.2 | 4.0 | 3.5 | 3.2 | 2.9 |
| | 90 | 2.4 | 2.1 | 1.9 | 1.7 | 3.1 | 2.8 | 2.5 | 2.1 |
| 190 x 42 | 10 | 4.9 | 4.3 | 3.9 | 3.7 | 6.0 | 5.6 | 4.6 | 4.3 |
| | 20 | 4.7 | 4.2 | 3.9 | 3.5 | 5.7 | 5.2 | 4.6 | 4.3 |
| | 40 | 4.1 | 3.5 | 3.2 | 3.0 | 5.0 | 4.6 | 4.1 | 3.7 |
| | 90 | 3.2 | 2.8 | 2.6 | 2.4 | 4.2 | 3.7 | 3.2 | 2.8 |
| 240 x 42 | 10 | 6.1 | 5.4 | 4.9 | 4.6 | 6.9 | 6.4 | 6.0 | 5.7 |
| | 20 | 5.5 | 5.0 | 4.7 | 4.2 | 6.8 | 6.2 | 5.7 | 5.2 |
| | 40 | 4.8 | 4.4 | 4.1 | 3.6 | 5.9 | 5.4 | 5.0 | 4.4 |
| | 90 | 4.0 | 3.5 | 3.2 | 2.8 | 5.0 | 4.5 | 3.9 | 3.4 |
| 290 x 42 | 10 | 7.0 | 6.4 | 5.6 | 5.0 | 8.4 | 7.1 | 6.7 | 6.4 |
| | 20 | 6.3 | 5.7 | 5.1 | 4.6 | 7.8 | 7.1 | 6.6 | 6.1 |
| | 40 | 5.5 | 5.1 | 4.5 | 3.9 | 6.8 | 6.2 | 5.7 | 5.1 |
| | 90 | 4.7 | 4.0 | 3.4 | 3.1 | 5.7 | 5.2 | 4.5 | 4.0 |
| 140 x 65 | 10 | 4.2 | 3.7 | 3.4 | 3.1 | 5.5 | 4.4 | 4.1 | 4.0 |
| | 20 | 4.1 | 3.6 | 3.3 | 3.0 | 5.1 | 4.4 | 4.1 | 4.0 |
| | 40 | 3.4 | 3.0 | 2.8 | 2.6 | 4.5 | 4.0 | 3.6 | 3.3 |
| | 90 | 2.7 | 2.4 | 2.2 | 2.0 | 3.6 | 3.2 | 2.9 | 2.7 |
| 190 x 65 | 10 | 5.6 | 4.9 | 4.5 | 4.2 | 6.5 | 6.0 | 5.7 | 5.5 |
| | 20 | 5.1 | 4.7 | 4.3 | 4.1 | 6.3 | 5.7 | 5.4 | 5.0 |
| | 40 | 4.5 | 4.1 | 3.7 | 3.4 | 5.5 | 5.0 | 4.7 | 4.4 |
| | 90 | 3.7 | 3.2 | 2.9 | 2.7 | 4.7 | 4.2 | 3.9 | 3.6 |
| 240 x 65 | 10 | 6.6 | 6.1 | 5.6 | 5.2 | 8.1 | 6.9 | 6.5 | 6.3 |
| | 20 | 6.0 | 5.5 | 5.1 | 4.8 | 7.4 | 6.8 | 6.3 | 5.9 |
| | 40 | 5.3 | 4.9 | 4.5 | 4.3 | 6.5 | 5.9 | 5.5 | 5.3 |
| | 90 | 4.5 | 4.0 | 3.7 | 3.4 | 5.5 | 5.0 | 4.7 | 4.4 |
| 265 x 65 | 10 | 7.0 | 6.5 | 6.1 | 5.7 | 8.7 | 8.0 | 6.9 | 6.6 |
| | 20 | 6.4 | 5.9 | 5.5 | 5.2 | 7.9 | 7.3 | 6.8 | 6.4 |
| | 40 | 5.7 | 5.2 | 4.9 | 4.6 | 7.0 | 6.4 | 5.9 | 5.6 |
| | 90 | 4.8 | 4.4 | 4.1 | 3.8 | 5.9 | 5.4 | 5.0 | 4.8 |
| 290 x 65 | 10 | 7.4 | 6.9 | 6.5 | 6.1 | 9.1 | 8.5 | 8.0 | 7.0 |
| | 20 | 6.8 | 6.3 | 5.8 | 5.5 | 8.4 | 7.7 | 7.2 | 6.8 |
| | 40 | 6.0 | 5.5 | 5.2 | 4.9 | 7.5 | 6.8 | 6.4 | 6.0 |
| | 90 | 5.1 | 4.7 | 4.4 | 4.1 | 6.3 | 5.7 | 5.4 | 5.1 |

