



e-maximus®



e-maximus®
engineered steel replacing LVL



e-maximus is Wesbeam's high strength steel replacing LVL made from sustainably sourced trees grown close to the only LVL factory in Australia.

e-maximus has the strength of steel, the flexibility of LVL and does away with costly connection brackets and welding.

Features

- Engineered for straightness, consistency and guaranteed performance
- Available in lengths of 5.4m, 6.0m and 6.6m
- Can be easily treated to e2S, H2 and H3 Hazard Levels. When the e-maximus LVL is treated to a e2S Hazard Level in the Wesbeam mill it is guaranteed for 25 years against termite attack when used South of the Tropic of Capricorn
- Available ex-stock
- Competitively priced
- High load bearing capacity
- High strength yet lighter and safer to handle
- Chamfered edges for safer and more comfortable handling
- Made from sustainably sourced timber veneers
- Fully supported by Wesbeam e-house and nail plate manufacturers' software
- Manufactured in Australia by a wholly owned Australian company
- Wesbeam has full Chain of Custody aligned with the Responsible Wood (RW) Certification Scheme and Program for the Endorsement of Forest Certification (PEFC)

e-maximus LVL Beam Sizes

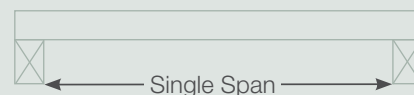
| Beam Depth 'D' (mm) | Beam Width 'B' (mm) |
|---------------------|---------------------|
| 300 | 82 |
| 400 | 82 |
| 450 | 82 |

e-maximus LVL Beam Spans

The design span of an e-maximus LVL beam is measured as the distance between the faces of the beam supports. DO NOT use the centreline to centreline measurement or the length of the e-maximus beam as the design span.

Single Span

The span of a member supported at or near both ends with no immediate supports. This also applies where members are partially cut through over intermediate supports to remove spring.

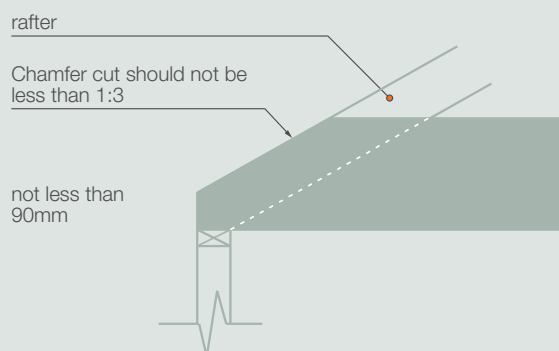


Design Loads

Roof design loads are determined in accordance with AS1684.2:2010 - Residential timber-framed construction, Part 2: Non-cyclonic areas, where:

