



e-maximus®



e-maximus®  
engineered steel replacing LVL



e-maximus is Wesbeam's high strength steel replacing LVL made from plantation 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 plantation 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

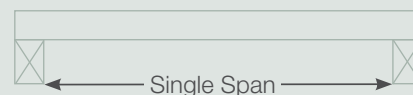
Beam Depth 'D' (mm)	Beam Width 'B' (mm)
300	82
400	82
450	82

### 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.

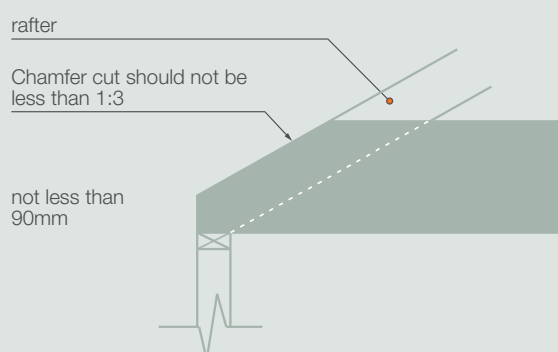


### Design Loads

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

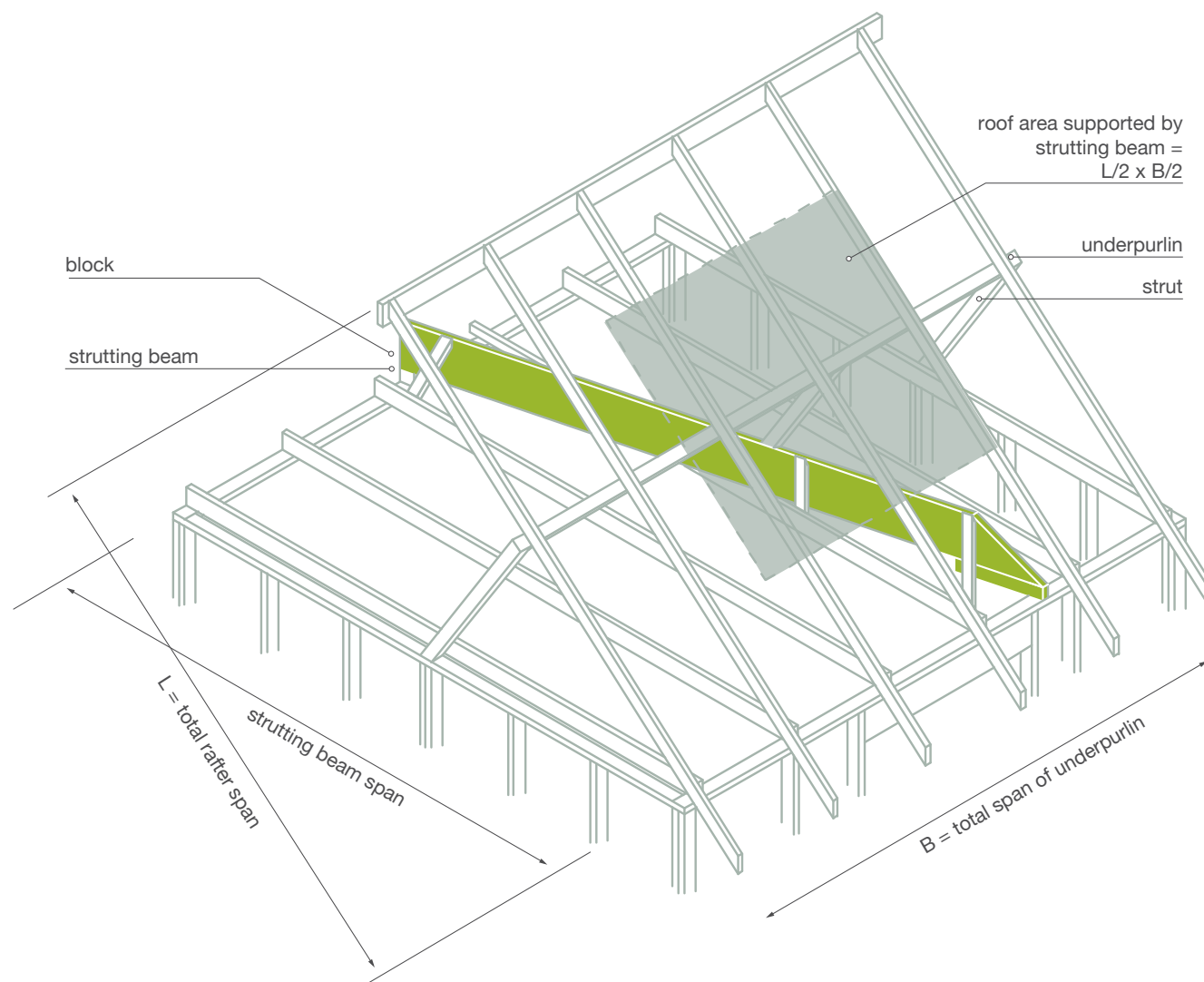
Roof Type	Design Roof Mass (kg/m <sup>2</sup> )
Sheet Roof only	20
Sheet Roof + Ceiling	40
Tile Roof only	60
Tile Roof + Ceiling	90