Tables are the minimum of 600 or 1200 centres

### Verandah Beams



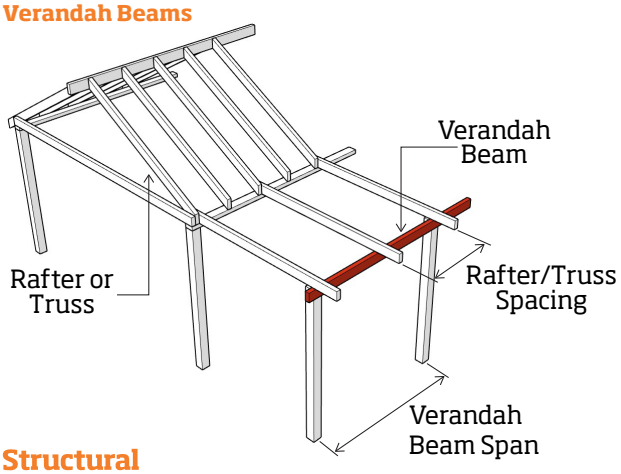
# 17: VERANDAH BEAMS - C2

## Table 17.1: Verandah Beams / Wind Classification: C2 / Restraint 1200mm Top and Bottom

| Section D x B (mm) | Roof Mass kg/m² | Single Span | | | | Continuous Span | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Roof Load Width 'RLW' (m) | | | | | | | |
| | | 1.2 | 1.8 | 2.4 | 3.0 | 1.2 | 1.8 | 2.4 | 3.0 |
| | | Maximum Verandah Beam Span (m) | | | | | | | |
| 140 x 32 | 10 | 2.6 | 2.0 | 1.5 | 1.2 | 3.2 | 2.2 | 1.8 | 1.6 |
| | 20 | 2.6 | 2.1 | 1.6 | 1.3 | 3.3 | 2.3 | 1.8 | 1.6 |
| | 40 | 2.6 | 2.0 | 1.5 | 1.2 | 3.0 | 2.5 | 1.9 | 1.6 |
| | 90 | 2.1 | 1.5 | 1.2 | 1.0 | 2.6 | 1.9 | 1.7 | 1.4 |
| 190 x 32 | 10 | 3.0 | 2.6 | 2.1 | 1.7 | 4.1 | 3.2 | 2.3 | 1.9 |
| | 20 | 3.1 | 2.6 | 2.2 | 1.8 | 4.1 | 3.3 | 2.4 | 1.9 |
| | 40 | 3.0 | 2.5 | 2.1 | 1.7 | 3.8 | 2.9 | 2.6 | 2.0 |
| | 90 | 2.6 | 2.0 | 1.6 | 1.3 | 3.0 | 2.5 | 2.0 | 1.8 |
| 240 x 32 | 10 | 3.2 | 2.6 | 2.4 | 1.9 | 4.9 | 3.9 | 3.2 | 2.3 |
| | 20 | 3.2 | 2.7 | 2.4 | 1.9 | 4.9 | 3.9 | 3.3 | 2.4 |
| | 40 | 3.1 | 2.6 | 2.2 | 1.8 | 4.3 | 3.5 | 3.0 | 2.7 |
| | 90 | 2.7 | 2.2 | 1.7 | 1.4 | 3.6 | 2.9 | 2.5 | 2.0 |
| 290 x 32 | 10 | 3.1 | 2.6 | 2.3 | 1.8 | 5.2 | 4.2 | 3.7 | 3.2 |
| | 20 | 3.2 | 2.6 | 2.3 | 1.9 | 5.2 | 4.2 | 3.8 | 3.3 |
| | 40 | 3.1 | 2.6 | 2.2 | 1.8 | 4.9 | 4.0 | 3.3 | 2.9 |
| | 90 | 2.6 | 2.1 | 1.7 | 1.5 | 4.0 | 3.2 | 2.8 | 2.5 |
| 140 x 42 | 10 | 2.8 | 2.5 | 2.1 | 1.7 | 4.1 | 3.3 | 2.2 | 1.9 |
| | 20 | 2.8 | 2.5 | 2.2 | 1.9 | 4.1 | 3.3 | 2.3 | 1.9 |
| | 40 | 2.8 | 2.5 | 2.0 | 1.7 | 3.9 | 3.0 | 2.5 | 2.0 |
| | 90 | 2.4 | 2.0 | 1.6 | 1.3 | 3.1 | 2.6 | 2.0 | 1.8 |
| 190 x42 | 10 | 3.8 | 3.3 | 2.8 | 2.6 | 5.2 | 4.2 | 3.8 | 2.5 |
| | 20 | 3.8 | 3.3 | 2.9 | 2.6 | 5.3 | 4.2 | 3.8 | 2.7 |
| | 40 | 3.8 | 3.2 | 2.8 | 2.5 | 5.0 | 4.0 | 3.4 | 2.9 |
| | 90 | 3.2 | 2.8 | 2.4 | 2.1 | 4.1 | 3.3 | 2.8 | 2.3 |
| 240 x 42 | 10 | 4.8 | 3.8 | 3.3 | 2.9 | 6.4 | 5.1 | 4.4 | 3.9 |
| | 20 | 4.8 | 3.9 | 3.3 | 3.0 | 6.5 | 5.2 | 4.5 | 4.0 |
| | 40 | 4.8 | 3.7 | 3.2 | 2.9 | 5.9 | 4.9 | 4.1 | 3.7 |
| | 90 | 3.9 | 3.1 | 2.7 | 2.5 | 4.9 | 4.0 | 3.4 | 3.0 |
| 290 x 42 | 10 | 5.2 | 4.2 | 3.6 | 3.2 | 7.4 | 6.0 | 5.1 | 4.4 |
| | 20 | 5.3 | 4.3 | 3.6 | 3.2 | 7.5 | 6.1 | 5.2 | 4.4 |
| | 40 | 5.1 | 4.1 | 3.5 | 3.1 | 6.8 | 5.6 | 4.9 | 4.2 |
| | 90 | 4.3 | 3.4 | 2.9 | 2.7 | 5.7 | 4.6 | 4.0 | 3.5 |
| 140 x 65 | 10 | 3.3 | 2.9 | 2.6 | 2.5 | 5.1 | 4.1 | 3.7 | 3.2 |
| | 20 | 3.3 | 2.9 | 2.6 | 2.5 | 5.1 | 4.2 | 3.7 | 3.2 |
| | 40 | 3.3 | 2.9 | 2.6 | 2.4 | 4.5 | 3.9 | 3.3 | 2.9 |
| | 90 | 2.8 | 2.5 | 2.2 | 1.9 | 3.6 | 3.2 | 2.8 | 2.5 |
| 190 x 65 | 10 | 4.4 | 3.9 | 3.5 | 3.3 | 6.5 | 5.8 | 5.0 | 4.3 |
| | 20 | 4.4 | 3.9 | 3.5 | 3.3 | 6.3 | 5.7 | 5.0 | 4.4 |
| | 40 | 4.4 | 3.9 | 3.5 | 3.1 | 5.5 | 5.0 | 4.6 | 4.1 |
| | 90 | 3.7 | 3.2 | 2.9 | 2.7 | 4.7 | 4.2 | 3.8 | 3.3 |
| 240 x 65 | 10 | 5.5 | 4.8 | 4.4 | 4.1 | 8.1 | 6.9 | 6.3 | 5.7 |
| | 20 | 5.5 | 4.8 | 4.4 | 4.1 | 7.4 | 6.8 | 6.3 | 5.7 |
| | 40 | 5.3 | 4.9 | 4.5 | 4.0 | 6.5 | 5.9 | 5.5 | 5.1 |
| | 90 | 4.5 | 4.0 | 3.7 | 3.4 | 5.5 | 5.0 | 4.7 | 4.2 |
| 265 x 65 | 10 | 6.1 | 5.3 | 4.9 | 4.5 | 8.7 | 8.0 | 6.9 | 6.2 |
| | 20 | 6.1 | 5.3 | 4.9 | 4.5 | 7.9 | 7.3 | 6.8 | 6.3 |
| | 40 | 5.7 | 5.2 | 4.9 | 4.5 | 7.0 | 6.4 | 5.9 | 5.6 |
| | 90 | 4.8 | 4.4 | 4.1 | 3.7 | 5.9 | 5.4 | 5.0 | 4.8 |
| 290 x 65 | 10 | 6.6 | 5.8 | 5.3 | 4.9 | 9.1 | 8.5 | 7.7 | 6.9 |
| | 20 | 6.6 | 5.8 | 5.3 | 4.9 | 8.4 | 7.7 | 7.2 | 6.8 |
| | 40 | 6.0 | 5.5 | 5.2 | 4.9 | 7.5 | 6.8 | 6.4 | 6.0 |
| | 90 | 5.1 | 4.7 | 4.3 | 4.1 | 6.3 | 5.7 | 5.4 | 5.1 |

