



**BELMONT TIMBER (N.S.W)
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e-joist®
engineered floor joists

Installation Guide

Site Checklist

Stop and read this now.

1

Tick box when checked.

Floor Joist Layout

☐

If a floor joist design/layout was done, was a site copy of the layout provided with the joists, Beams and Bracket delivery?

Check Delivery

☐

Check the delivery, see that all materials were supplied and free of any damage.

Site Storage

(refer page 6)

☐

Ensure that the Joists when received on site are stored in a flat dry area and kept clear of moisture.

Cuts, Holes and Notching in Bearers and joist

(refer page 7 & 8)

☐

Ensure that cutting and notching of e-joists comply with Wesbeam recommendations and that cutting and notching solid members comply with Australian Standards. AS1684.2 Figure 4.1 Notching and cutting in Beams, Bearers, Joists and Rafter. Refer to table supplied.

Laminated Members

(refer page 9 & 10)

☐

Multiple member lamination of top and side loaded beams.

Bracket Check

(refer page 11)

☐

- Are all of the brackets installed as per the bracket manufacturer's requirements?
- Check that Joists and Beams are secure in the bracket and do not allow any movement. If the Joists or Beams are not secure they may cause floor squeaks.
- Use the correct bracket nails supplied with the brackets. If the installer uses nail gun nails to secure the brackets the installer must check with the bracket manufacturer for their recommendations on the type and quantity of nails required.
- Phone MiTek on 03 8795 8888 or visit www.MiTek.com.au
- Phone Pryda on 03 9706 5488 or visit www.pryda.com.au

Notching and over Cutting e-joist

(refer page 13)

☐

e-joist top and bottom flanges can be notched when fixing in to steel beams. The flanges can NOT be over cut in length or depth . Notches can be a maximum of 12mm in depth.

Temporary and Permanent Blocking

(refer page 17)

☐

Before using the structure as a walkway ensure all temporary blocking, bracing must be installed with joists and beams securely fixed into place.

Ensure the blocking and bracing requirements for the project are understood.

Cantilever Details

(refer page 18)

☐

Ensure stiffening details required for internal and external cantilevers are known and complied with.

Supports/Bearings

(refer page 20)

☐

Ensure that supports are level and structurally stable in their own right prior to placing any joists.

Ensure that bearing and fixing requirements to beams and wall plates are known.

Services and Waste Locations

(refer page 22 & 23)

☐

We suggest that the carpenter discuss with the builder and other relevant trades the location of service ducts, air conditioning and waste locations to ensure joists and supporting beams clear the required areas.

Final Check

☐

When the floor system is finished and flooring installed - Nail check from under the floor. Check that any nails that may have skewed beside a joist/beam or bracket are removed or given clearance to reduce any chance of creating a floor squeak. The nail check will likely stop any nails that have missed or skewed beside a joist or bearer creating squeaks in the floor.

Technical Reference

☐

Refer to e-joist design brochure.

e-beam design brochure.

e-frame brochure.

Contact: **T** (08) 9306 0400 wesbeam@wesbeam.com

F (08) 9306 0444 www.wesbeam.com

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engineered to load
engineered to length
engineered to last

end of story

e-joist is the premier I-joist product manufactured in Australia. e-joist has many advantages over traditional building products, including its uniformity of engineering properties, it's high strength to weight ratio and its availability in longer lengths.

e-joist is available in a range of depths and flange widths as presented below:

Flange Widths	Depths				
	200	240	300	360	400
45	ej20045	ej24045	ej30045		
51		ej24051	ej30051		
63				ej36063	
90		ej24090	ej30090	ej36090	ej40090

e-joist is manufactured from plantation timbers, making it an environmentally sustainable resource.

About e-joist

e-joist utilises a Laminated Veneer Lumber (LVL) flange and a structural plywood web. Flanges are manufactured by laminating predominantly Maritime Pine veneer using phenolic adhesive in a continuous assembly in which the grain direction of all veneers runs longitudinally.

Material Safety Data Sheets (MSDS)

MSDS information on the LVL flange and plywood web materials is available at www.wesbeam.com

e-beam	Section Size	kg/m ³	Lengths
LVL	95 x 36mm > 600 x 75mm	weight 650 kg/m ³	12.6m >

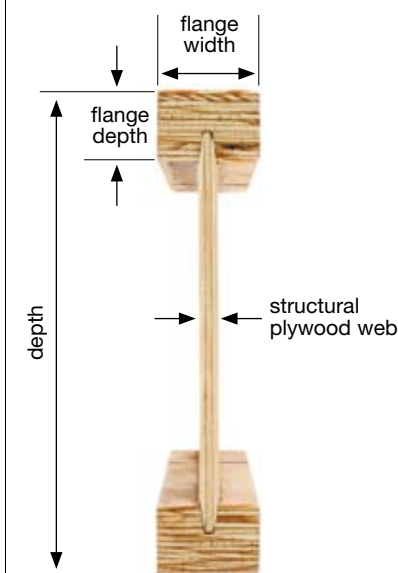
* Note special orders > 17.5m

e-frame	Section Size	kg/lm	Pieces/ Pack	Lengths
Joist	90x45	2.7	65	Up to 12.6m
Bearer	90x63	3.7	52	Up to 12.6m

e-joist Information

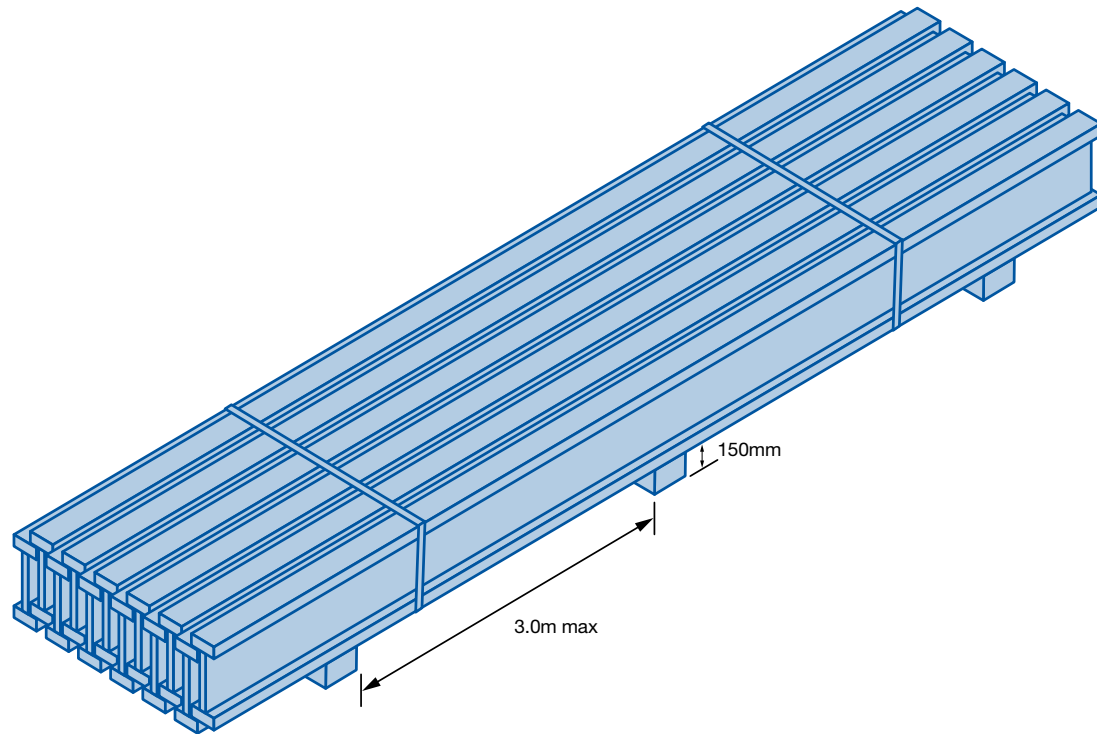
Beam Nomenclature

ej30045 – denotes an e-joist 300mm deep with a 45mm wide flange.



