PRODUCT OF AUSTRALIA

wesbeam
building better wood

e-purlin
engineered LVL roof underpurlin

e-strut
engineered LVL roof struts

ewpaa CERTIFIED
AS/NZS 4357.0
Mill 613

JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER

e-purlin
engineered LVL roof underpurlin

e-strut
engineered LVL roof struts

Faster, stronger, safer, cost effective roof.

Wesbeam's laminated veneer lumber (LVL) e-strut and e-purlin make building stick roofs for tile or metal sheet cladding easier. Which means that construction time is shorter.

And because it has been engineered to enable greater strut spacing, e-purlin creates stronger roofs using less material.

It reduces the need for steel strutting beams and the costs associated with lifting and fixing them.

Purpose-engineered, e-strut and e-purlin have greater strength and uniformity than sawn timber, and are comparatively lighter, making them safer and easier to work with.

e-purlin

e-purlin engineered LVL roof underpurlin to support stick roofs for tile and metal sheet cladding.

e-purlin offers the greatest flexibility in the design of stick roofs clad with tile or metal sheeting. They are available in a range of lengths from 3m to 10.8m with longer lengths available by special manufacture. e-purlins are design engineered to maximise the efficient use of material and time.

Features

- Engineered for straightness and consistent performance
- High load bearing capacity for greater maximum strut spacing
- Longer lengths available, minimising jointing and wastage
- High strength yet lighter and safer to handle
- Chamfered edges for safer and more comfortable handling
- Manufactured from 100% sustainably sourced timber
- Manufactured and properties evaluated in accordance with AS/NZS4357 series - Structural laminated veneer lumber totally compatible for engineering design in accordance with AS1720.1:2010 - Timber structures, Part 1: Design methods
- JD4 joint group – for nails, bolts and screws

e-purlin specification

e-purlin is manufactured from structural laminated veneer lumber in accordance with AS/NZS4357 series - Structural laminated veneer lumber for N1, N2, N3 and N4 wind classifications.

e-purlin span tables are engineer designed and certified to comply with AS1720.1:2010 - Timber structures, Part 1: Design methods, AS1720.3:2016 - Timber structures, Part 3: Design criteria for timber-framed residential buildings, AS1170 series - Structural design actions, and AS4055:2021 - Wind loads for housing.

e strut

e-strut engineered LVL roof struts to support stick roofs for tile and metal sheet cladding.

e-struts offer minimum material and time wastage when used with e-purlins in the fabrication of stick roofs. Engineered e-struts are highly consistent in their performance and dimensional stability. They have superior compressive strength which resists the dynamic loads associated with high wind coastal conditions. And e-struts are available in lengths of 3.6m and 4.5m which enables design flexibility for the most complex roof shapes.

e-struts are comparitively lighter than timber products, making them safer to handle.