Tables are the minimum of 600 or 1200 centres

### Verandah Beams



# 18: INTERNAL BEARERS ONLY

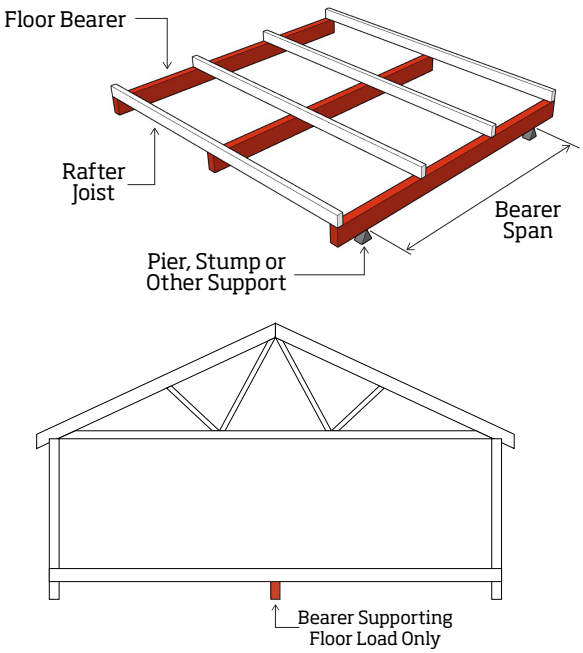
## Table 18.1: Internal Bearers / 40kg Floor Mass (Single Span)

| Section D x B (mm) | Single Span | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Floor Load Width (m) | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 |
| | Maximum Bearer Span (m) | | | | | | | |
| 2/70 x 42 | 1.6 | 1.4 | 1.3 | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 |
| 2/90 x 42 | 2.1 | 1.8 | 1.7 | 1.5 | 1.4 | 1.4 | 1.3 | 1.2 |
| 2/120 x 42 | 2.8 | 2.5 | 2.2 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 |
| 2/140 x 42 | 3.3 | 2.9 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.9 |
| 2/190 x 42 | 4.2 | 3.8 | 3.5 | 3.2 | 3.0 | 2.9 | 2.7 | 2.6 |
| 2/240 x 42 | 4.9 | 4.5 | 4.2 | 4.0 | 3.8 | 3.6 | 3.5 | 3.3 |
| 2/290 x 42 | 5.7 | 5.2 | 4.8 | 4.5 | 4.3 | 4.2 | 4.0 | 3.9 |
| 140 x 65 | 3.0 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 1.8 | 1.7 |
| 190 x 65 | 3.9 | 3.6 | 3.2 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 |
| 240 x 65 | 4.7 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.1 | 2.9 |
| 265 x 65 | 5.0 | 4.6 | 4.2 | 4.0 | 3.8 | 3.7 | 3.5 | 3.2 |
| 290 x 65 | 5.4 | 4.9 | 4.5 | 4.3 | 4.1 | 3.9 | 3.8 | 3.6 |
| 2/140 x 65 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.5 | 2.3 | 2.2 |
| 2/190 x 65 | 4.6 | 4.2 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 |
| 2/240 x 65 | 5.4 | 5.0 | 4.6 | 4.4 | 4.2 | 4.0 | 3.9 | 3.8 |
| 2/265 x 65 | 5.8 | 5.3 | 5.0 | 4.7 | 4.5 | 4.3 | 4.2 | 4.0 |
| 2/290 x 65 | 6.2 | 5.7 | 5.3 | 5.0 | 4.8 | 4.6 | 4.5 | 4.3 |

## Table 18.2: Internal Bearers / 40kg Floor Mass (Continuous Span)

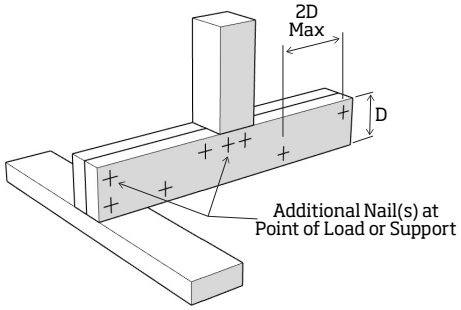
| Section D x B (mm) | Continuous Span | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Floor Load Width (m) | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 |
| | Maximum Bearer Span (m) | | | | | | | |
| 2/70 x 42 | 2.0 | 1.7 | 1.5 | 1.3 | 1.2 | 1.1 | 1.0 | 1.0 |
| 2/90 x 42 | 2.6 | 2.2 | 1.9 | 1.7 | 1.6 | 1.4 | 1.3 | 1.3 |
| 2/120 x 42 | 3.4 | 2.9 | 2.5 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 |
| 2/140 x 42 | 3.8 | 3.4 | 3.0 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 |
| 2/190 x 42 | 4.8 | 4.4 | 3.9 | 3.6 | 3.3 | 3.0 | 2.8 | 2.6 |
| 2/240 x 42 | 5.8 | 5.2 | 4.7 | 4.2 | 3.9 | 3.7 | 3.4 | 3.3 |
| 2/290 x 42 | 6.6 | 5.9 | 5.2 | 4.8 | 4.4 | 4.2 | 3.9 | 3.7 |
| 140 x 65 | 3.6 | 3.0 | 2.6 | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 |
| 190 x 65 | 4.5 | 4.1 | 3.5 | 3.2 | 2.9 | 2.7 | 2.5 | 2.3 |
| 240 x 65 | 5.4 | 4.9 | 4.5 | 4.0 | 3.6 | 3.4 | 3.1 | 2.9 |
| 265 x 65 | 5.8 | 5.3 | 4.9 | 4.4 | 4.0 | 3.7 | 3.5 | 3.2 |
| 290 x 65 | 6.2 | 5.6 | 5.2 | 4.8 | 4.4 | 4.0 | 3.8 | 3.6 |
| 2/140 x 65 | 4.3 | 3.9 | 3.6 | 3.3 | 3.0 | 2.8 | 2.6 | 2.4 |
| 2/190 x 65 | 5.4 | 4.9 | 4.5 | 4.3 | 4.0 | 3.7 | 3.5 | 3.3 |
| 2/240 x 65 | 6.4 | 5.8 | 5.4 | 5.1 | 4.9 | 4.7 | 4.4 | 4.1 |
| 2/265 x 65 | 6.9 | 6.3 | 5.8 | 5.5 | 5.3 | 5.1 | 4.9 | 4.6 |
| 2/290 x 65 | 7.4 | 6.7 | 6.2 | 5.9 | 5.6 | 5.4 | 5.2 | 5.0 |

## Bearers Supporting Floor Loads Only (40kg/m²)




## Vertical Nail Lamination

(Example - Strutting Beams)