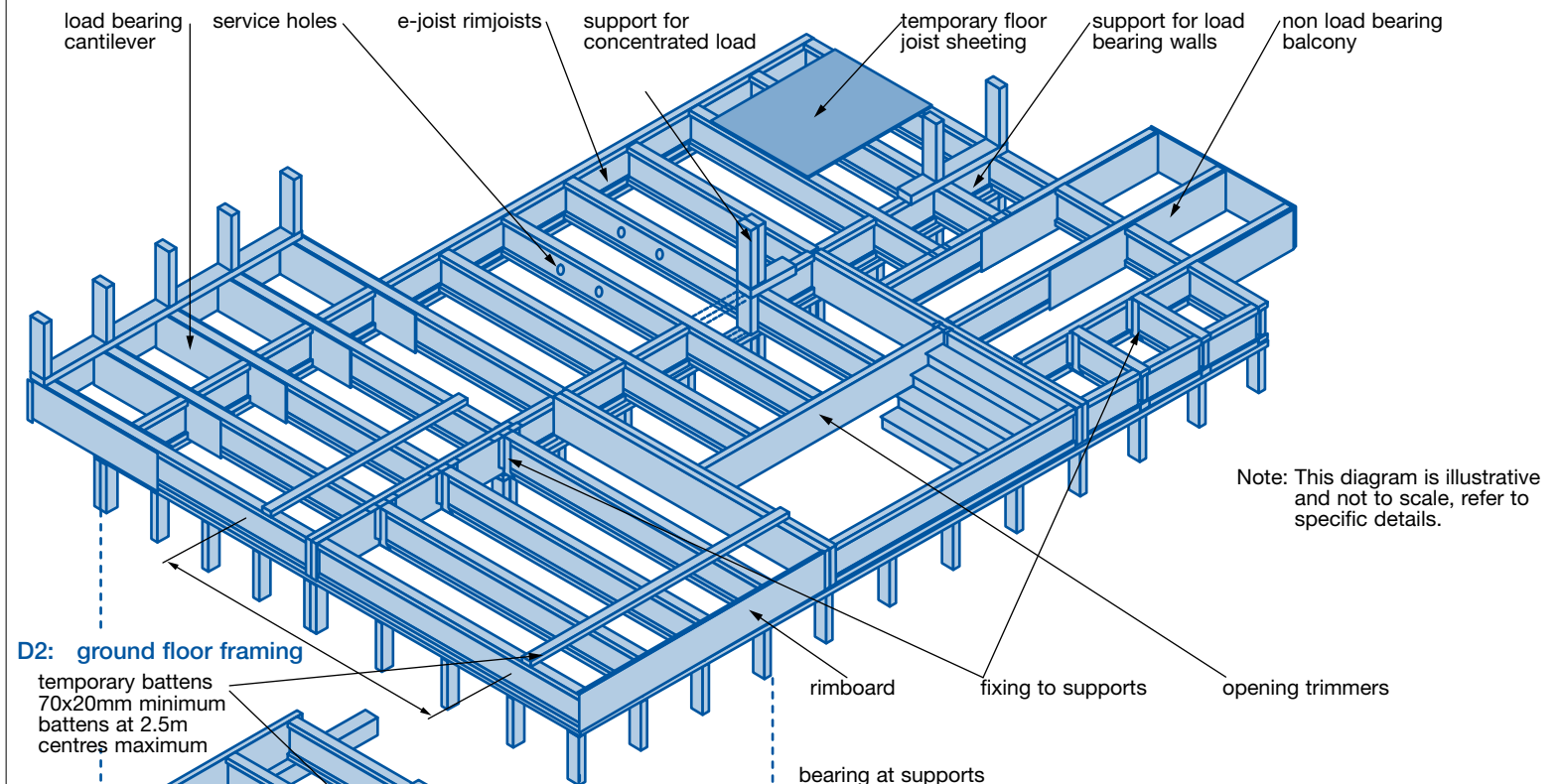
Storage on Site

e-joists when received on site must only be stacked in the upright position to avoid any damage during storage or handling. Only stack on level bearers (3.0m spacing max) providing a ground clearance of at least 150mm. e-joists are not to be placed over ponded water and are to be kept as dry as practicable.



D1: e-joist Construction Information

Upper Floor Framing (for clarity, flooring not shown under walls)

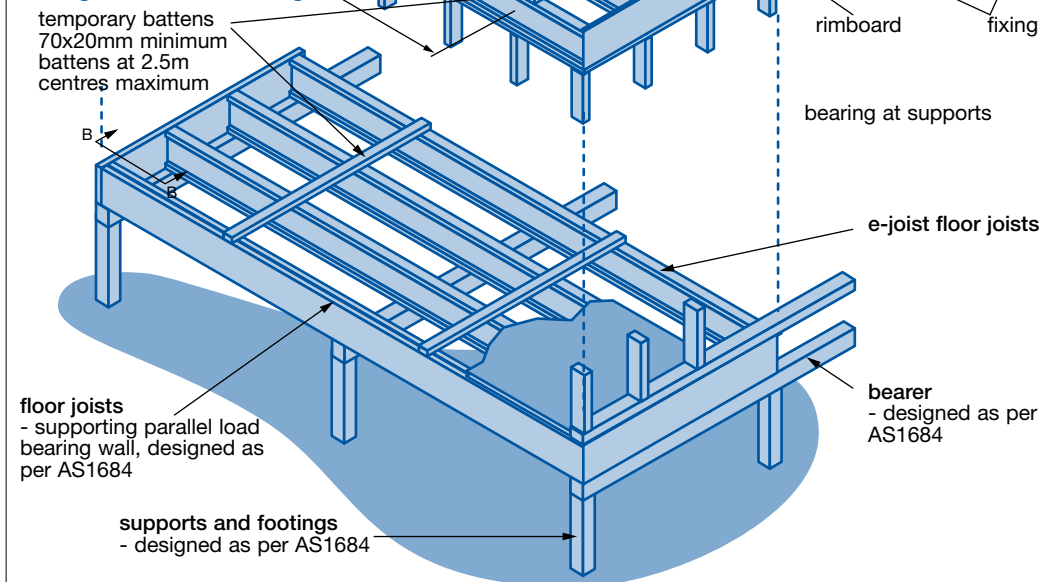


Ground Floor Framing

Sub-Floor Design

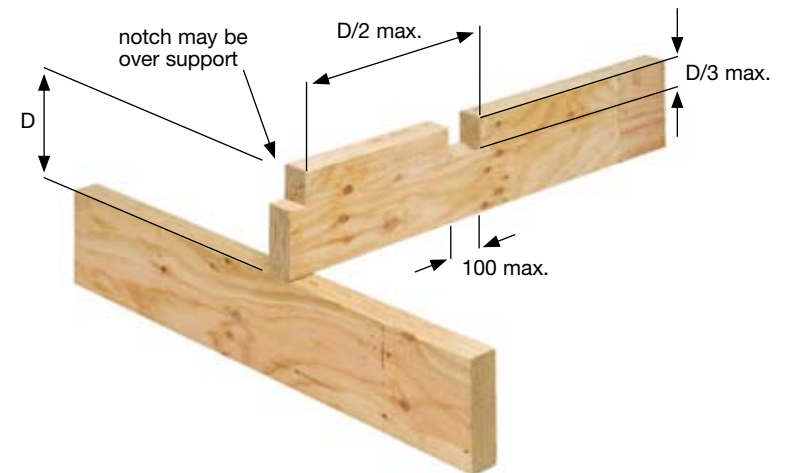
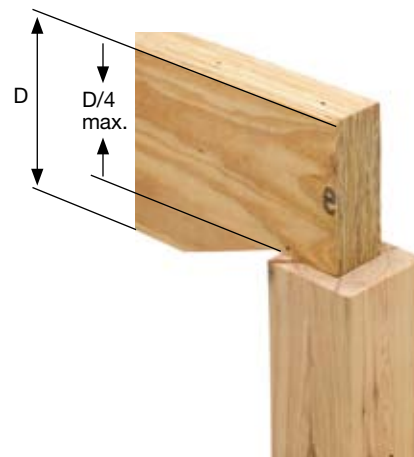
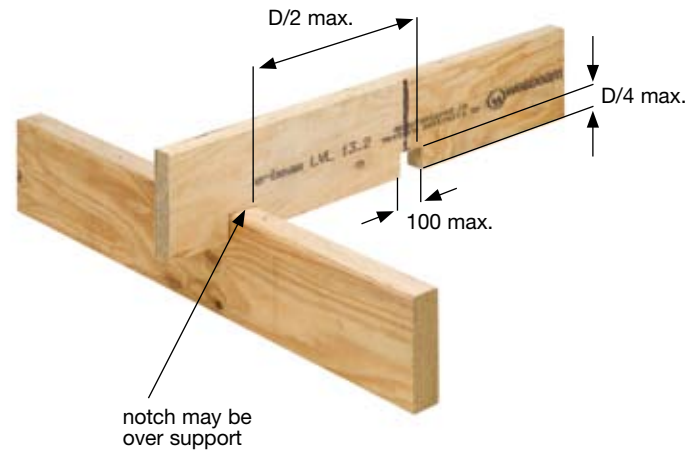
Ground floor joists can be sized using the Floor Joist Supporting Floor and Ceiling Loads Only tables. Sub-floor supports and footings should be designed in accordance with AS1684. Solid LVL sub-floor bearers and floor joist supporting parallel load bearing walls shall be designed using the appropriate Wesbeam e-beam or e-frame brochure. Tables for e-joist and e-beam Floor Joists Supporting Parallel Load Bearing Walls are included in the e-joist design brochure.

D2: ground floor framing

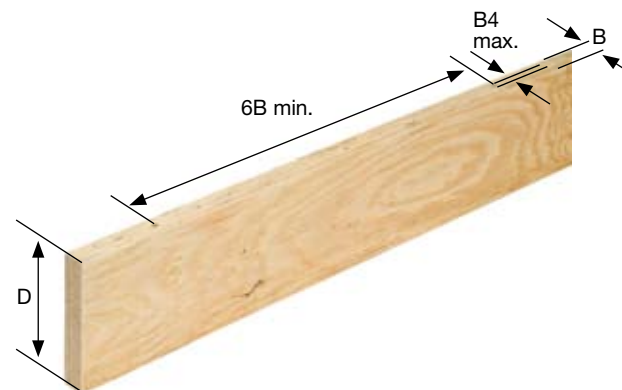
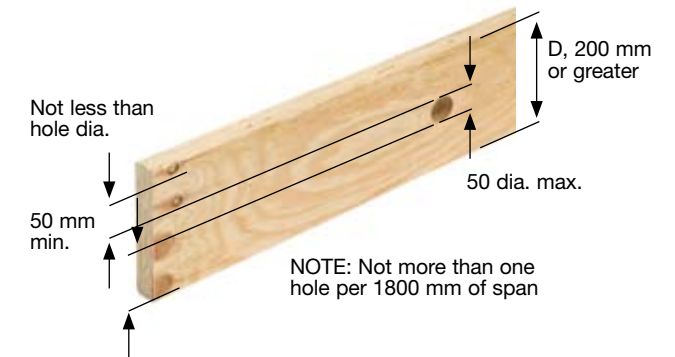
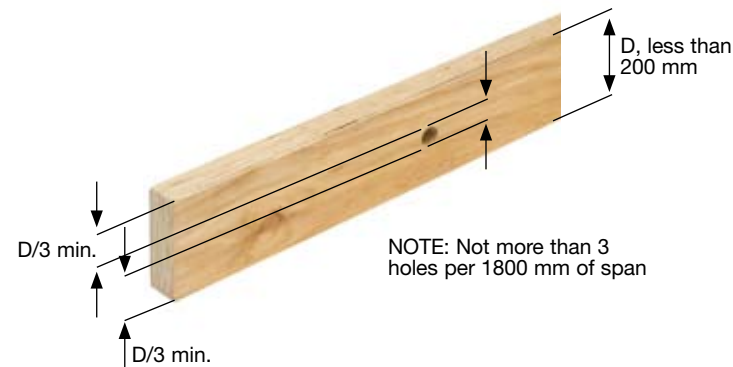
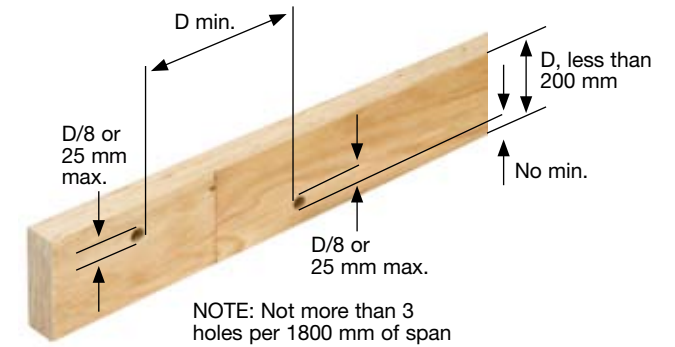
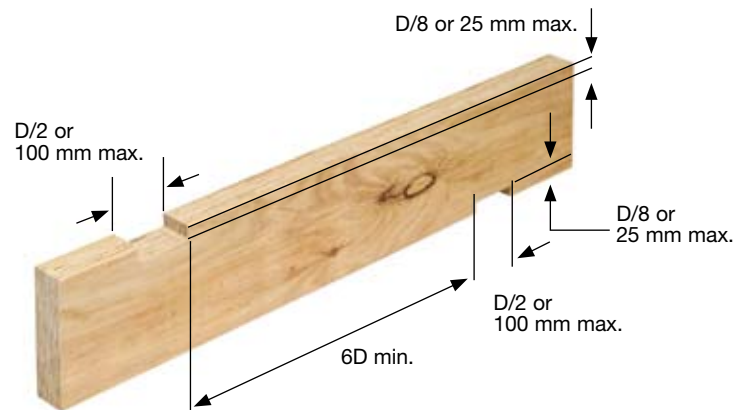