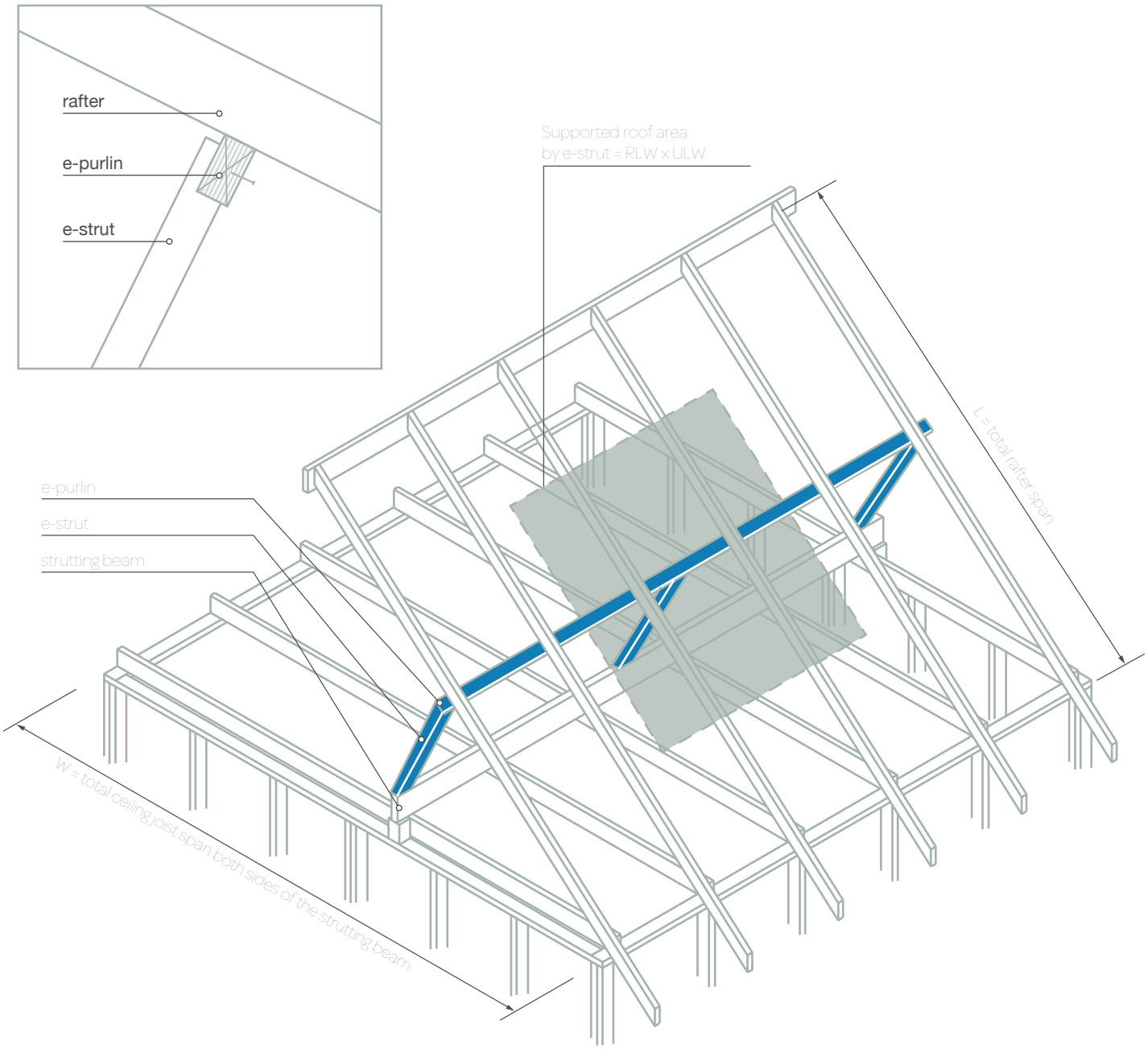
Features

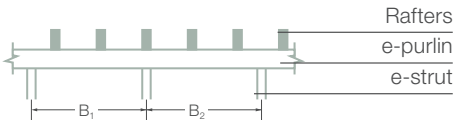
- Engineered for straightness and consistent performance
- Greater length = greater design flexibility
- High strength yet lighter and safer to handle
- Chamfered edges for safer and more comfortable handling
- Manufactured from 100% sustainably sourced timber
- Manufactured and properties evaluated in accordance with AS/NZS4357 series - Structural laminated veneer lumber totally compatible for engineering design in accordance with AS1720.1:2010 - Timber structures, Part 1: Design methods
- Suitable for both sheet metal and tile leaf cladding at maximum strut length of 4.5m
- JD4 joint group – for nails, bolts and screws

e-strut specification

e-struts are manufactured from structural laminated veneer lumber in accordance with AS/NZS4357 series - Structural laminated veneer lumber for N1, N2, N3 and N4 wind classifications.

e-strut is engineer designed and certified to comply with AS1720.1:2010 - Timber structures, Part 1: Design methods, AS1720.3:2016 - Timber structures, Part 3: Design criteria for timber-framed residential buildings, AS1170 series - Structural design actions, and AS4055:2021 - Wind loads for housing.

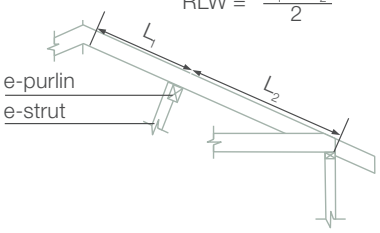




For determination of underpurlin load width 'ULW' for strut loads. ULW = $\frac{B_1 + B_2}{2}$

For determination of roof load width 'RLW' for underpurlins.

RLW = $\frac{L_1 + L_2}{2}$



E-PURLIN SPAN TABLES

WIND CLASSIFICATION N1, N2, N3, N4

e-purlin Section D X B (mm)	Roof Load Width – RLW (m)									
	1.8	2.4	3.0	3.6	4.2	1.8	2.4	3.0	3.6	4.2
	Single Span					Continuous Span				
Tile Roof – Maximum strut spacing (m)										**For Wind Classification N1/N2/N3**
96 x 51	1.6	1.4	1.3	1.3	1.2	2.1	1.9	1.8	1.6	1.6
Sheet Roof – Maximum strut spacing (m)										**For Wind Classification N1/N2/N3**
96 x 51	2.4	2.1	1.9	1.7	1.5	2.9	2.6	2.5	2.4	1.9

e-purlin Section D X B (mm)	Roof Load Width – RLW (m)									
	1.8	2.4	3.0	3.6	4.2	1.8	2.4	3.0	3.6	4.2
	Single Span					Continuous Span				
Tile Roof – Maximum strut spacing (m)										**For Wind Classification N4**
96 x 51	1.6	1.4	1.3	1.3	1.2	2.1	1.9	1.7	1.5	1.4
Sheet Roof – Maximum strut spacing (m)										**For Wind Classification N4**
96 x 51	2.3	1.7	1.3	1.1	1.0	2.5	2.2	1.7	1.6	1.3