# 19: INTERNAL BEARERS SUPPORT ROOF AND FLOOR

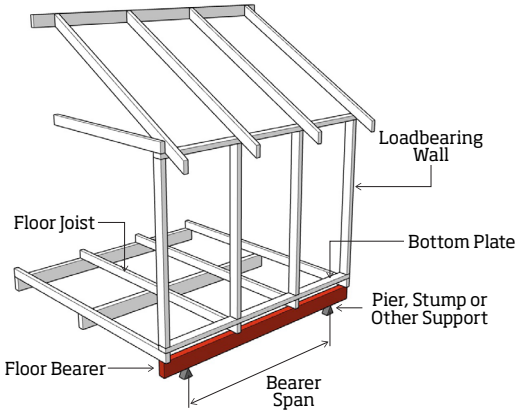
## Table 19.1: Wind Classification: C2 / Sheet Roof 40kg

| Section D x B (mm) | FLW = 1.2m | | | | | FLW = 2.1m | | | | | FLW = 3.0m | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | | | | | |
| | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 |
| | Maximum Single Bearer Span (m) | | | | | | | | | | | | | | |
| 2/90 x 42 | 1.6 | 1.5 | 1.4 | 1.4 | 1.3 | 1.5 | 1.4 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.2 | 1.2 |
| 2/120 x 42 | 2.1 | 2.0 | 1.9 | 1.8 | 1.8 | 1.9 | 1.9 | 1.8 | 1.7 | 1.7 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 |
| 2/140 x 42 | 2.5 | 2.3 | 2.2 | 2.2 | 2.1 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 |
| 2/190 x 42 | 3.4 | 3.2 | 3.0 | 2.9 | 2.8 | 3.1 | 2.9 | 2.8 | 2.7 | 2.7 | 2.8 | 2.7 | 2.7 | 2.6 | 2.5 |
| 2/240 x 42 | 4.1 | 3.9 | 3.8 | 3.7 | 3.5 | 3.8 | 3.7 | 3.6 | 3.4 | 3.3 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 |
| 2/290 x 42 | 4.7 | 4.5 | 4.3 | 4.2 | 4.1 | 4.4 | 4.2 | 4.1 | 4.0 | 3.9 | 4.1 | 4.0 | 3.9 | 3.8 | 3.8 |
| 140 x 65 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 | 2.1 | 2.0 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.8 | 1.8 | 1.7 |
| 190 x 65 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 | 2.8 | 2.7 | 2.6 | 2.5 | 2.4 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 |
| 240 x 65 | 3.8 | 3.7 | 3.5 | 3.4 | 3.3 | 3.5 | 3.4 | 3.3 | 3.2 | 3.1 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 |
| 265 x 65 | 4.1 | 3.9 | 3.8 | 3.7 | 3.6 | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 | 3.6 | 3.5 | 3.4 | 3.3 | 3.2 |
| 290 x 65 | 4.4 | 4.2 | 4.1 | 4.0 | 3.9 | 4.1 | 4.0 | 3.9 | 3.8 | 3.7 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 |
| | Maximum Continuous Bearer Span (m) | | | | | | | | | | | | | | |
| 2/90 x 42 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.8 | 1.7 | 1.7 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 |
| 2/120 x 42 | 2.9 | 2.7 | 2.6 | 2.4 | 2.2 | 2.4 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 |
| 2/140 x 42 | 3.3 | 3.1 | 3.0 | 2.8 | 2.6 | 2.8 | 2.7 | 2.6 | 2.5 | 2.4 | 2.4 | 2.3 | 2.3 | 2.2 | 2.2 |
| 2/190 x 42 | 4.3 | 4.1 | 3.9 | 3.8 | 3.5 | 3.8 | 3.6 | 3.5 | 3.4 | 3.3 | 3.3 | 3.2 | 3.1 | 3.0 | 3.0 |
| 2/240 x 42 | 5.1 | 4.9 | 4.7 | 4.6 | 4.3 | 4.7 | 4.6 | 4.4 | 4.3 | 4.2 | 4.1 | 4.0 | 3.9 | 3.8 | 3.7 |
| 2/290 x 42 | 5.8 | 5.6 | 5.4 | 5.2 | 4.7 | 5.4 | 5.3 | 5.1 | 5.0 | 4.6 | 4.9 | 4.8 | 4.6 | 4.5 | 4.4 |
| 140 x 65 | 3.0 | 2.8 | 2.7 | 2.5 | 2.3 | 2.4 | 2.4 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.0 | 2.0 | 1.9 |
| 190 x 65 | 4.0 | 3.8 | 3.7 | 3.4 | 3.1 | 3.3 | 3.2 | 3.1 | 3.0 | 2.9 | 2.9 | 2.8 | 2.7 | 2.7 | 2.6 |
| 240 x 65 | 4.8 | 4.6 | 4.4 | 4.3 | 3.9 | 4.2 | 4.0 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 | 3.4 | 3.4 | 3.3 |
| 265 x 65 | 5.1 | 4.9 | 4.7 | 4.6 | 4.3 | 4.6 | 4.4 | 4.3 | 4.2 | 4.1 | 4.0 | 3.9 | 3.8 | 3.7 | 3.6 |
| 290 x 65 | 5.5 | 5.3 | 5.1 | 4.9 | 4.7 | 5.0 | 4.9 | 4.7 | 4.6 | 4.4 | 4.4 | 4.3 | 4.1 | 4.0 | 4.0 |