### Wesbeam Solid LVL Splay Detail



## STRUTTING BEAMS

SUPPORTING UNDERPURLINS ONLY



## STRUTTING BEAMS

SUPPORTING UNDERPURLINS ONLY

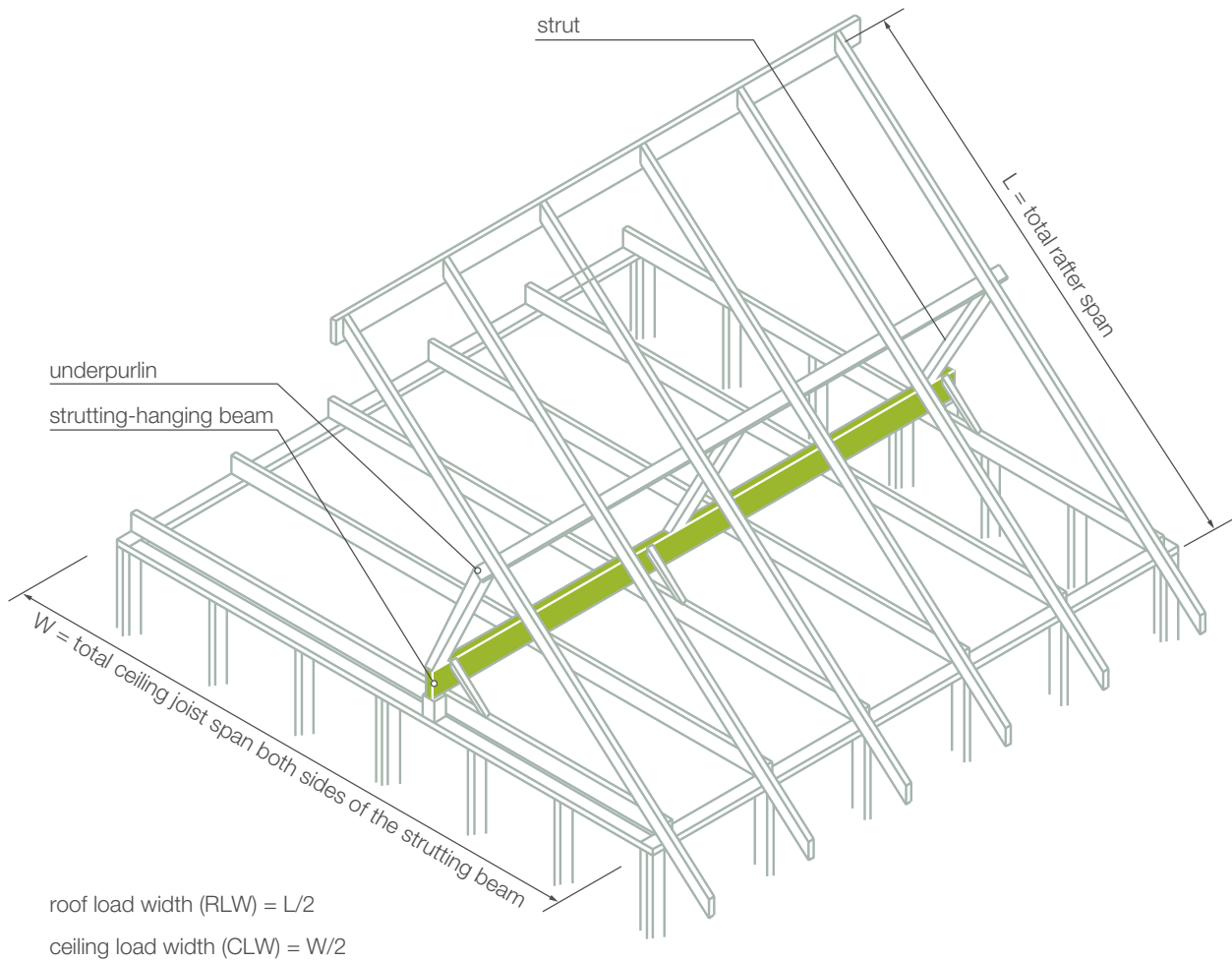
WIND CLASSIFICATION N1, N2, N3

e-maximus Section D X B (mm)	Roof Area supported (m <sup>2</sup> )								
	2	3	4	5	6	7	8	10	12
	Maximum Span (m)								
<b>Sheet Roof</b>									
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
<b>Tile Roof</b>									
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