1 All fixings and restraints to be installed in accordance with AS1684.2:2021.

E-STRUT SPAN TABLES

Sheet Roof	Tile Roof	Strut Length
Maximum strut spacing 2.1m	Maximum strut spacing 1.8m	4.5 maximum for both sheet and tile roof
Maximum supported roof area 7.0m^2	Maximum supported roof area 5.4m^2	

1 All fixings and restraints to be installed in accordance with AS1684.2:2021.

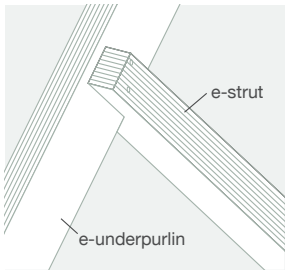
E-STRUTS PERPENDICULAR TO RAFTERS

Cut the birdsmouth in the e-strut across the LVL veneers

Nail fixings must be skewed through the e-strut into the e-purlin across the direction of the veneers.

Fix e-struts to e-purlins with minimum 2 x 3.15mmø framing nails.

Tie-downs omitted for clarity.

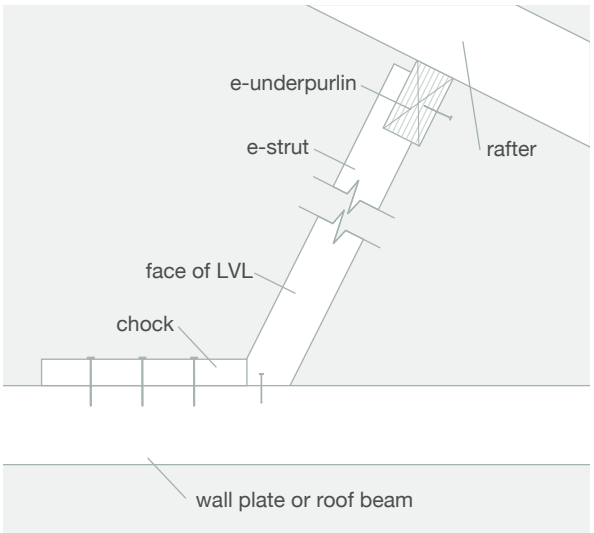


WESBEAM RECOMMENDS THAT THE BIRDSMOUTH IS CUT ACROSS THE DIRECTION OF THE LVL VENEERS WHEREVER POSSIBLE

Fix the bottom of the e-strut to the support with 2 x 3.15mmø framing nails driven through the face of the e-strut.

Any e-struts that are not vertical must be restrained by blocks or chocks.

Fix the timber chock to the supporting member with 3 x 3.15mmø framing nails.



VERTICAL E-STRUTS

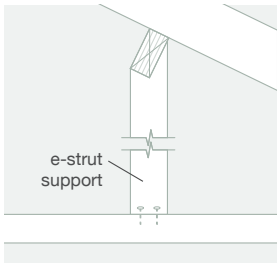
Cut the birdsmouth in the e-strut across the LVL veneers.

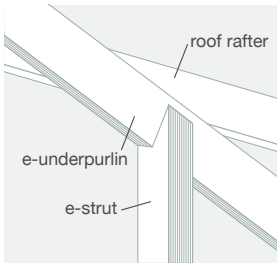
Fix e-struts to e-purlins with min. 2 x 3.15mmø framing nails.

The nail fixings must be skewed through the e-strut into the e-purlin across the direction of the veneers

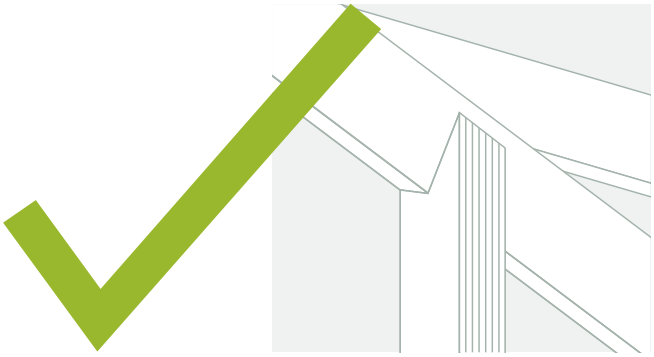
Vertical e-struts must be fixed to the e-strut support (wall plate, roof beam etc) with min. 4 x 3.15mmø framing nails fixed through the face of the e-strut.

Tie-downs omitted for clarity.





WESBEAM RECOMMENDS THAT THE BIRDSMOUTH IS CUT ACROSS THE DIRECTION OF THE LVL VENEERS WHEREVER POSSIBLE



SPECIFICATIONS

Manufacture

Manufactured in accordance with AS/NZS 4357

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

650kg/m^3 (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

JD4 – for nails, bolts and screws unless noted otherwise

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 - Chain of custody for forest products PEFC

Treatment Condition

Untreated – but can be specified to e2S*, H2 and H3 Treatment levels

*e2S is a CodeMark® certified glue-line termite treatment.

wesbeam
building better wood

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