## Table 19.2: Bearers Support Roof and Floor / Wind Classification: C2 / Tile Roof 90kg

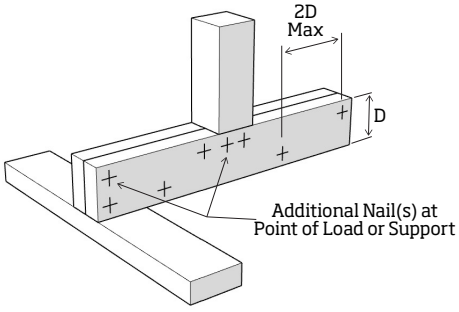
| Section D x B (mm) | FLW = 1.2m | | | | | FLW = 2.1m | | | | | FLW = 3.0m | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | | | | | |
| | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 | 1.8 | 3.0 | 4.2 | 5.4 | 6.6 |
| | Maximum Single Bearer Span (m) | | | | | | | | | | | | | | |
| 2/90 x 42 | 1.5 | 1.3 | 1.2 | 1.2 | 1.1 | 1.4 | 1.3 | 1.2 | 1.1 | 1.1 | 1.3 | 1.2 | 1.1 | 1.1 | 1.0 |
| 2/120 x 42 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.7 | 1.6 | 1.5 | 1.4 | 1.4 |
| 2/140 x 42 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 2.1 | 2.0 | 1.8 | 1.8 | 1.7 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 |
| 2/190 x 42 | 3.1 | 2.8 | 2.6 | 2.5 | 2.4 | 2.8 | 2.6 | 2.5 | 2.4 | 2.3 | 2.7 | 2.5 | 2.4 | 2.3 | 2.2 |
| 2/240 x 42 | 3.8 | 3.5 | 3.3 | 3.1 | 3.0 | 3.6 | 3.3 | 3.1 | 3.0 | 2.9 | 3.4 | 3.2 | 3.0 | 2.9 | 2.8 |
| 2/290 x 42 | 4.4 | 4.1 | 3.9 | 3.7 | 3.6 | 4.1 | 3.9 | 3.7 | 3.6 | 3.5 | 3.9 | 3.8 | 3.6 | 3.5 | 3.4 |
| 140 x 65 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 | 1.8 | 1.7 | 1.6 | 1.5 | 1.5 |
| 190 x 65 | 2.8 | 2.6 | 2.4 | 2.3 | 2.2 | 2.6 | 2.4 | 2.3 | 2.2 | 2.1 | 2.5 | 2.3 | 2.2 | 2.1 | 2.0 |
| 240 x 65 | 3.5 | 3.3 | 3.0 | 2.9 | 2.7 | 3.3 | 3.1 | 2.9 | 2.8 | 2.6 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 |
| 265 x 65 | 3.8 | 3.6 | 3.3 | 3.2 | 3.0 | 3.6 | 3.4 | 3.2 | 3.0 | 2.9 | 3.4 | 3.2 | 3.1 | 2.9 | 2.8 |
| 290 x 65 | 4.1 | 3.8 | 3.6 | 3.5 | 3.3 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.7 | 3.5 | 3.3 | 3.2 | 3.1 |
| | Maximum Continuous Bearer Span (m) | | | | | | | | | | | | | | |
| 2/90 x 42 | 1.9 | 1.8 | 1.6 | 1.5 | 1.4 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.5 | 1.4 | 1.3 | 1.3 | 1.2 |
| 2/120 x 42 | 2.6 | 2.3 | 2.1 | 1.9 | 1.8 | 2.2 | 2.1 | 2.0 | 1.8 | 1.7 | 2.0 | 1.9 | 1.8 | 1.7 | 1.6 |
| 2/140 x 42 | 3.0 | 2.7 | 2.5 | 2.3 | 2.1 | 2.6 | 2.4 | 2.3 | 2.1 | 2.0 | 2.3 | 2.2 | 2.1 | 2.0 | 1.9 |
| 2/190 x 42 | 4.0 | 3.7 | 3.3 | 3.1 | 2.9 | 3.5 | 3.3 | 3.1 | 2.9 | 2.7 | 3.1 | 2.9 | 2.8 | 2.7 | 2.6 |
| 2/240 x 42 | 4.7 | 4.4 | 4.2 | 3.9 | 3.6 | 4.4 | 4.2 | 3.9 | 3.6 | 3.4 | 3.9 | 3.7 | 3.5 | 3.4 | 3.2 |
| 2/290 x 42 | 5.4 | 5.1 | 4.8 | 4.5 | 4.1 | 5.1 | 4.9 | 4.6 | 4.4 | 4.0 | 4.7 | 4.4 | 4.2 | 4.0 | 3.9 |
| 140 x 65 | 2.7 | 2.4 | 2.2 | 2.0 | 1.8 | 2.3 | 2.1 | 2.0 | 1.9 | 1.8 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 |
| 190 x 65 | 3.7 | 3.2 | 2.9 | 2.7 | 2.5 | 3.1 | 2.9 | 2.7 | 2.5 | 2.4 | 2.7 | 2.6 | 2.5 | 2.4 | 2.2 |
| 240 x 65 | 4.4 | 4.1 | 3.7 | 3.4 | 3.1 | 3.9 | 3.7 | 3.4 | 3.2 | 3.0 | 3.4 | 3.3 | 3.1 | 3.0 | 2.8 |
| 265 x 65 | 4.8 | 4.5 | 4.1 | 3.8 | 3.4 | 4.3 | 4.0 | 3.8 | 3.5 | 3.3 | 3.8 | 3.6 | 3.4 | 3.3 | 3.1 |
| 290 x 65 | 5.1 | 4.8 | 4.5 | 4.1 | 3.7 | 4.7 | 4.4 | 4.1 | 3.8 | 3.6 | 4.2 | 3.9 | 3.8 | 3.6 | 3.4 |

### Bearers Supporting Loadbearing Walls - Single or Upper Storey




### Vertical Nail Lamination

(Example - Strutting Beams)



# 20: INTERNAL FLOOR JOISTS ONLY

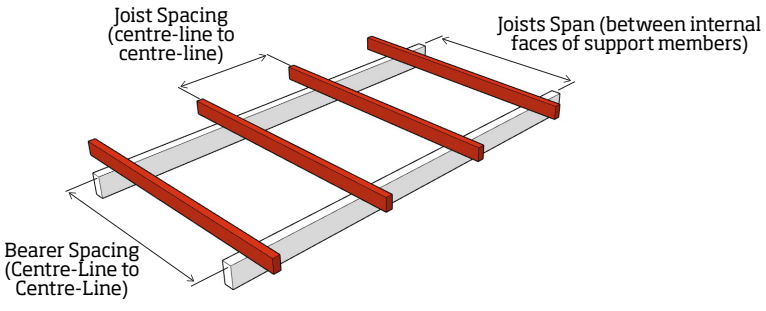
## Table 20.1: Floor Joist / 40kg Floor Mass / 1.5kPa

| Section D x B (mm) | Single Span | | | | | Continuous Span | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Floor Load Width 'FLW' (mm) | | | | | Floor Load Width 'FLW' (mm) | | | | |
| | 300 | 400 | 450 | 480 | 600 | 300 | 400 | 450 | 480 | 600 |
| | Maximum Floor Joist Span (m) | | | | | Maximum Floor Joist Span (m) | | | | |
| 70 x 32 | 1.5 | 1.3 | 1.3 | 1.3 | 1.2 | 1.9 | 1.5 | 1.4 | 1.5 | 1.3 |
| 90 x 32 | 2.1 | 1.8 | 1.7 | 1.7 | 1.6 | 2.8 | 2.1 | 2.0 | 2.1 | 1.9 |
| 140 x 32 | 3.7 | 2.9 | 2.8 | 2.9 | 2.6 | 4.3 | 3.6 | 3.3 | 3.5 | 3.1 |
| 190 x 32 | 4.6 | 4.2 | 3.9 | 4.1 | 3.7 | 5.4 | 5.0 | 4.8 | 4.8 | 4.4 |
| 240 x 32 | 5.4 | 5.1 | 5.0 | 4.9 | 4.7 | 6.4 | 6.0 | 5.8 | 5.7 | 5.4 |
| 290 x 32 | 6.2 | 5.9 | 5.7 | 5.6 | 5.4 | 7.4 | 6.9 | 6.7 | 6.6 | 6.2 |
| 70 x 42 | 1.7 | 1.5 | 1.4 | 1.5 | 1.4 | 2.3 | 1.7 | 1.7 | 1.7 | 1.6 |
| 90 x 42 | 2.3 | 2.0 | 1.9 | 1.9 | 1.8 | 3.1 | 2.3 | 2.2 | 2.3 | 2.1 |
| 120 x 42 | 3.5 | 2.7 | 2.6 | 2.7 | 2.5 | 4.1 | 3.3 | 3.1 | 3.2 | 2.9 |
| 140 x 42 | 3.9 | 3.3 | 3.1 | 3.2 | 2.9 | 4.6 | 4.1 | 3.7 | 3.9 | 3.4 |
| 190 x 42 | 4.9 | 4.6 | 4.4 | 4.4 | 4.1 | 5.8 | 5.4 | 5.2 | 5.1 | 4.8 |
| 240 x 42 | 5.8 | 5.4 | 5.3 | 5.2 | 5.0 | 6.9 | 6.4 | 6.2 | 6.1 | 5.8 |
| 290 x 42 | 6.6 | 6.2 | 6.1 | 6.0 | 5.7 | 7.9 | 7.4 | 7.1 | 7.0 | 6.6 |
| 140 x 65 | 4.3 | 3.9 | 3.6 | 3.8 | 3.4 | 5.1 | 4.8 | 4.4 | 4.5 | 4.1 |
| 190 x 65 | 5.3 | 5.0 | 4.9 | 4.8 | 4.6 | 6.4 | 6.0 | 5.8 | 5.7 | 5.4 |
| 240 x 65 | 6.3 | 5.9 | 5.8 | 5.7 | 5.5 | 7.6 | 7.1 | 6.9 | 6.8 | 6.4 |
| 265 x 65 | 6.7 | 6.3 | 6.2 | 6.1 | 5.8 | 8.2 | 7.7 | 7.4 | 7.3 | 6.9 |
| 290 x 65 | 7.1 | 6.7 | 6.6 | 6.5 | 6.2 | 8.8 | 8.2 | 8.0 | 7.8 | 7.4 |