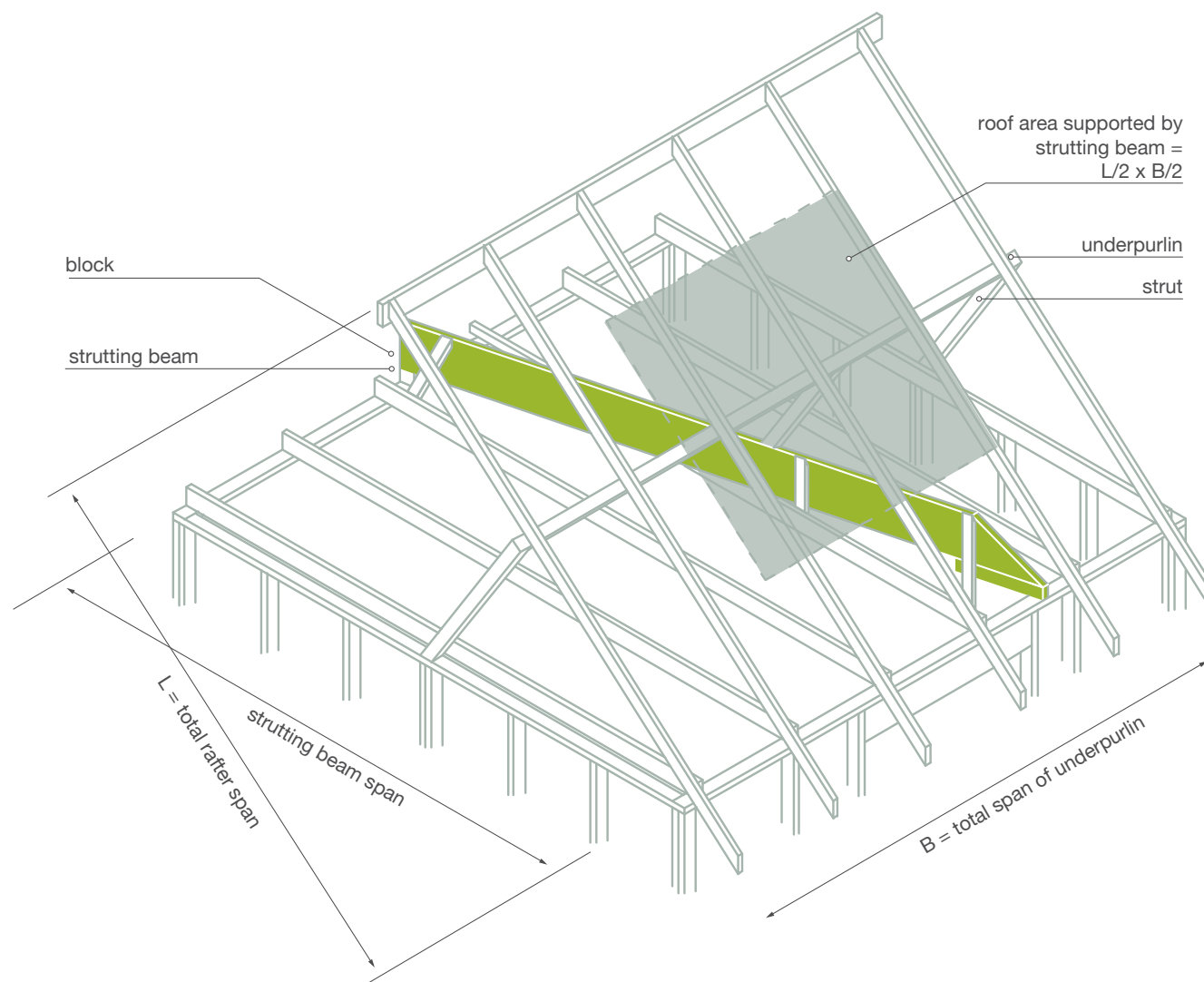
| Roof Type | Design Roof Mass (kg/m ²) |
|----------------------|---------------------------------------|
| Sheet Roof only | 20 |
| Sheet Roof + Ceiling | 40 |
| Tile Roof only | 60 |
| Tile Roof + Ceiling | 90 |