Ground Floor Framing overleaf
lower storey of two storey construction

D3: cuts, holes and notches in bearers and joists



D4: cuts, holes and notches in bearers and joists



Multiple Members Laminating Of Top Loaded Beams

Vertical laminations may be achieved by adopting the procedures described in clause 2.3 of AS1684-1999, however these procedures should be considered as the minimum requirements to achieve the desired effect.

Experience with Wesbeam LVL beams indicates that this degree of fixing may not satisfactorily prevent cupping of individual components as a result of the ingress of moisture between beams during construction. The suggested method of vertical lamination provides a greater level of fixity between individual components, and with the use of an elastomeric adhesive, also prevents moisture penetration between the beams.

The edges of the individual sections must be carefully aligned to each other so that the composite beam is flat, allowing the applied loads to be equally shared.

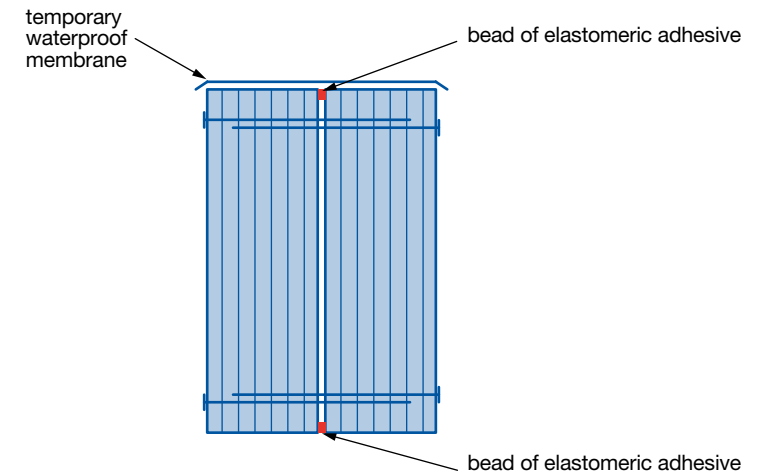
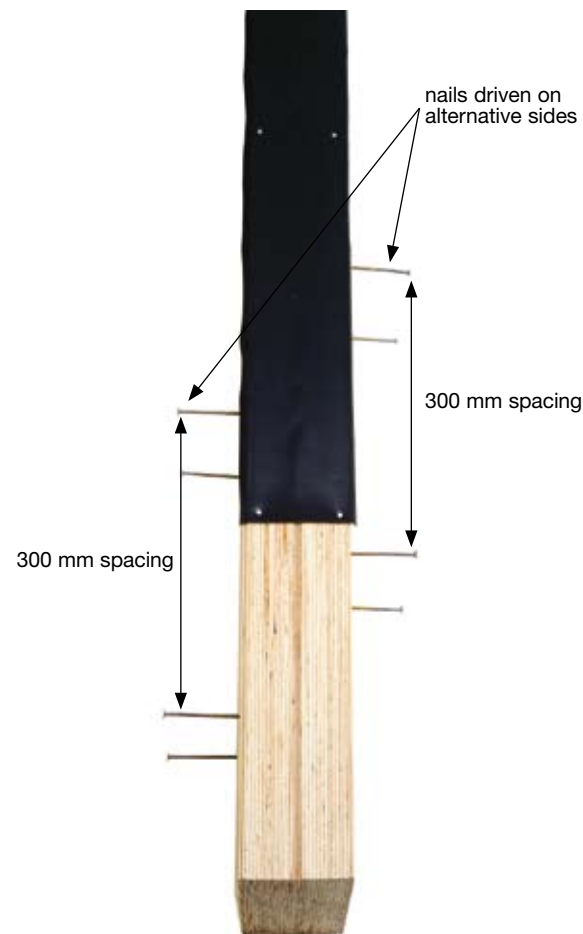
Depths up to and including 300mm:

- 2 rows of nails as shown beside at 300mm centres

Depths in excess of 300mm:

- 3 rows of nails as shown beside at 300mm centres

D5: laminated members



Multiple Member Laminating of side loaded beams

Notes:

1. The tables assume a floor mass of 40kg/m² and live load of 1.5kPa.
2. Nails are to be a 3.15mm diameter and length to be minimum twice the member thickness.
3. No. 14 type 17 bugle head screws may be used as an alternative with one screw to replace 2 nails. Length of screw to be a minimum of twice the member thickness.
4. If more than two beams or different thickness beams used, consult engineer.

How to use the laminating side loaded table

Example: see diagram opposite
Wesbeam connection of two e-beam LVLs loaded on both sides

FLW 1 = 2800mm,

FLW 2 = 2300mm

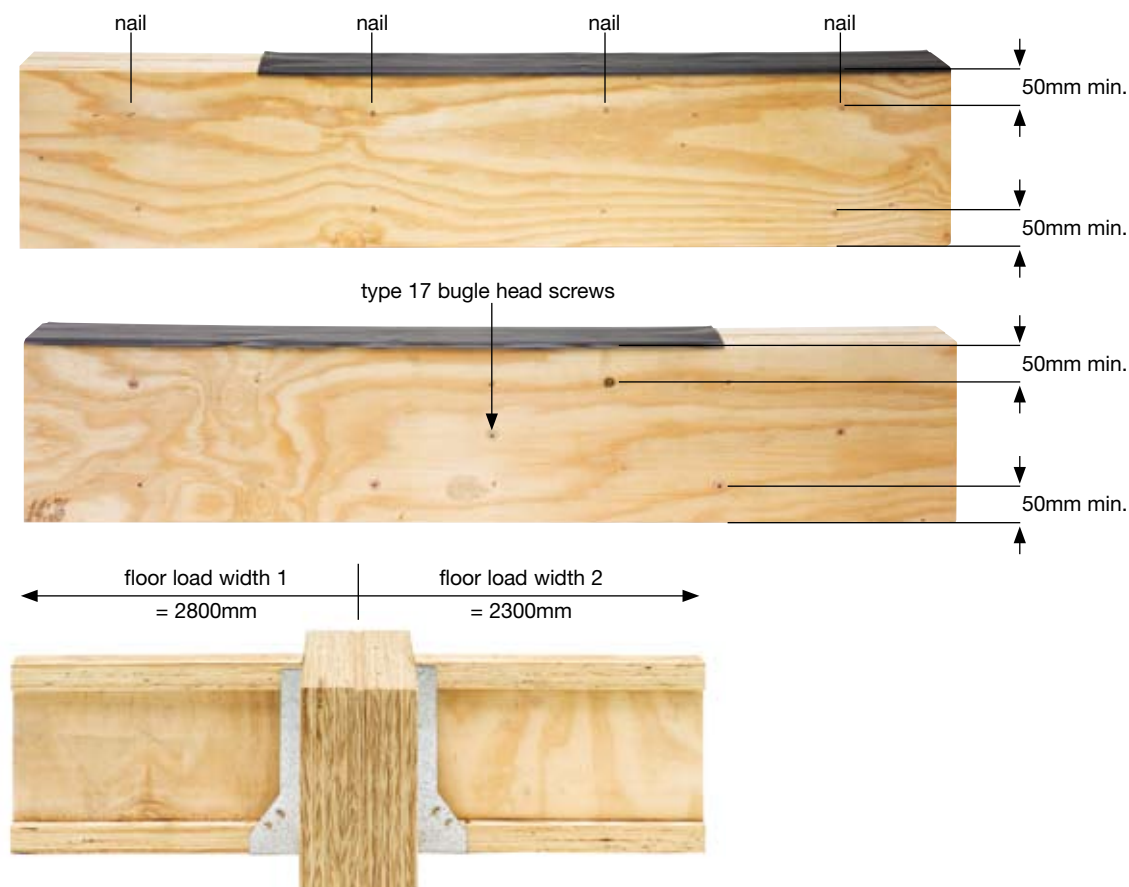
1. Use Wesbeam e-house software or e-beam safe load table to size the two member section to support the FLW of 5100mm.
2. Simply calculate the span difference.
3. Enter the table and select span differential range that includes value greater than 500mm.
4. Thus adopt 2 rows of 3.15 nails at 300mm centres.