## Table 20.2: Floor Joist / 100kg Floor Mass / 1.5kPa

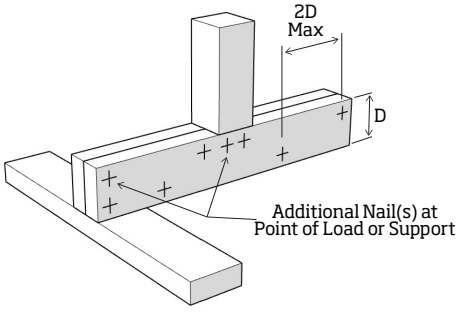
| Section D x B (mm) | Single Span | | | | | Continuous Span | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Floor Load Width 'FLW' (mm) | | | | | Floor Load Width 'FLW' (mm) | | | | |
| | 300 | 400 | 450 | 480 | 600 | 300 | 400 | 450 | 480 | 600 |
| | Maximum Floor Joist Span (m) | | | | | Maximum Floor Joist Span (m) | | | | |
| 70 x 32 | 1.5 | 1.3 | 1.3 | 1.3 | 1.1 | 1.6 | 1.3 | 1.3 | 1.3 | 1.1 |
| 90 x 32 | 2.1 | 1.8 | 1.7 | 1.7 | 1.6 | 2.8 | 2.1 | 2.0 | 2.1 | 1.9 |
| 140 x 32 | 3.2 | 2.9 | 2.8 | 2.8 | 2.6 | 4.1 | 3.6 | 3.3 | 3.5 | 3.1 |
| 190 x 32 | 4.1 | 3.9 | 3.7 | 3.7 | 3.5 | 5.1 | 4.8 | 4.7 | 4.6 | 4.4 |
| 240 x 32 | 4.9 | 4.6 | 4.4 | 4.4 | 4.2 | 6.1 | 5.7 | 5.5 | 5.5 | 5.2 |
| 290 x 32 | 5.6 | 5.2 | 5.1 | 5.0 | 4.8 | 7.0 | 6.5 | 6.4 | 6.3 | 6.0 |
| 70 x42 | 1.7 | 1.5 | 1.4 | 1.5 | 1.4 | 2.2 | 1.7 | 1.7 | 1.7 | 1.5 |
| 90 x 42 | 2.3 | 2.0 | 1.9 | 1.9 | 1.8 | 3.0 | 2.3 | 2.2 | 2.3 | 2.1 |
| 120 x 42 | 3.0 | 2.7 | 2.6 | 2.6 | 2.4 | 3.9 | 3.3 | 3.1 | 3.2 | 2.9 |
| 140 x 42 | 3.5 | 3.2 | 3.1 | 3.0 | 2.8 | 4.4 | 4.1 | 3.7 | 3.9 | 3.4 |
| 190 x 42 | 4.4 | 4.1 | 4.0 | 3.9 | 3.7 | 5.5 | 5.1 | 5.0 | 4.9 | 4.6 |
| 240 x 42 | 5.2 | 4.9 | 4.7 | 4.7 | 4.4 | 6.5 | 6.1 | 5.9 | 5.8 | 5.5 |
| 290 x 42 | 5.9 | 5.6 | 5.4 | 5.4 | 5.1 | 7.4 | 6.9 | 6.8 | 6.7 | 6.3 |
| 140 x 65 | 3.9 | 3.6 | 3.5 | 3.4 | 3.2 | 4.8 | 4.5 | 4.4 | 4.3 | 4.1 |
| 190 x 65 | 4.8 | 4.5 | 4.4 | 4.3 | 4.1 | 6.0 | 5.6 | 5.5 | 5.4 | 5.1 |
| 240 x 65 | 5.7 | 5.3 | 5.2 | 5.1 | 4.9 | 7.1 | 6.7 | 6.5 | 6.4 | 6.1 |
| 265 x 65 | 6.1 | 5.7 | 5.6 | 5.5 | 5.3 | 7.6 | 7.2 | 7.0 | 6.9 | 6.5 |
| 290 x 65 | 6.5 | 6.1 | 6.0 | 5.9 | 5.6 | 8.1 | 7.6 | 7.4 | 7.3 | 7.0 |

## Bearers and Joists




## Vertical Nail Lamination

(Example - Strutting Beams)



# 21: DECK BEARERS ONLY

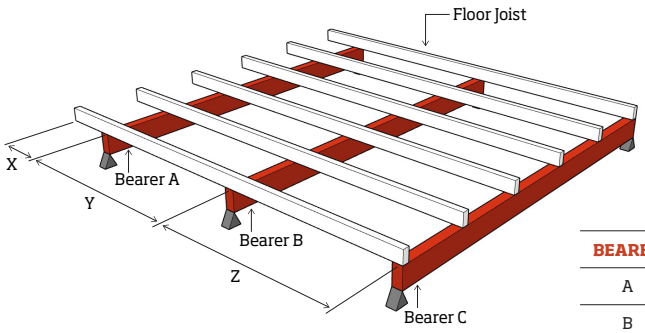
## Table 21.1: Deck Bearers / 40kg Floor Mass / 2kPa / External Decks (Single Span)