Wesbeam Solid LVL Splay Detail



STRUTTING BEAMS

SUPPORTING UNDERPURLINS ONLY



STRUTTING BEAMS

SUPPORTING UNDERPURLINS ONLY

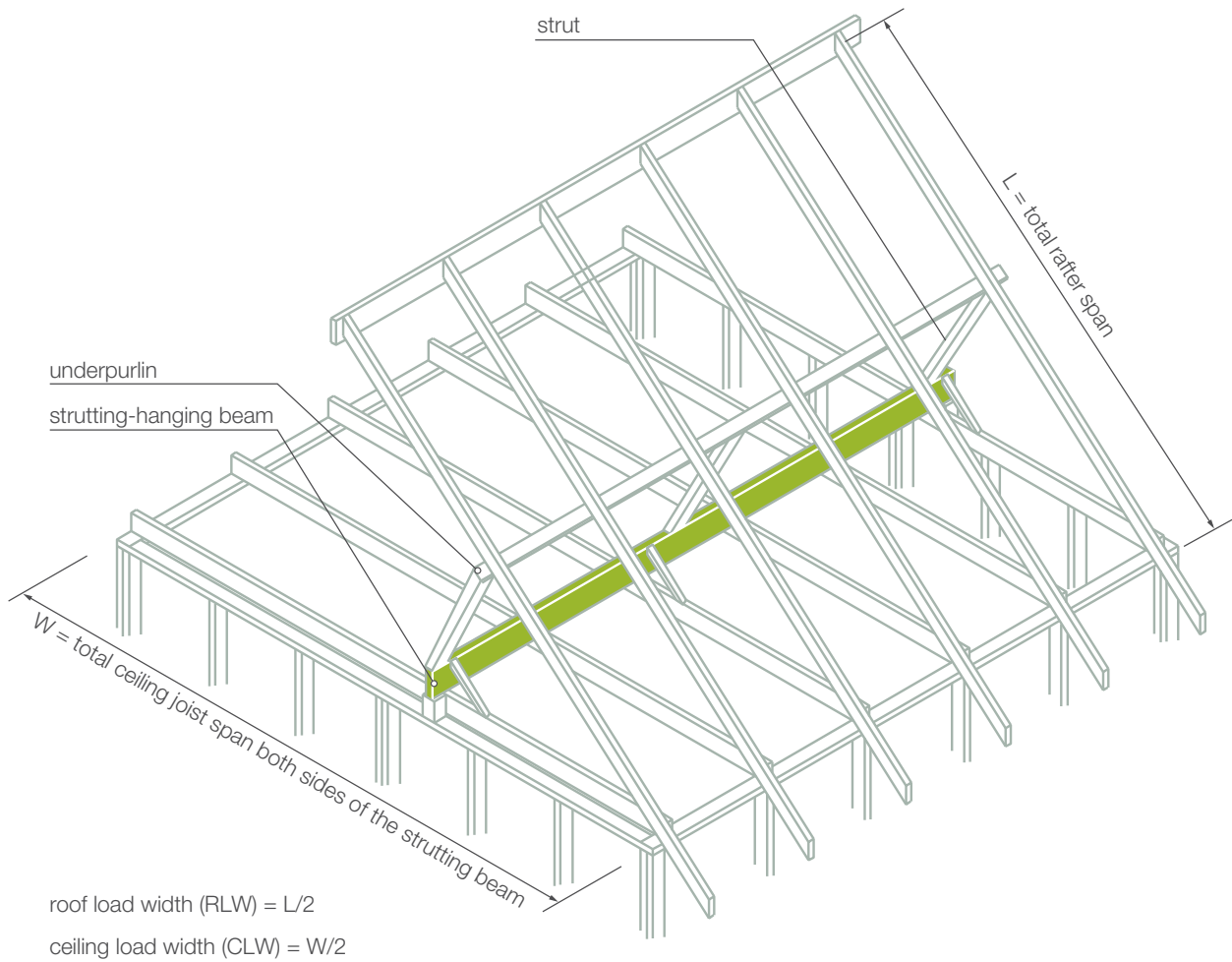
WIND CLASSIFICATION N1, N2, N3

| e-maximus Section D X B (mm) | Roof Area supported (m ²) | | | | | | | | |
|------------------------------------|---------------------------------------|------|------|------|------|------|------|-----|-----|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 |
| | Maximum Span (m) | | | | | | | | |
| Sheet Roof | | | | | | | | | |
| 300 x 82 | 9.2 | 8.6 | 8.4 | 8.1 | 7.8 | 7.6 | 7.4 | 6.6 | 6.1 |
| 400 x 82 | 11.1 | 10.7 | 10.3 | 10.0 | 9.8 | 9.5 | 9.3 | 8.8 | 8.5 |
| 450 x 82 | 12.6 | 12.1 | 11.6 | 11.3 | 11.0 | 10.7 | 10.3 | 9.9 | 9.1 |
| Tile Roof | | | | | | | | | |
| 300 x 82 | 8.2 | 7.6 | 7.1 | 6.7 | 6.4 | 6.1 | 5.8 | 5.3 | 4.9 |
| 400 x 82 | 10.1 | 9.5 | 9.1 | 8.5 | 8.3 | 7.9 | 7.6 | 7.2 | 6.8 |
| 450 x 82 | 11.2 | 10.7 | 10.0 | 9.6 | 9.1 | 8.7 | 8.5 | 7.9 | 7.5 |