Laminating Side Loaded Beams	
Span Differential Range	Laminating Method
Span differential < 1.5 m	2 nails at 300 centers from one side only
1.5 m Span differential < 3.0 m	2 nails at 300 centers to both sides (effective 2 nails at 150 cts)
3.0 m Span differential < 4.5 m	3 nails at 300 centers to both sides (effective 3 nails at 150 cts)
4.5 m Span differential < 6.5 m	3 nails at 200 centers to both sides (effective 3 nails at 100 cts)
Span differential > 6.5 m	Seek engineering advise

Note:

1. Span differential = larger floor joist span – lesser floor joist span.
2. In the case where joists come into one side only of laminated beam span differential = joist span

D6: laminated members

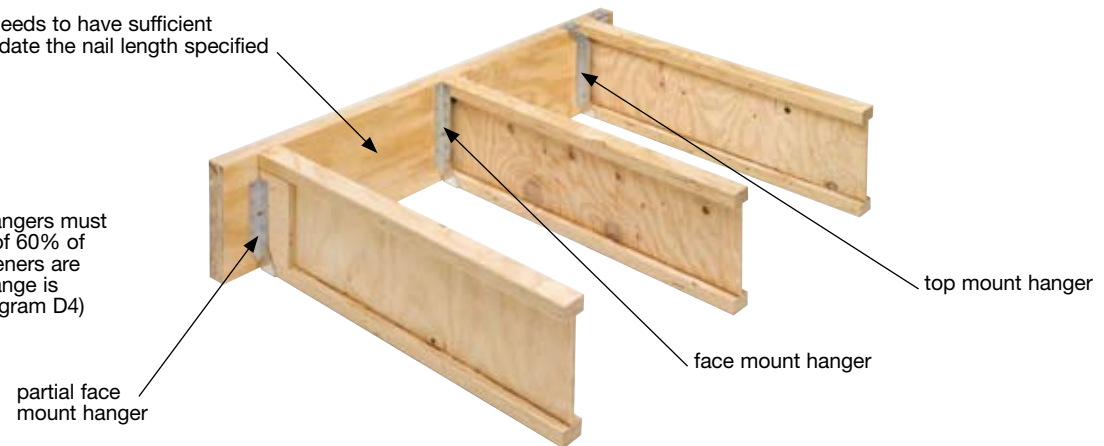


Fixing to Supports

D7: joist hanger installation

bearer or wall plate needs to have sufficient thickness to accommodate the nail length specified

partial face mount hangers must support a minimum of 60% of joist depth. web stiffeners are required when top flange is unrestrained (see diagram D4)



MiTek Installation Notes

1. Refer to MiTek's product literature for hanger installation details – incorrect installation can lead to unsafe or unsatisfactory performance.
2. Fix hanger to bearer or wall plate by filling all holes using MiTek $\varnothing 3.75 \times 35\text{mm}$ reinforced head galvanized nails.
3. Fix bottom e-joint flange using $2 \times \varnothing 3.75 \times 35\text{mm}$ reinforced head nails. Select one dimple each side of the e-joint which will allow the 35mm nail to be driven fully home at a 45° angle.

Pryda Installation Notes

1. Refer to Pryda's product literature for hanger installation details – incorrect installation can lead to unsafe or unsatisfactory performance.
2. Fix hanger to bearer or wall plate by filling all holes using $\varnothing 3.75 \times 40\text{mm}$ galvanized Pryda Timber Connector nails.
3. Sit joist in bracket and fix joist tight using a 30×6 gauge bugle-head or wafer-head wood screws.

MiTek I-Joist Hanger Guide

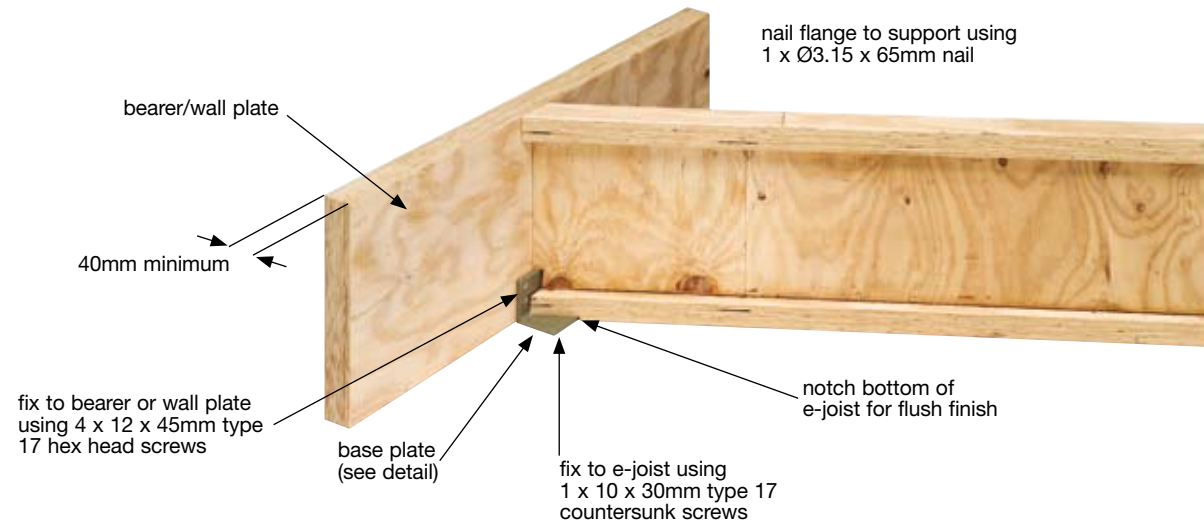
e-joint	Face Mount Hanger		Top Mount Hanger	
	Hanger Code	Face Nails to Bearer	Hanger Code	Top Nails to Bearer
ej20045	IBHF20050	8	IBHT20050	6
ej24045	IBHF24050	10	IBHT24050	6
ej24051	IBHF24055	10	IBHT24055	6
ej24090	IBHF24090	10	IBHT24090	6
ej30045	IBHF30050	12	IBHT30050	6
ej30051	IBHF30055	12	IBHT30055	6
ej30090	IBHF30090	12	IBHT30090	6
ej36063	IBHF36065	14	IBHT36065	6
ej36090	IBHF36090	14	IBHT36090	6
ej40090	IBHF40090	14	IBHT40090	6

Pryda I-Joist Hanger Guide

e-joint	Face Mount Hanger			Top Mount Hanger		
	Hanger Code	Fasteners		Hanger Code	Fasteners	
		Joist Screw	Face Nails to Bearer		Joist Screw	Face Nails to Bearer
ej20045	LF190/50	1	8	LT200/50	1	6
ej24045	LF235/50	1	10	LT240/50	1	6
ej24051	LF235/50	1	10	LT240/52	1	6
ej24090	LF235/90	1	10	LT240/90	1	6
ej30045	LF297/50	1	12	LT300/47	1	6
ej30051	LF297/50	1	12	LT300/52	1	6
ej30090	LF290/90	1	12	LT300/90	1	6
ej36063	LF340/65	1	14	LT356/65	1	6
ej36090	LF350/90	1	14	LT360/90	1	6
ej40090	LF350/90*	1	14	LT400/90	1	6

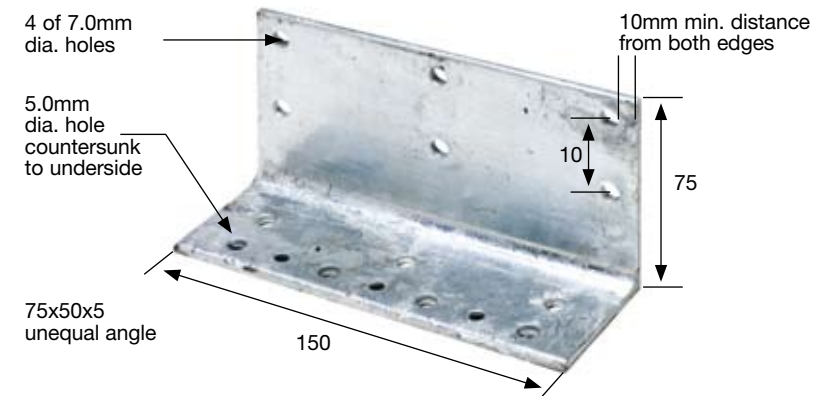
* Web stiffeners required

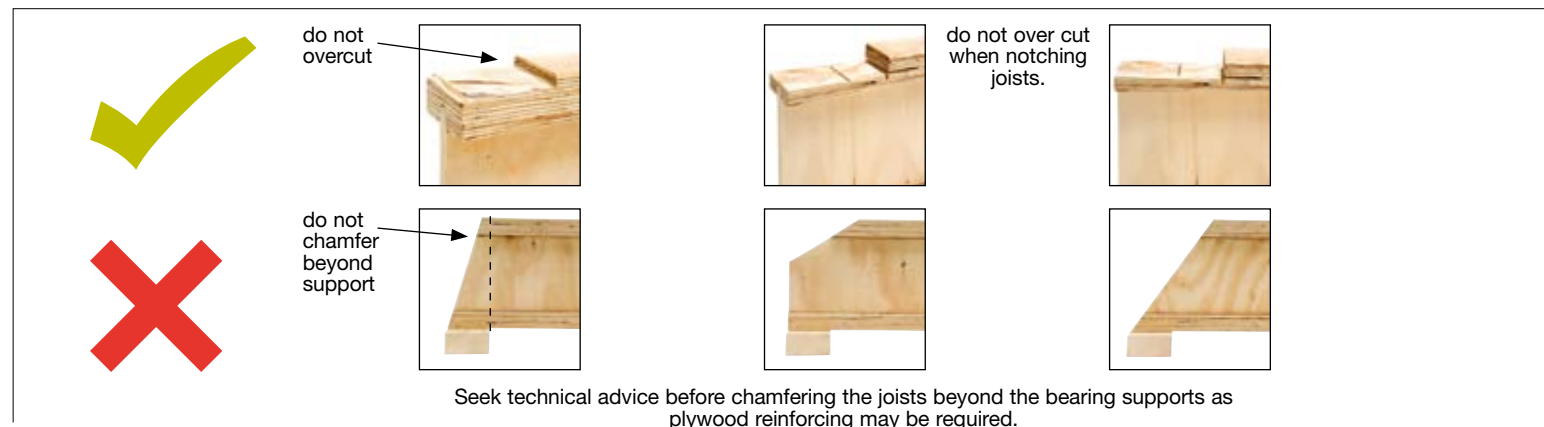
D8: skewed joist support fixing



The purpose of this bracket is for use when connecting joists to beams or ledgers when a 90 degree angle bracket will not suit.