| Section D x B (mm) | Single Span | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Floor Load Width 'FLW' (m) | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 |
| | Maximum Bearer Span (m) | | | | | | | |
| 2/70 x 42 | 1.5 | 1.3 | 1.2 | 1.1 | 1.1 | 1.0 | 0.9 | 0.9 |
| 2/90 x 42 | 2.0 | 1.7 | 1.6 | 1.4 | 1.4 | 1.3 | 1.2 | 1.1 |
| 2/120 x 42 | 2.6 | 2.3 | 2.1 | 1.9 | 1.8 | 1.7 | 1.6 | 1.5 |
| 2/140 x 42 | 3.1 | 2.7 | 2.4 | 2.3 | 2.1 | 2.0 | 1.8 | 1.7 |
| 2/190 x 42 | 3.9 | 3.5 | 3.3 | 3.1 | 2.9 | 2.7 | 2.5 | 2.4 |
| 2/240 x 42 | 4.6 | 4.2 | 3.9 | 3.7 | 3.5 | 3.4 | 3.2 | 3.0 |
| 2/290 x 42 | 5.4 | 4.8 | 4.5 | 4.3 | 4.1 | 3.9 | 3.8 | 3.6 |
| 140 x 65 | 2.8 | 2.5 | 2.2 | 2.1 | 1.9 | 1.7 | 1.6 | 1.5 |
| 190 x 65 | 3.7 | 3.3 | 3.0 | 2.8 | 2.6 | 2.4 | 2.2 | 2.1 |
| 240 x 65 | 4.4 | 3.9 | 3.7 | 3.5 | 3.2 | 3.0 | 2.8 | 2.6 |
| 265 x 65 | 4.7 | 4.2 | 3.9 | 3.7 | 3.6 | 3.3 | 3.1 | 2.9 |
| 290 x 65 | 5.0 | 4.5 | 4.2 | 4.0 | 3.8 | 3.6 | 3.4 | 3.2 |
| 2/140 x 65 | 3.5 | 3.1 | 2.8 | 2.6 | 2.5 | 2.3 | 2.2 | 2.1 |
| 2/190 x 65 | 4.3 | 3.9 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 2.9 |
| 2/240 x 65 | 5.2 | 4.7 | 4.4 | 4.1 | 3.9 | 3.8 | 3.7 | 3.6 |
| 2/265 x 65 | 5.6 | 5.0 | 4.7 | 4.4 | 4.2 | 4.1 | 3.9 | 3.8 |
| 2/290 x 65 | 6.0 | 5.4 | 5.0 | 4.7 | 4.5 | 4.4 | 4.2 | 4.1 |

## Table 21.2: Deck Bearers / 40kg Floor Mass / 2kPa / External Decks (Continuous Span)

| Section D x B (mm) | Continuous Span | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Floor Load Width 'FLW' (m) | | | | | | | |
| | 1.2 | 1.8 | 2.4 | 3.0 | 3.6 | 4.2 | 4.8 | 5.4 |
| | Maximum Bearer Span (m) | | | | | | | |
| 2/70 x 42 | 1.9 | 1.5 | 1.3 | 1.2 | 1.1 | 1.0 | 0.9 | 0.9 |
| 2/90 x 42 | 2.4 | 2.0 | 1.7 | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 |
| 2/120 x 42 | 3.2 | 2.6 | 2.3 | 2.0 | 1.8 | 1.7 | 1.6 | 1.5 |
| 2/140 x 42 | 3.6 | 3.0 | 2.6 | 2.4 | 2.1 | 2.0 | 1.8 | 1.7 |
| 2/190 x 42 | 4.5 | 4.0 | 3.6 | 3.2 | 2.9 | 2.7 | 2.5 | 2.4 |
| 2/240 x 42 | 5.4 | 4.8 | 4.2 | 3.8 | 3.5 | 3.3 | 3.1 | 3.0 |
| 2/290 x 42 | 6.2 | 5.4 | 4.8 | 4.4 | 4.0 | 3.8 | 3.6 | 3.4 |
| 140 x 65 | 3.3 | 2.7 | 2.3 | 2.1 | 1.9 | 1.7 | 1.6 | 1.4 |
| 190 x 65 | 4.2 | 3.6 | 3.1 | 2.8 | 2.6 | 2.4 | 2.2 | 1.9 |
| 240 x 65 | 5.0 | 4.5 | 4.0 | 3.5 | 3.2 | 3.0 | 2.7 | 2.4 |
| 265 x 65 | 5.4 | 4.9 | 4.4 | 3.9 | 3.6 | 3.3 | 3.0 | 2.7 |
| 290 x 65 | 5.8 | 5.2 | 4.8 | 4.3 | 3.9 | 3.6 | 3.3 | 2.9 |
| 2/140 x 65 | 4.0 | 3.6 | 3.3 | 2.9 | 2.7 | 2.5 | 2.3 | 2.2 |
| 2/190 x 65 | 5.0 | 4.5 | 4.2 | 4.0 | 3.6 | 3.3 | 3.1 | 2.9 |
| 2/240 x 65 | 6.0 | 5.4 | 5.0 | 4.8 | 4.5 | 4.2 | 3.9 | 3.7 |
| 2/265 x 65 | 6.4 | 5.8 | 5.4 | 5.1 | 4.9 | 4.6 | 4.3 | 4.1 |
| 2/290 x 65 | 6.9 | 6.2 | 5.8 | 5.5 | 5.2 | 5.0 | 4.7 | 4.5 |

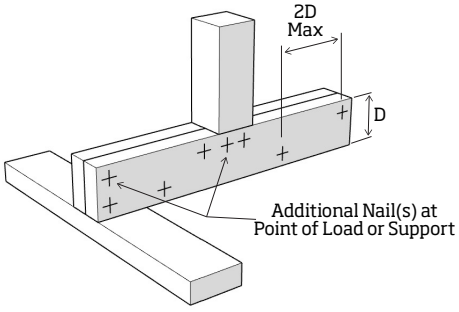
## Determination of Floor Load Width




| BEARER | FLOOR LOAD WIDTH 'FLW' |
|---|---|
| A | $FLW = X + \frac{Y}{2}$ |
| B | $FLW = \frac{Y + Z}{2}$ |
| C | $FLW = \frac{Z}{2}$ |

## Vertical Nail Lamination

(Example - Strutting Beams)



# 22: DECK JOISTS ONLY

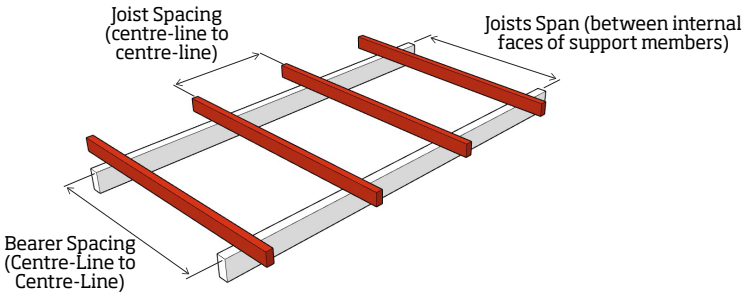
## Table 22.1: Deck Joists / 20kg Floor Mass / 2kPa / (Single Span)