- 1 All sections with depth to breadth ratio greater than three must be laterally restrained against rollover at mid-span, strutting points and at supports as per AS 1684.
- 2 A minimum initial clearance of 25mm to ceiling framing member shall be provided at mid-span.
- 3 Bearing lengths at end supports shall not be less than 65mm.
- 4 Beam ends may be chamfer cut to a minimum depth of 90mm.
- 5 Maximum available length for e-maximus LVL is 6.6m.

STRUTTING – HANGING BEAMS

SUPPORTING UNDERPURLINS AND CEILING JOISTS



STRUTTING – HANGING BEAMS

SUPPORTING UNDERPURLINS AND CEILING JOISTS

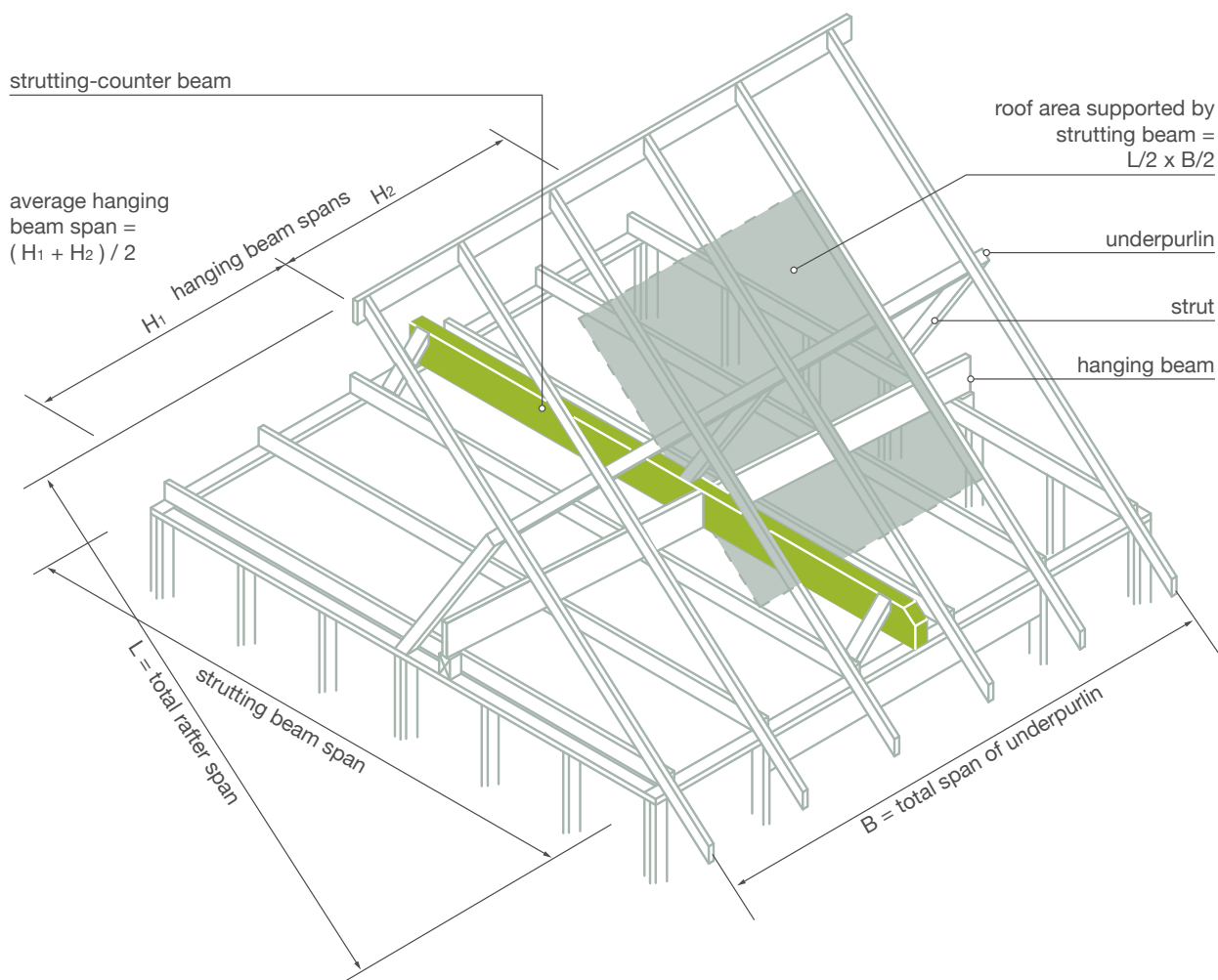
WIND CLASSIFICATION N1, N2, N3

| e-maximus Section D X B (mm) | Ceiling Load Width 'CLW' (m) | | | | | | | | | | | |
|--|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 1.8 | | | | 2.4 | | | | 3.0 | | | |
| | Roof Load Width 'RLW' for underpurlin (m) | | | | | | | | | | | |
| | 1.8 | 2.4 | 3.0 | 3.6 | 1.8 | 2.4 | 3.0 | 3.6 | 1.8 | 2.4 | 3.0 | 3.6 |
| Maximum Span for Sheet Roof & Ceiling (m) | | | | | | | | | | | | |
| 300 x 82 | 5.9 | 5.7 | 5.5 | 5.4 | 5.7 | 5.6 | 5.4 | 5.3 | 5.5 | 5.4 | 5.3 | 5.2 |