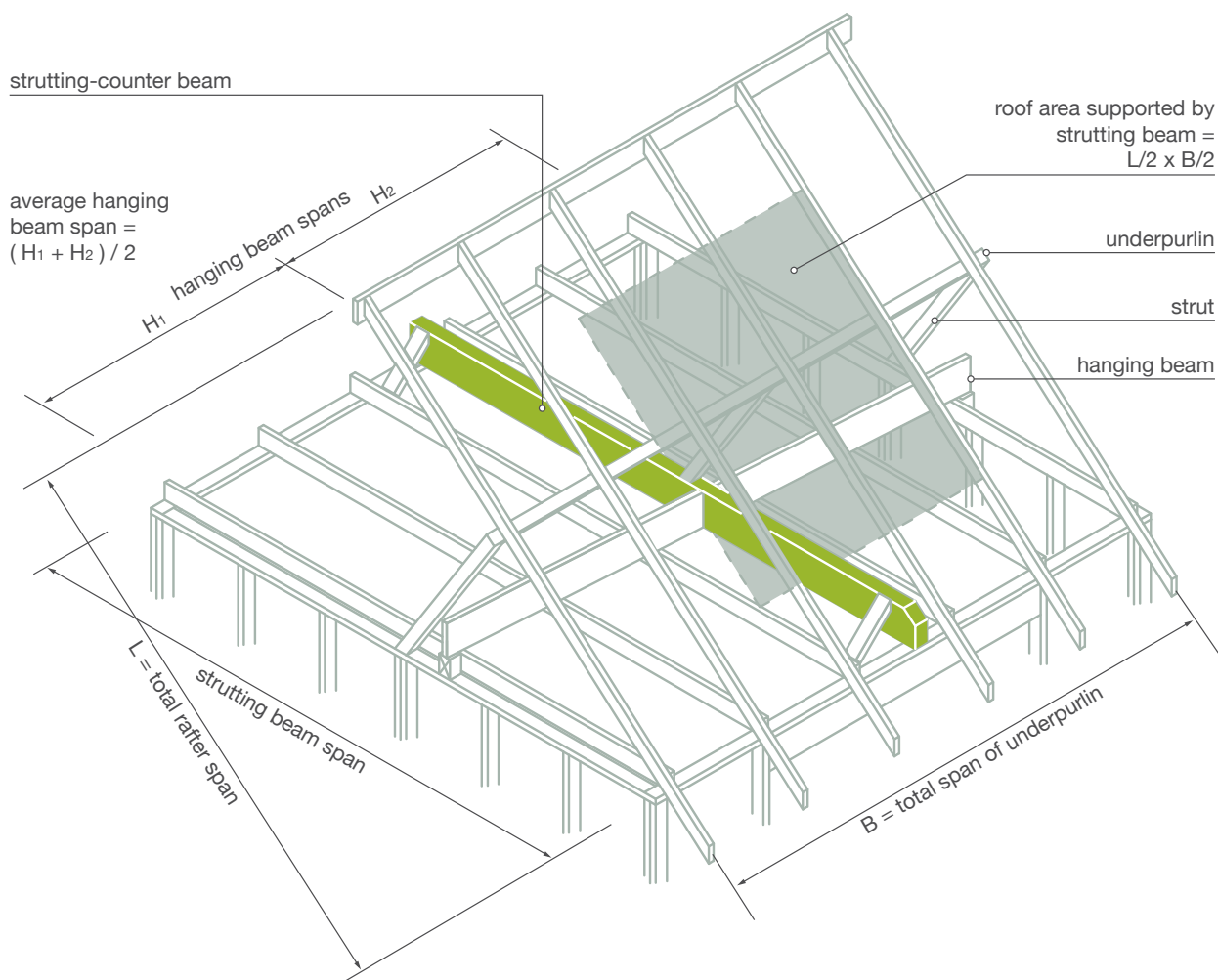
WIND CLASSIFICATION N1, N2, N3

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
<b>Maximum Span for Sheet Roof &amp; Ceiling (m)</b>												
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
<b>Maximum Span for Tile Roof &amp; Ceiling (m)</b>												
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