| Section D x B (mm) | Single Span | | | | |
|---|---|---|---|---|---|
| | Floor Load Width 'FLW' (mm) | | | | |
| | 300 | 400 | 450 | 480 | 600 |
| | Maximum Floor Joist Span (m) | | | | |
| 70 x 32 | 1.5 | 1.3 | 1.3 | 1.3 | 1.2 |
| 90 x 32 | 2.1 | 1.8 | 1.7 | 1.7 | 1.6 |
| 140 x 32 | 3.4 | 2.9 | 2.8 | 2.9 | 2.6 |
| 190 x 32 | 4.3 | 4.0 | 3.9 | 3.9 | 3.6 |
| 240 x 32 | 5.2 | 4.8 | 4.7 | 4.6 | 4.3 |
| 290 x 32 | 5.9 | 5.5 | 5.4 | 5.3 | 5.0 |
| 70 x42 | 1.7 | 1.5 | 1.4 | 1.5 | 1.4 |
| 90 x 42 | 2.3 | 2.0 | 1.9 | 1.9 | 1.8 |
| 120 x 42 | 3.3 | 2.7 | 2.6 | 2.7 | 2.5 |
| 140 x 42 | 3.7 | 3.3 | 3.1 | 3.2 | 2.9 |
| 190 x 42 | 4.6 | 4.3 | 4.2 | 4.1 | 3.9 |
| 240 x 42 | 5.5 | 5.1 | 5.0 | 4.9 | 4.6 |
| 290 x 42 | 6.4 | 5.9 | 5.8 | 5.7 | 5.4 |
| 140 x 65 | 4.1 | 3.8 | 3.6 | 3.7 | 3.4 |
| 190 x 65 | 5.2 | 4.8 | 4.7 | 4.6 | 4.3 |
| 240 x 65 | 6.2 | 5.7 | 5.6 | 5.5 | 5.2 |
| 265 x 65 | 6.6 | 6.2 | 6.0 | 5.9 | 5.6 |
| 290 x 65 | 7.1 | 6.6 | 6.4 | 6.3 | 6.0 |

## Table 22.2: Deck Joists / 20kg Floor Mass / 2kPa / (Continuous Span)

| Section D x B (mm) | Continuous Span | | | | |
|---|---|---|---|---|---|
| | Floor Load Width 'FLW' (mm) | | | | |
| | 300 | 400 | 450 | 480 | 600 |
| | Maximum Floor Joist Span (m) | | | | |
| 70 x 32 | 1.9 | 1.6 | 1.5 | 1.5 | 1.4 |
| 90 x 32 | 2.7 | 2.1 | 2.0 | 2.1 | 1.9 |
| 140 x 32 | 4.0 | 3.6 | 3.3 | 3.5 | 3.1 |
| 190 x 32 | 5.0 | 4.7 | 4.5 | 4.4 | 4.2 |
| 240 x 32 | 6.0 | 5.5 | 5.4 | 5.3 | 5.0 |
| 290 x 32 | 6.9 | 6.4 | 6.2 | 6.1 | 5.8 |
| 70 x 42 | 2.3 | 1.7 | 1.7 | 1.7 | 1.6 |
| 90 x 42 | 3.0 | 2.3 | 2.2 | 2.3 | 2.1 |
| 120 x 42 | 3.8 | 3.3 | 3.1 | 3.2 | 2.9 |
| 140 x 42 | 4.3 | 4.0 | 3.7 | 3.8 | 3.4 |
| 190 x 42 | 5.4 | 5.0 | 4.8 | 4.8 | 4.5 |
| 240 x 42 | 6.4 | 5.9 | 5.8 | 5.7 | 5.4 |
| 290 x 42 | 7.4 | 6.8 | 6.6 | 6.5 | 6.2 |
| 140 x 65 | 4.8 | 4.4 | 4.3 | 4.2 | 4.0 |
| 190 x 65 | 6.0 | 5.6 | 5.4 | 5.3 | 5.0 |
| 240 x 65 | 7.1 | 6.6 | 6.4 | 6.3 | 6.0 |
| 265 x 65 | 7.7 | 7.1 | 6.9 | 6.8 | 6.4 |
| 290 x 65 | 8.2 | 7.6 | 7.4 | 7.3 | 6.9 |

## Bearers and Joists



TGA ENGINEERS
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YARRAVILLE VIC 3013
Ph: (03) 9687 1676
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Glulam grade: GL17
Veneer Species: Merbau
Country of origin: Indonesia
Adhesive: Phenol resorcinol formaldehyde

## CHARACTERISTIC DESIGN VALUES AND JOINT GROUP RECOMMENDATIONS

TGA Engineers has been engaged to evaluate the Glulam beams and post report[1,2] and recommend suitable characteristic design values and properties within AS1328.1. TGA engineers have over 30 years' experience in timber design and manufacture. Based on this experience TGA engineers are competent to provide an appropriate evaluation of test data, in accordance with AS/NZS4063.

The intended use of this Glulam product is in accordance with residential construction nominated within AS1684 and designed in accordance with AS1720.

In order to maintain the nominated Characteristic Values, ongoing monitoring and testing in accordance with AS/NZS1328.1 by the manufacturing plant during production is required to ensure performance requirements of the lamination stock, adhesives, bond quality and finished product are maintained. Characteristic Design Values have been determined and nominated in the table below and are in accordance with AS1720.1. Therefore 1720.1 can be adopted as the design method.

The current data is valid for a two (2) year period from the date of the document. Ongoing verification is to be undertaken by the manufacturer and reported to TGA at 6-month intervals. If this data departs from the Characteristic Values nominated, further investigation is required, and this recommendation may be withdrawn.

**Characteristics strength values for design – AS/NZS 1720.1**

| **Characteristic values (MPa) – GL17:** | | | |
|---|---|---|---|
| **STRUCTURAL DESIGN PROPERTIES** | | | |
| **Bending ($f'_b$)** | 40 | **Shear in beams ($f'_s$)** | 4.2 |
| **Compression parallel to grain ($f'_c$)** | 33 | **Short term average modulus parallel to grain (E)** | 16,700 |
| **Tension parallel to grain ($f'_t$)** | 20 | **Short term average modulus of rigidity (G)** | 1110 |
| **Density (kg/m³)** | 850 | | |

- Moisture content 15% or less
- For tension members with the larger cross-sectional dimension greater than 150mm multiply the characteristic value by $(150/d)^{0.167}$.

**Referenced Standards and Reports**

- AS/NZS 1328.1:1998/Amdt1: 2011 Glued laminated structural timber Part 1: Performance requirements and minimum production requirements
- AS/NZS 1328.2:1998 Glued laminated structural timber Guidelines for AS/NZS 1328: Pt 1 for the selection, production and installation of glued laminated structural timber
- AS/NZS 4063.1:2010 Characterization of structural timber Test methods
- AS/NZS 4063.2:2010 Characterization of structural timber Determination of characteristic values
- AS 1720.1-2010 Timber structures Design methods

**Test Reports**

1. Test Report, Universal Testing Facility, 'Characteristic Properties of SWPI Finger Jointed Glulam Products', Issued by Dr Con Adam (CEMQA Pty Ltd), Job number SWPI/23/003, Report number 23/0251, dated 26 July 2023, 28 pages
2. Certificate of Qualification, Glued Laminated Timber Association of Australia, Registration date 26 July 2023, Registration number G-7

**Signatures** :-

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Director
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Director
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**Document Date:** December 2023
**Expiration Date:** December 2024