The bracket is fixed to the bearing and the joist can be notched for a flush finish with the bracket as shown.





Flange Notching

e-joist top and bottom flanges can be notched when fixing in to steel beam. The flanges can be notched to a max of 12mm. Do not over cut in depth or length when notching the joists.

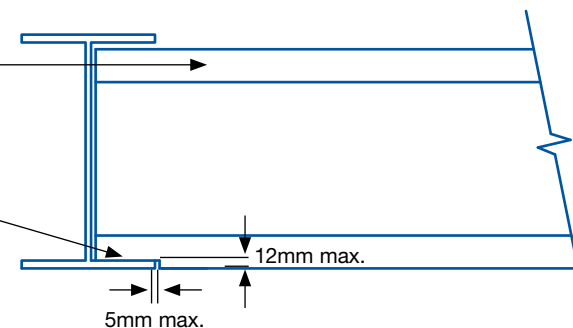
D9: Flange notching



Provide adequate lateral restraint between e-joists to prevent roll over.

Positively fix joist to steel beam with 1 x No. 10 x 30 mm screw through steel beam to bottom flange of joist

Notch not to extend more than 5mm beyond support



Web Cutting

e-joist webs can be cut to accommodate the top flange of a steel beam provided web stiffeners are installed in contact with bottom flange and fixed.

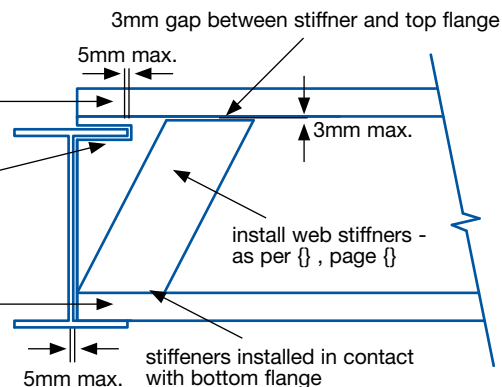
D10: Web cutting



Provide adequate lateral restraint between e-joists to prevent roll over.

Web notch not to extend more than necessary for clearance

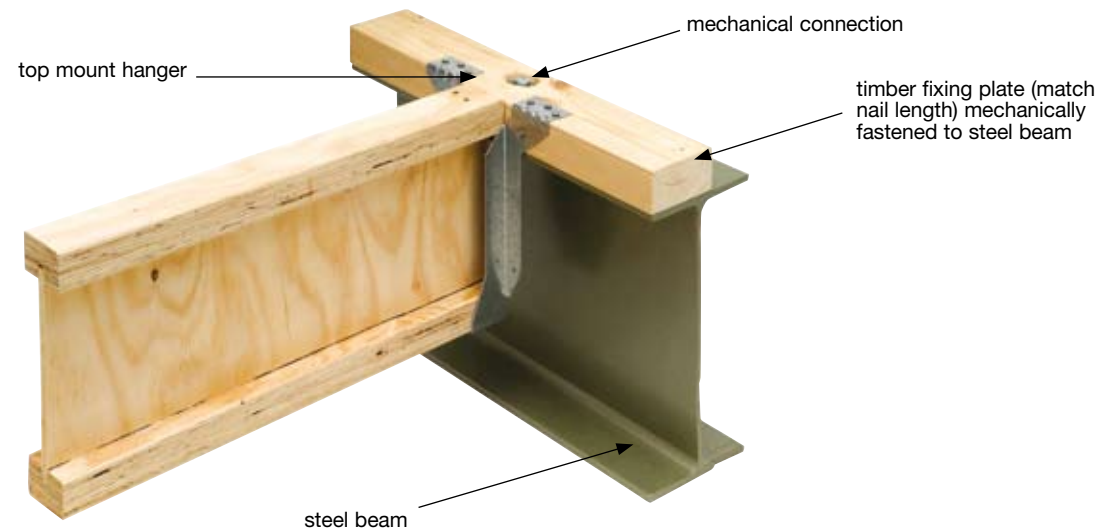
Positively fix joist to steel beam with 1 x No. 10 x 30 mm screw through steel beam to bottom flange of joist



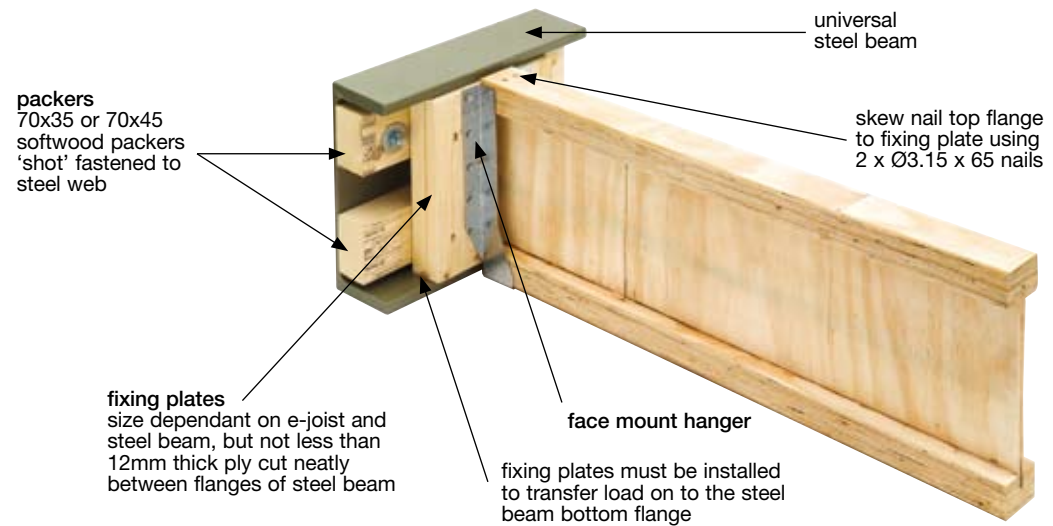
Joist Fixing to Steel Beams or Masonry

For hanger code and fastener requirements refer to Hanger Guide Tables on page 12.

D11: joist fixing to steel beams or masonry using top mount hangers



D12: joist fixing to steel beams or masonry using face mount hangers

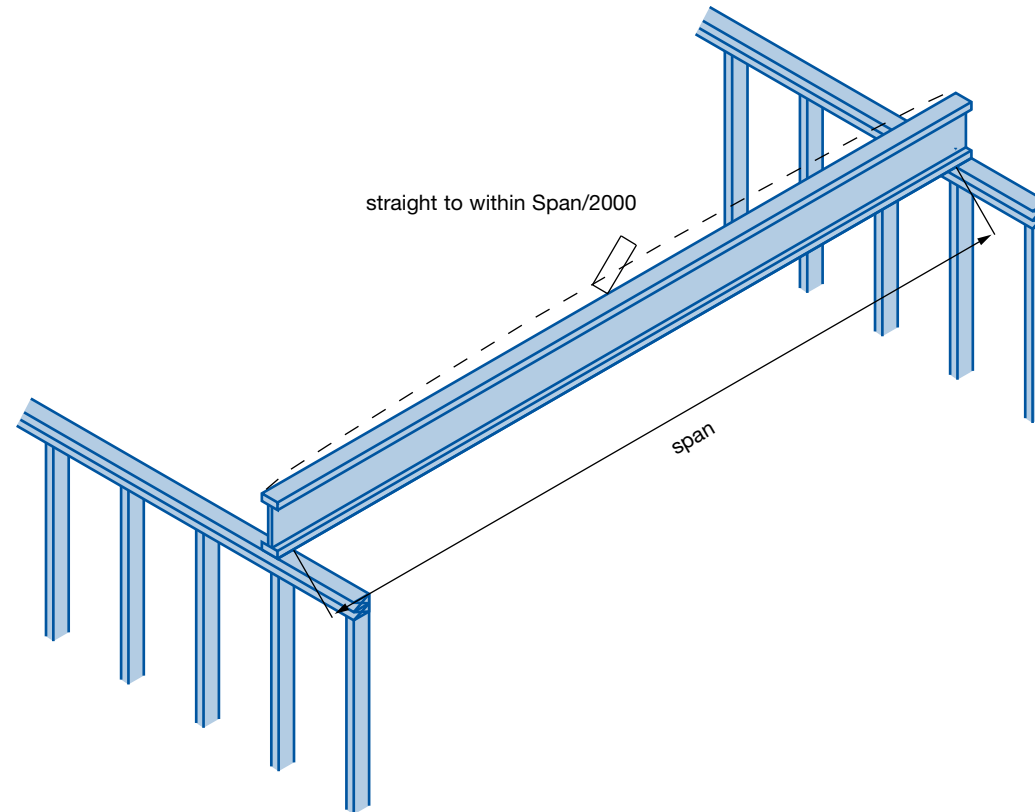


e-joint and LVL Installed Plumb and Straight

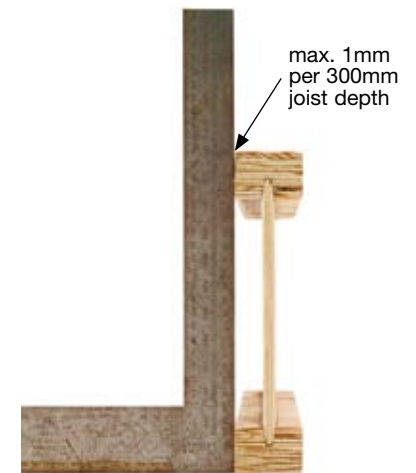
Install the i-joint straight to within $\text{Span}/2000$.
Use temporary braces as a restraint until the flooring is installed.