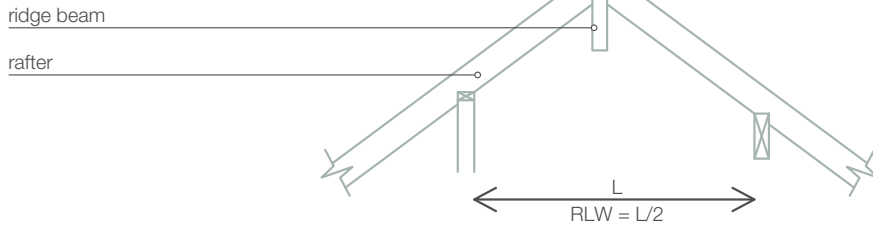
e-maximus Section D X B (mm)	Average Hanging Beam Span (m)											
	2.4						4.2					
	Roof area supported (m <sup>2</sup> )											
	2	4	6	8	10	12	2	4	6	8	10	12
<b>Maximum Span for Sheet Roof &amp; Ceiling (m)</b>												
300 x 82	6.5	6.2	5.9	5.7	5.5	5.3	6.0	5.8	5.6	5.4	5.2	5.1
400 x 82	7.9	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
<b>Maximum Span for Tile Roof &amp; Ceiling (m)</b>												
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.

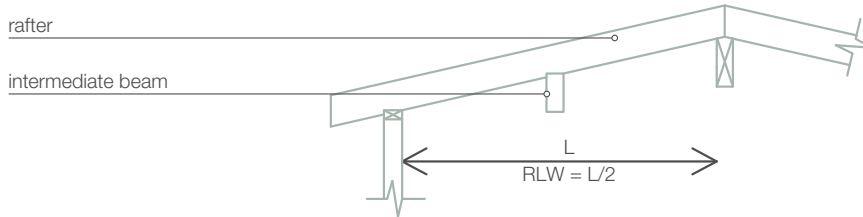
## ROOF BEAMS

### RIDGE, INTERMEDIATE, EAVE AND BRESSUMER BEAMS

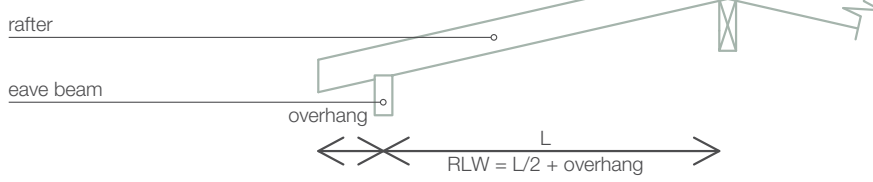
#### RIDGE BEAM



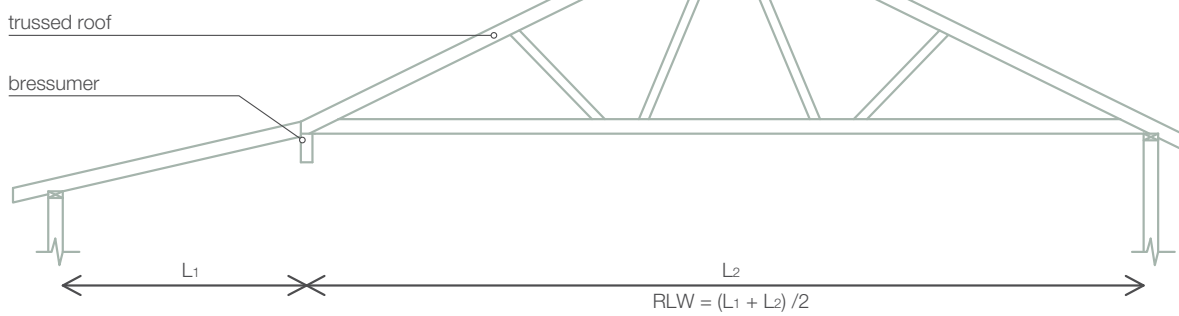
#### INTERMEDIATE BEAM



#### EAVE BEAM



#### 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
<b>Maximum Single Span (m)</b>												
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
<b>Maximum Single Span (m)</b>												
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
<b>Sheet Roof + Ceiling Single Span (m)</b>												
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
<b>Tile Roof + Ceiling Single Span (m)</b>												
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

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

## Moisture Content

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8% – 15% (at time of dispatch)

## Dimensional Tolerances

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Available on request

## Straightness

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Available on request

## Density

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650 kg/m<sup>3</sup> (approximately)

## Adhesive

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

## Bond

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

## Joint Group

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JD3 – for nails, bolts and screws

## Finish

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Unsanded faces, sawn edges and arrised edges

## Branding

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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

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

## Source

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

## Condition

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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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ABN 89 004 268 017  
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