| 400 x 82 | 7.2 | 7.0 | 6.8 | 6.6 | 7.0 | 6.8 | 6.6 | 6.5 | 6.8 | 6.6 | 6.5 | 6.4 |
| 450 x 82 | 8.2 | 7.9 | 7.6 | 7.4 | 7.9 | 7.7 | 7.5 | 7.3 | 7.7 | 7.5 | 7.3 | 7.1 |
| Maximum Span for Tile Roof & Ceiling (m) | | | | | | | | | | | | |
| 300 x 82 | 5.3 | 5.0 | 4.8 | 4.7 | 5.2 | 4.9 | 4.8 | 4.6 | 5.1 | 4.9 | 4.7 | 4.5 |
| 400 x 82 | 6.5 | 6.2 | 6.0 | 5.8 | 6.4 | 6.1 | 5.9 | 5.7 | 6.2 | 6.0 | 5.8 | 5.6 |
| 450 x 82 | 7.3 | 6.9 | 6.6 | 6.4 | 7.1 | 6.7 | 6.5 | 6.3 | 7.0 | 6.6 | 6.4 | 6.2 |

- All sections with a depth to breadth ratio exceeding three must be laterally restrained in accordance with AS1684.2:2010.
- Roof Load Width 'RLW' for the underpurlin is the average of the rafter spans either side of the underpurlin supported by the Strutting-Hanging Beam.
- Underpurlin span assumed to be one-half of the Strutting-Hanging Beam span.
- Ceiling Load Width 'CLW' is the average of the ceiling joist spans either side of the Strutting-Hanging Beam.
- Bearing lengths at end supports to be not less than 65mm.
- Beam ends may be chamfer cut to a minimum depth of 90mm.
- Maximum available length for e-maximus LVL is 6.6m.