Install the i-joint plumb with a max of 1mm per 300mm.

D13: install joists straight



D14: install joists plumb

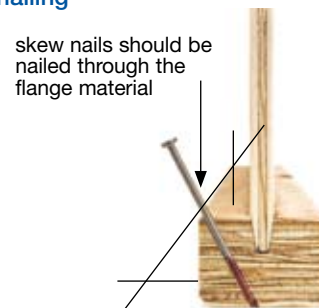


Nailing of Joists to Supports

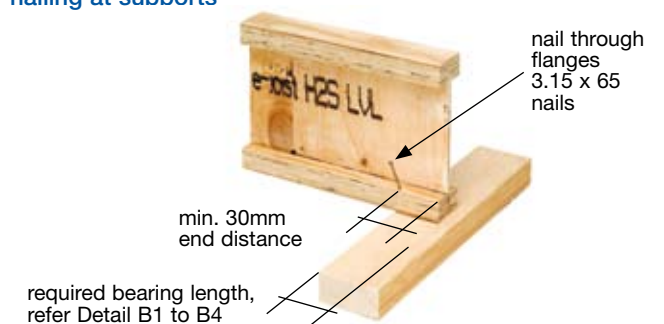
Skew nails through the joist flange, between lines as shown.

Fix joists to bearings using a minimum of 3.15 x 65mm nails. Keep nails as far away from the end of the joist as possible with a maximum of 30mm from the end of the joist.

D15: skew nailing



D16: nailing at supports



e-joint End Blocking Options

Ground Floor Framing

Ventilation

The Building Code of Australia stipulates a minimum ventilation requirement. Wall vents shall be built into all sides of the building, with special attention to corners to prevent 'dead spaces'.

Temporary and Permanent Bracing and Blocking

Temporary Blocking

Temporary blocking during construction prevents joists rolling over while the sheet floor is being installed.

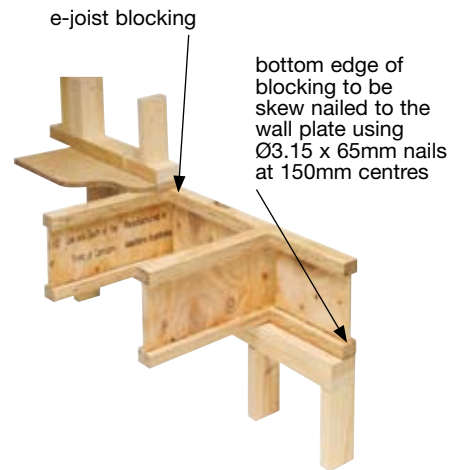
Minimum Temporary Blocking Requirements are: the outer three joists (2 spaces) and intermediate joists (2 joist spaces) at no more than 3.6m centres using solid or e-joint floor blocking (see detail D6).

Temporary battens must be also used during construction. Joists must be restrained at a maximum of 2.5m centres with battens (70 x 20mm min) fixed back to points of rigidity (see construction layout diagram D1). Temporary battens must be installed prior to walking on open joists or attempting to lay flooring.

Note: Do not walk on or load floor joists until all blocking, rimboards, temporary bracing, hangers or nailing are installed.

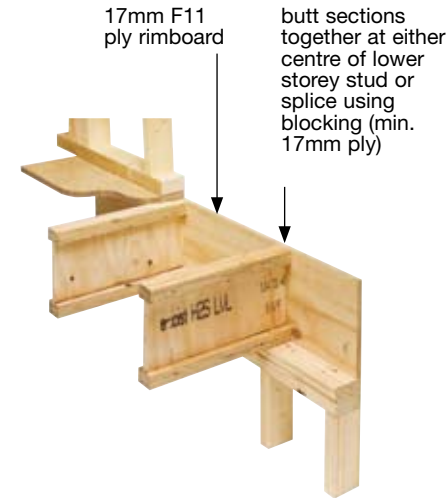
Blocking/Bracing: External Load Bearing and Bracing Walls

D17: e-joint floor blocking



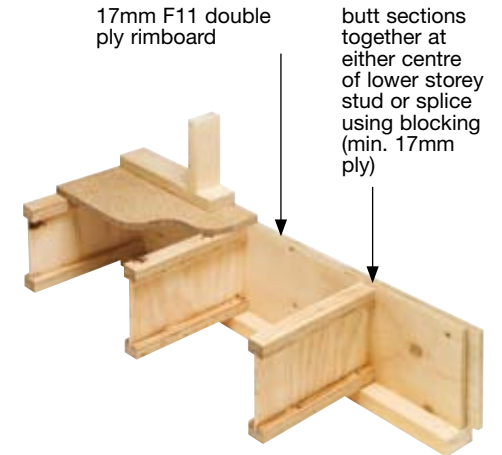
note: use for sub-floor and upper floor blocking on either single or multi-storey construction

D18: 17mm rimboard



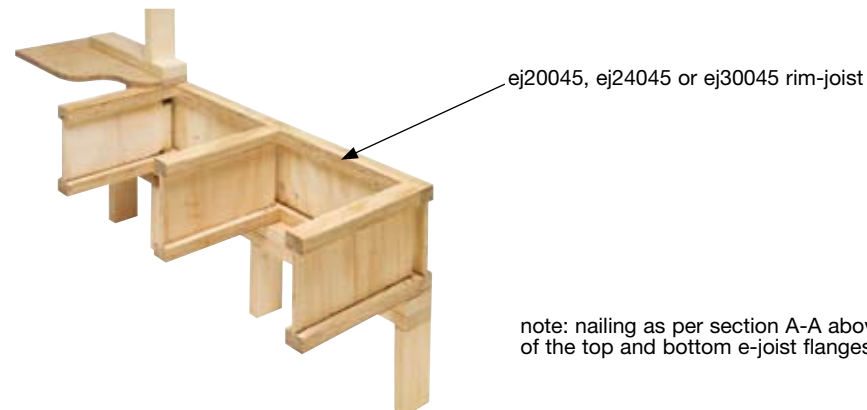
note: use rimboard for the upper storey of two storey construction or the sub-floor for single storey construction

D19: double 17mm rimboard



note: double rimboards for the lower storey of two storey construction

D20: e-joint rim-joint (only suitable for 45mm and 51mm flange width e-joists on 90mm plates)



note: nailing as per section A-A above except, nail rim-joint to end of the top and bottom e-joint flanges using 1 x Ø3.15 x 75mm nail

Temporary and Permanent Blocking

Temporary and Permanent Bracing and Blocking

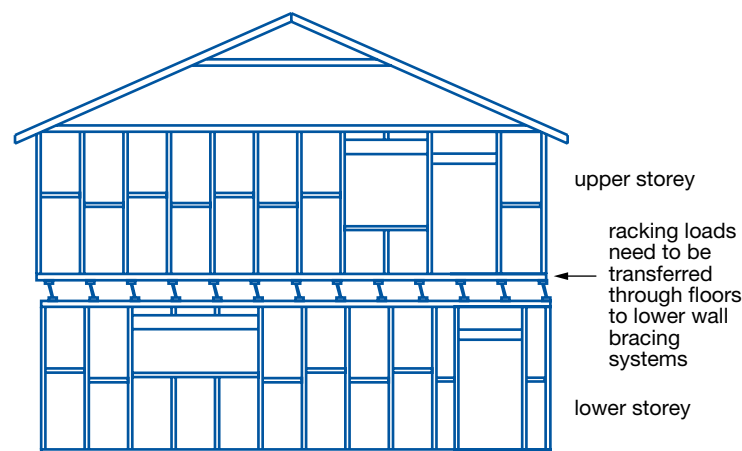
Permanent Blocking / Bracing

Permanent Blocking / Bracing provides lateral resistance to transfer the “racking” loads, experienced by the house during wind events, through the floor to the lower bracing system.

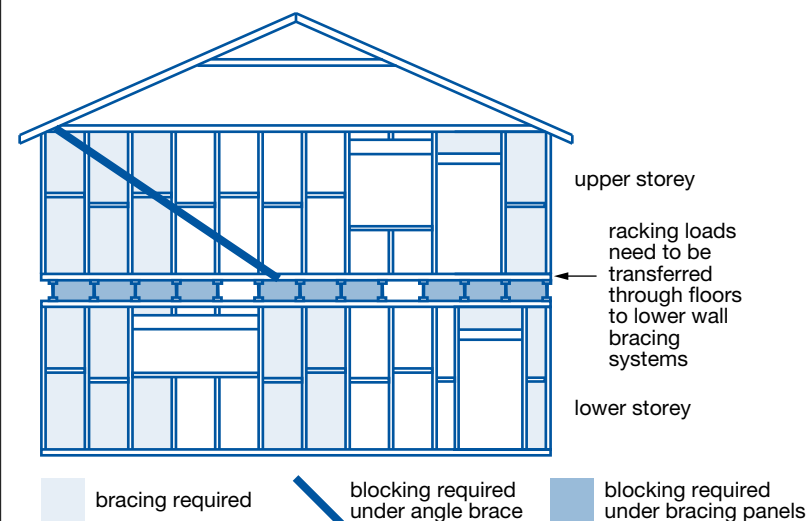
If full blocking of exterior walls is undertaken, using one of the following methods shown in diagrams D5-D7, with temporary blocking as described above to all internal walls, then no further lateral bracing calculation is required – **this is highly recommended**.

Typical tie down connection details for uplift and to the ends of upper floor bracing walls detailed in AS1684 can also be used with e-joists except that bolting through flanges is not permitted.