STRUTTING – COUNTER BEAMS

SUPPORTING UNDERPURLINS AND HANGING BEAMS



STRUTTING – COUNTER BEAMS

SUPPORTING UNDERPURLINS AND HANGING BEAMS

WIND CLASSIFICATION N1, N2, N3

| e-maximus Section D X B (mm) | Average Hanging Beam Span (m) | | | | | | | | | | | |
|--|---------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 2.4 | | | | | | 4.2 | | | | | |
| | Roof area supported (m ²) | | | | | | | | | | | |
| | 2 | 4 | 6 | 8 | 10 | 12 | 2 | 4 | 6 | 8 | 10 | 12 |
| Maximum Span for Sheet Roof & Ceiling (m) | | | | | | | | | | | | |
| 300 x 82 | 6.5 | 6.2 | 5.9 | 5.7 | 5.5 | 5.3 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 | 5.1 |
| 400 x 82 | 7.9 | 7.6 | 7.3 | 7.1 | 6.9 | 6.7 | 7.3 | 7.1 | 6.9 | 6.7 | 6.5 | 6.4 |
| 450 x 82 | 8.6 | 8.4 | 8.0 | 7.8 | 7.6 | 7.4 | 8.0 | 7.8 | 7.6 | 7.4 | 7.2 | 7.0 |
| Maximum Span for Tile Roof & Ceiling (m) | | | | | | | | | | | | |
| 300 x 82 | 6.1 | 5.5 | 5.1 | 4.8 | 4.5 | 4.3 | 5.7 | 5.3 | 4.9 | 4.6 | 4.4 | 4.2 |
| 400 x 82 | 7.5 | 7.0 | 6.5 | 6.1 | 5.8 | 5.5 | 7.0 | 6.6 | 6.2 | 5.9 | 5.6 | 5.4 |
| 450 x 82 | 8.3 | 7.6 | 7.2 | 6.7 | 6.4 | 6.1 | 7.7 | 7.3 | 6.9 | 6.5 | 6.2 | 6.0 |

- 1 Average Hanging Beam Span = $(H_1 + H_2) / 2$, where H_1 and H_2 are the spans of the hanging beams on each side of the Strutting-Counter Beam.
- 2 All sections with depth to breadth ratio exceeding three must be restrained against rollover at supports..
- 3 Bearing lengths at end supports to be not less than 70mm.
- 4 Beam ends may be chamfer cut to a minimum depth of 90mm.
- 5 Maximum available length for e-maximus LVL is 6.6m.

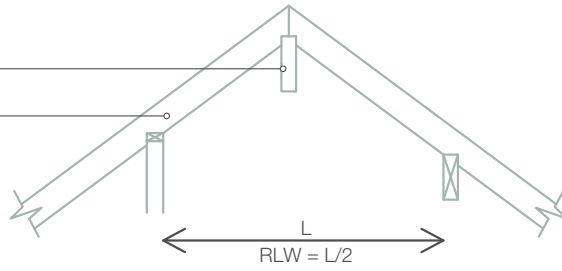
ROOF BEAMS

RIDGE, INTERMEDIATE, EAVE AND BRESSUMER BEAMS

RIDGE BEAM

ridge beam

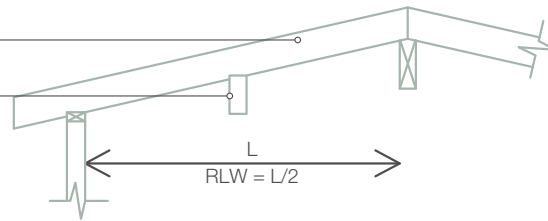
rafter



INTERMEDIATE BEAM

rafter

intermediate beam

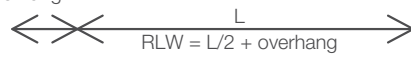


EAVE BEAM

rafter

eave beam

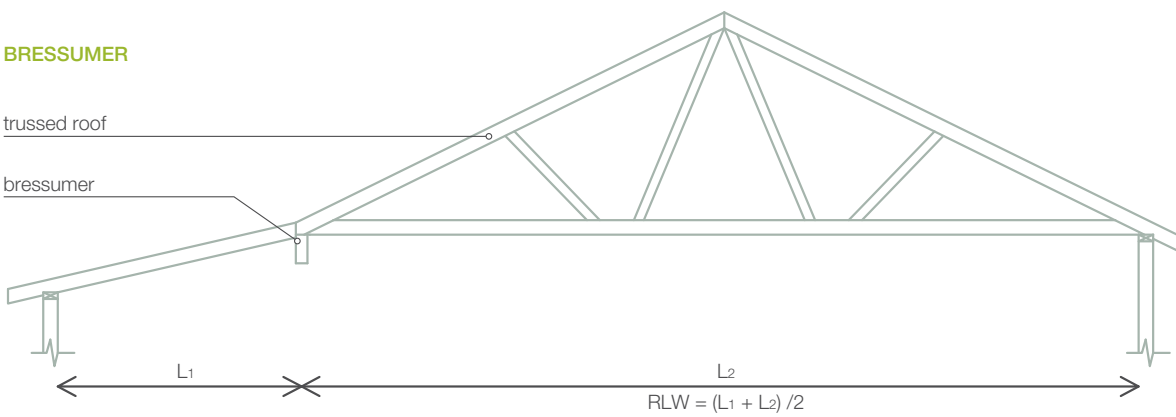
overhang



BRESSUMER

trussed roof

bressumer



ROOF BEAMS

RIDGE, INTERMEDIATE, EAVE
AND BRESSUMMER BEAMS

WIND CLASSIFICATION N1, N2, N3

| e-beam Section D X B (mm) | Sheet Roof and Ceiling | | | | | | | | | | | |
|---------------------------------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | | |
| | 1.8 | 2.1 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 3.9 | 4.2 | 4.8 | 5.4 | 6.0 |
| Maximum Single Span (m) | | | | | | | | | | | | |
| 300 x 82 | 7.0 | 6.7 | 6.5 | 6.2 | 6.0 | 5.8 | 5.7 | 5.5 | 5.4 | 5.0 | 4.8 | 4.6 |
| 400 x 82 | 8.4 | 8.1 | 7.8 | 7.6 | 7.4 | 7.2 | 7.1 | 7.0 | 6.9 | 6.8 | 6.4 | 6.2 |
| 450 x 82 | 9.1 | 8.8 | 8.4 | 8.3 | 8.1 | 7.9 | 7.7 | 7.6 | 7.4 | 7.2 | 7.0 | 6.7 |

| e-maximus Section D X B (mm) | Tile Roof and Ceiling | | | | | | | | | | | |
|------------------------------------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Roof Load Width 'RLW' (m) | | | | | | | | | | | |
| | 1.8 | 2.1 | 2.4 | 2.7 | 3.0 | 3.3 | 3.6 | 3.9 | 4.2 | 4.8 | 5.4 | 6.0 |
| Maximum Single Span (m) | | | | | | | | | | | | |
| 300 x 82 | 5.7 | 5.4 | 5.2 | 4.9 | 4.7 | 4.6 | 4.5 | 4.4 | 4.3 | 4.1 | 3.9 | 3.8 |
| 400 x 82 | 7.1 | 6.9 | 6.7 | 6.5 | 6.3 | 6.1 | 6.0 | 5.8 | 5.7 | 5.4 | 5.1 | 4.9 |
| 450 x 82 | 7.7 | 7.5 | 7.2 | 7.0 | 6.9 | 6.7 | 6.5 | 6.4 | 6.2 | 6.0 | 5.7 | 5.5 |

- 1 The above Span Tables for Roof Beams assume no lateral restraint to the bottom edge under wind uplift conditions.
- 2 Bearing lengths at end supports to be not less than 65mm.
- 3 Beam ends may be chamfer cut to a minimum depth of 90mm.
- 4 Maximum available length for e-maximus LVL is 6.6m.