D21: e-joist floor bracing



D22: to temporary and permanent blocking



any transfer of a vertical load or bracing wall needs to be transferred to lower storey walls to enable the loads to flow through to the building foundations

e-joist Installation Details

Bracing and Tie Down

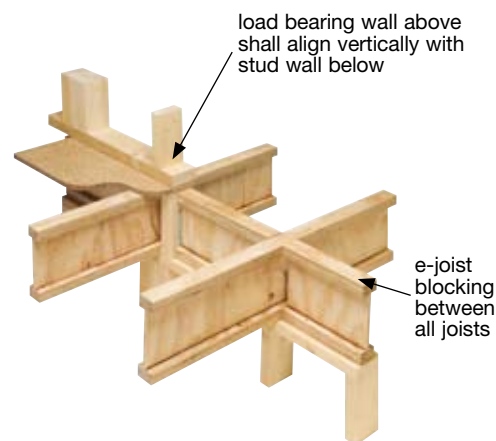
All bracing and tie down to be designed in accordance with AS1684.

Fixing of Flooring

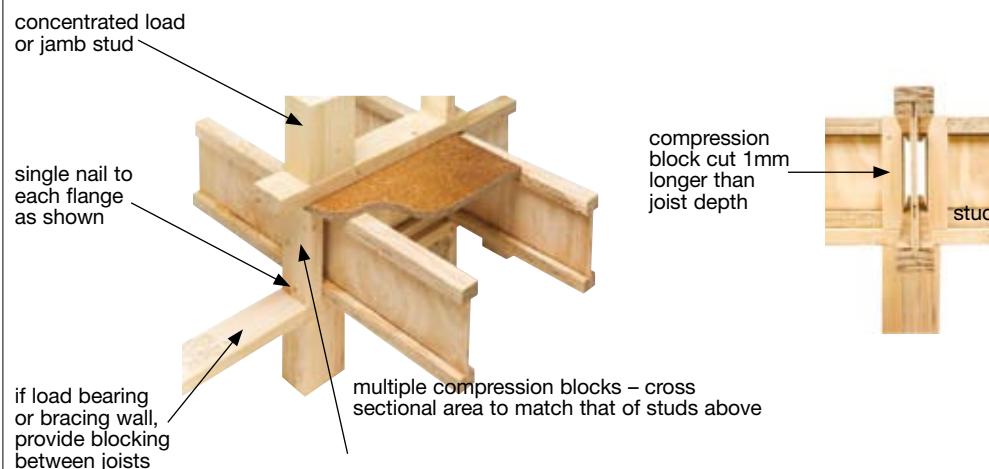
Fixings for floors shall be in accordance with AS1684 and manufacturer's recommendations. Nails (and screws) shall be 2.5 times the flooring thickness in length and not less than 2.5mm in diameter. It is recommended that flooring adhesive be used with sheet flooring.

Blocking/Bracing: Internal Load Bearing and Bracing Walls

D23: e-joist floor blocking



D24: support of concentrated loads



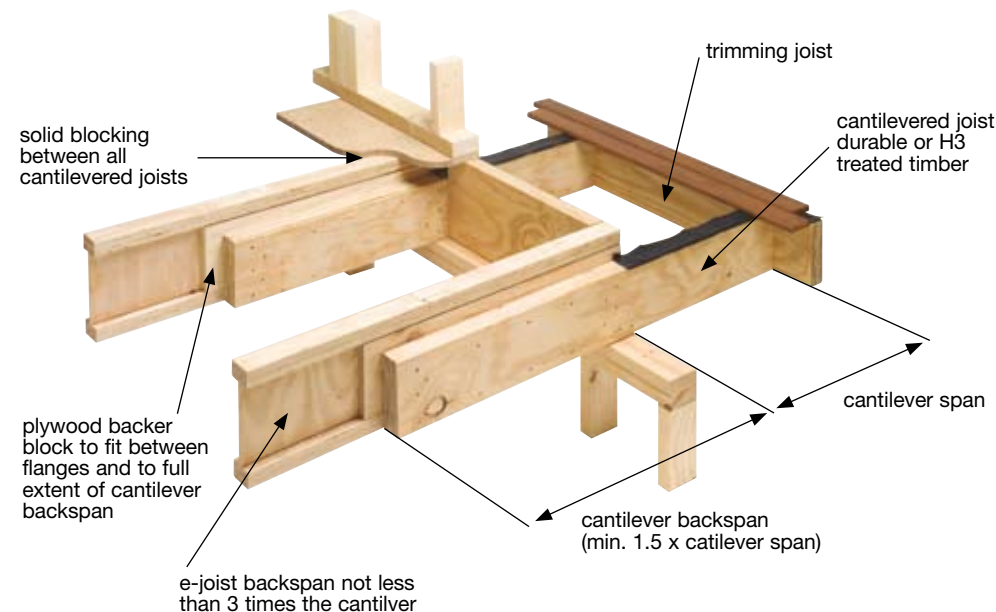
Cantilevers for Balconies (Non-Load Bearing)

When installing cantilevered joists to form balconies, attention to detail must be given to ensure that water does not find its way into the structure from water ponding on the surface or wind driven rain. For these reasons, a step down onto the balcony is preferred. This allows the installation of appropriate flashing and a water proofed surface (if desired) to protect joists.

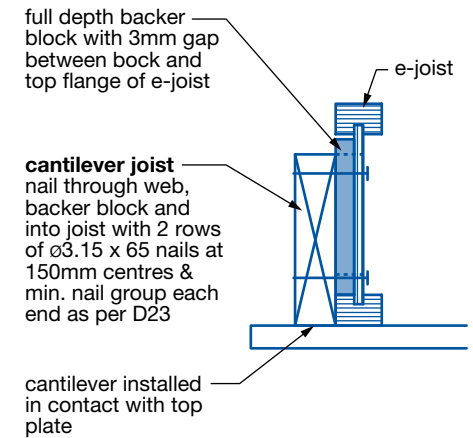
Backer Block Thickness

e-joint Flange width	Backer Block
45mm	17mm
51mm	21mm
63mm	27mm

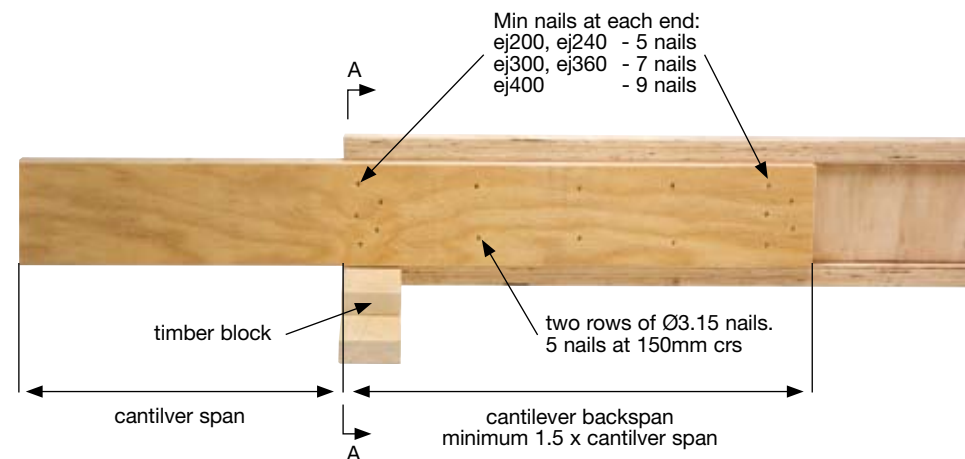
D25: cantilevered non-load bearing balcony detail - adjacent joist



D27: cantilevered balcony fixing - adjacent joist



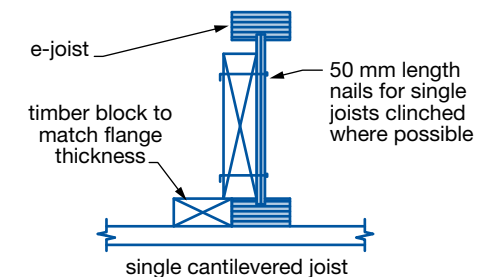
D26: cantilevered balcony fixing nested joist - elevation



D28: cantilevered balcony flashing



D29: cantilevered balcony fixing nested joists - sections

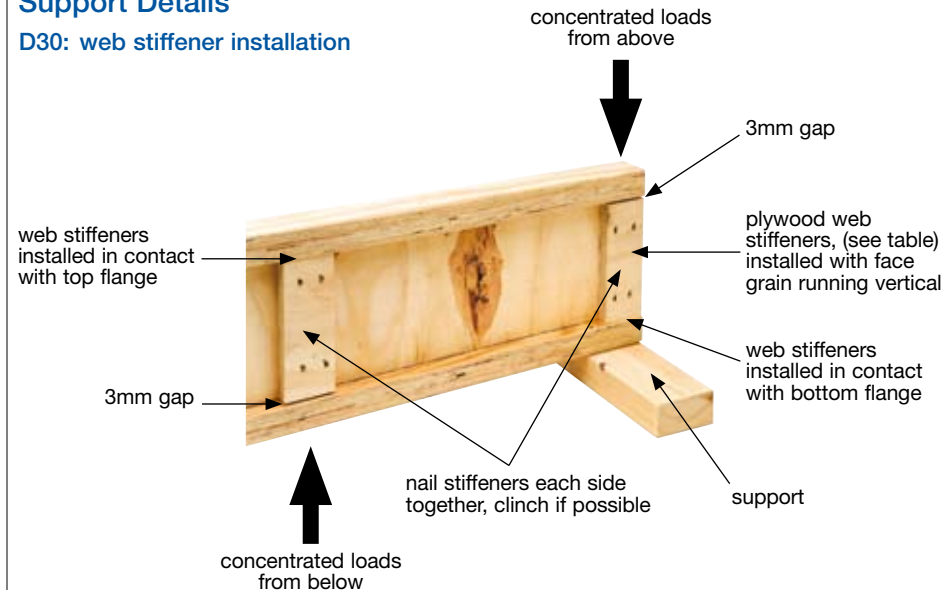


e-joist Web Stiffener Installation

'Install web stiffeners when transferring vertical loads through the floor joists.