GARAGE PITCHING BEAMS

SUPPORTING RAFTERS AND CEILING JOISTS

WIND CLASSIFICATION N1, N2, N3

| e-maximus Section D X B (mm) | Ceiling Load Width 'CLW' (m) | | | | | | | | | | | |
|---|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 2.4 | | | | 3.0 | | | | 4.2 | | | |
| | Roof Load Width 'RLW' for Rafters + Overhang (m) | | | | | | | | | | | |
| | 1.8 | 2.4 | 3.0 | 3.6 | 1.8 | 2.4 | 3.0 | 3.6 | 1.8 | 2.4 | 3.0 | 3.6 |
| Sheet Roof + Ceiling Single Span (m) | | | | | | | | | | | | |
| 300 x 82 | 5.9 | 5.7 | 5.5 | 5.4 | 5.7 | 5.6 | 5.4 | 5.3 | 5.6 | 5.4 | 5.3 | 5.2 |
| 400 x 82* | 7.2 | 7.0 | 6.8 | 6.6 | 7.0 | 6.8 | 6.6 | 6.5 | 6.8 | 6.6 | 6.5 | 6.4 |
| 450 x 82* | 8.2 | 7.9 | 7.6 | 7.4 | 7.9 | 7.7 | 7.5 | 7.3 | 7.4 | 7.3 | 7.2 | 7.1 |
| Tile Roof + Ceiling Single Span (m) | | | | | | | | | | | | |
| 300 x 82 | 5.3 | 5.1 | 4.8 | 4.7 | 5.2 | 4.9 | 4.8 | 4.6 | 5.1 | 4.9 | 4.7 | 4.5 |
| 400 x 82* | 6.5 | 6.2 | 6.0 | 5.8 | 6.4 | 6.1 | 5.9 | 5.7 | 6.2 | 6.0 | 5.8 | 5.6 |
| 450 x 82* | 7.3 | 6.9 | 6.6 | 6.4 | 7.1 | 6.7 | 6.5 | 6.3 | 7.0 | 6.6 | 6.4 | 6.2 |

* Check the clearance between the garage floor to the underside of garage pitching beam to ensure compliance with relevant Building Regulations and Australian Standards.

- 1 The above Span Tables for Roof Beams assume no lateral restraint to the bottom edge under wind uplift conditions.
- 2 Bearing lengths at end supports to be not less than 65mm.
- 3 Beam ends may be chamfer cut to a minimum depth of 90mm.
- 4 Maximum available length for e-maximus LVL is 6.6m.

SPECIFICATIONS

Veneer

| | |
|-----------|--|
| Thickness | Constant through the product thickness |
| Species | Sustainably sourced timber |
| Joints | Outer 2 plies are scarf jointed Inner plies – scarf and/or butt jointed |

Moisture Content

8% – 15% (at time of dispatch)

Dimensional Tolerances

Available on request

Straightness

Available on request

Density

650 kg/m³ (approximately)

Adhesive

Phenolic – AS2754.1:2016 - Adhesives for timber and timber products; Adhesives for manufacture of plywood and laminated veneer lumber (LVL)

Bond

Type A – AS/NZS2098.2:2012 - Methods of tests for veneer and plywood; Bond quality of plywood (chisel test)

Joint Group

JD3 – for nails, bolts and screws

Finish

Unsanded faces, sawn edges and arrised edges

Branding

Each piece of Wesbeam LVL is branded at least once with the product name for identification and evidence of compliance with manufacturing control standards

Storage

Store on level bearers at maximum 1800mm centres well clear of the ground, and cover to keep dry but allow ventilation

Source

Sustainably sourced timber certified to AS4707:2014 - Chain of custody for forest products / PEFC

Condition

Untreated, but can be specified to e2S (CodeMark Certified for Termite & Borers resistance for use in the geographical locations in the South of the Tropic of Capricorn), H2 & H3 as per AS/NZS1604.4:2012 - Specifications for preservative treatment; Laminated veneer lumber (LVL) to be used in any geographical location in Australia.



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