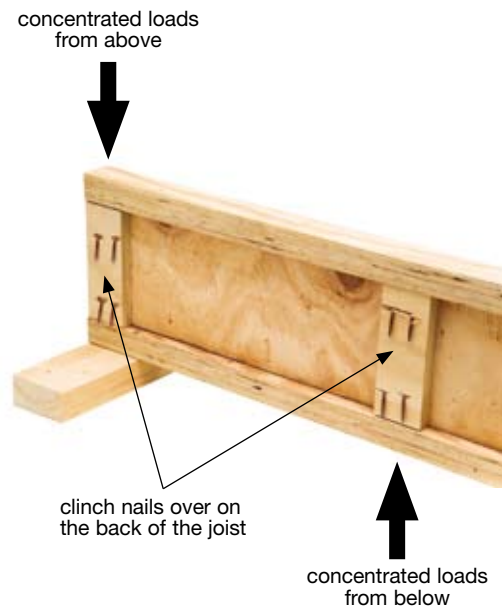
Support Details

D30: web stiffener installation

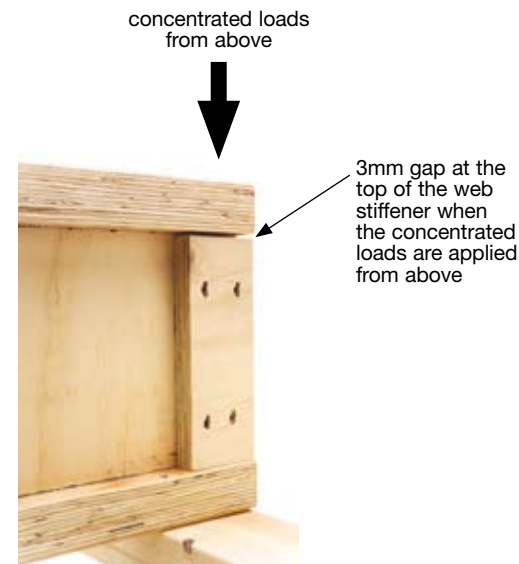


e-joist Flange Width	Stiffener	Nail Length
45mm	17 x 60mm ply	65mm
51mm	21 x 60mm ply	65mm
63mm	27 x 60mm ply	65mm
90mm	2/19 x 60mm ply	90mm
e-joist Depth	Stiffener Nailing Requirements	
200	3 x ø3.15 nails each side clinched where possible	
240		
300	4 x ø3.15 nails each side clinched where possible	
360		
400	5 x ø3.15 nails each side	

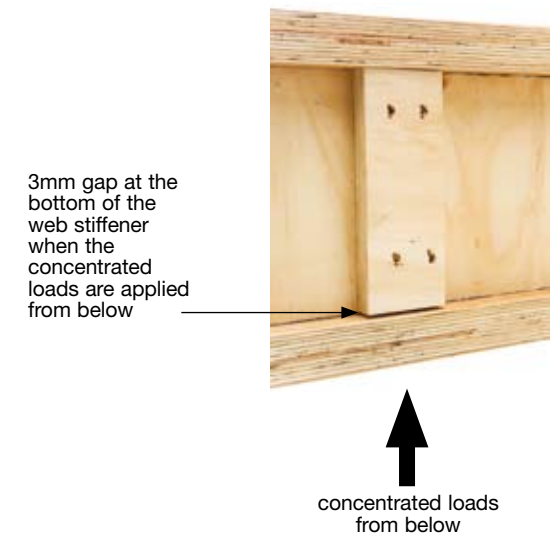
D31: clinched nails



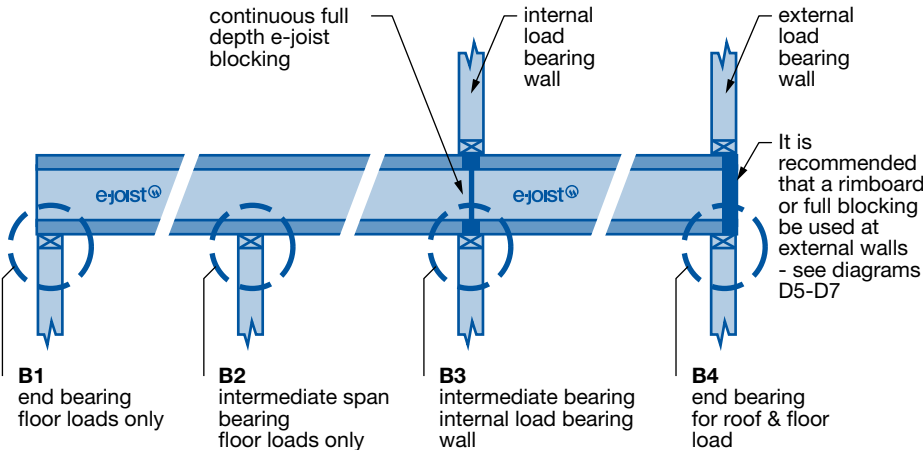
D32: 3mm gap at the top of the web stiffener



D33: 3mm gap



Bearing at Supports



note:

1. “(s)” – the value in the brackets is the minimum required bearing length if web stiffeners are installed, refer detail D4

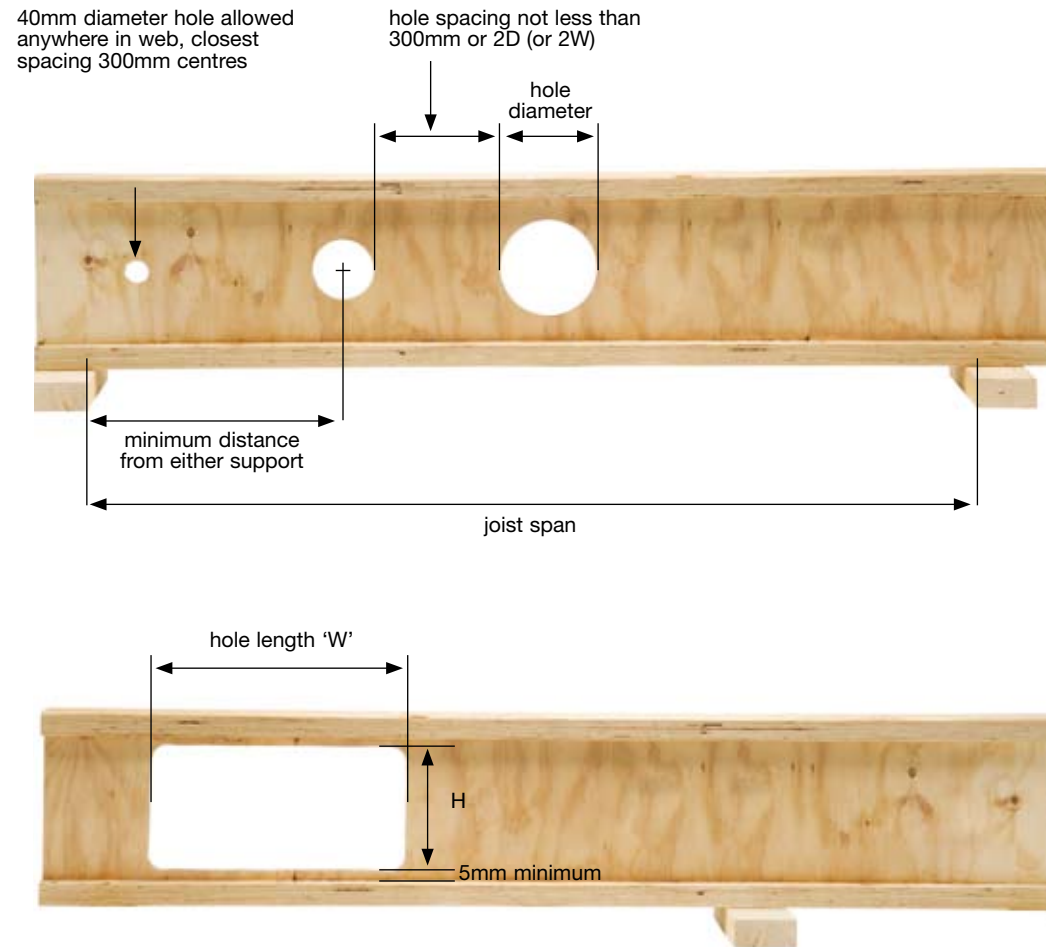
Detail B1	End Supports - single or continuous spans				
Minimum Bearing	35				
Detail B2	Intermediate Supports - continuous spans				
	Joist Type	Joist Spacing			
		400	450	600	
Minimum Bearing	All 200, 240, 300 and 360 e-joists	45	45	70	
	ej40090	45	65 (45s)	90 (65s)	
Detail B3	Intermediate Supports				
Provide minimum bearing as for intermediate supports (B2) and Install continuous full depth e-joist blocking to transfer roof and wall loads to supports					
Detail B4	End Supports with Rimboard or full blocking				
Minimum Bearing	35				
Detail B4	End Supports with no Rimboard or full blocking (just minimum blocking)				
	Roof Material	Joist Type	Joist Spacing		
			400	450	600
Minimum Bearing	Sheet Roof	All	45	45	65 (45s)
	Tile Roof	All 200, 240, 300 and 340 e-joists	70	70	90 (65s)
		ej36063	70	70	90 (65s)
		ej36090	70	70	95 (70s)
		ej40090	70	70	100 (70s)

Holes for the installation of ducts, service pipes and electrical conduits may be cut through e-joint webs as per the following limitations on their locations.

Notes:

1. In general larger holes should be positioned closer to mid-span.
2. Minimum spacing between holes must be at least 300mm or twice the diameter or length of the largest opening.
3. 40mm diameter holes can be drilled anywhere within the web provided they are a minimum of 300mm centers apart.
4. Maximum of three holes per span – holes less than 75mm can be excluded from this total.
5. It is recommended that the position of square, rectangular and round holes be at the mid-height of the joist. The minimum edge clearance from the top and bottom LVL flange is 5mm.
6. All holes to be cut carefully – do not overcut.
7. Do not cut, notch, plane or drill into flanges (other than as per D14 for support locations only).
8. Web hole locations can be interpolated for intermediate spans.

D34: service hole locations



Services Hole Guide

Note:

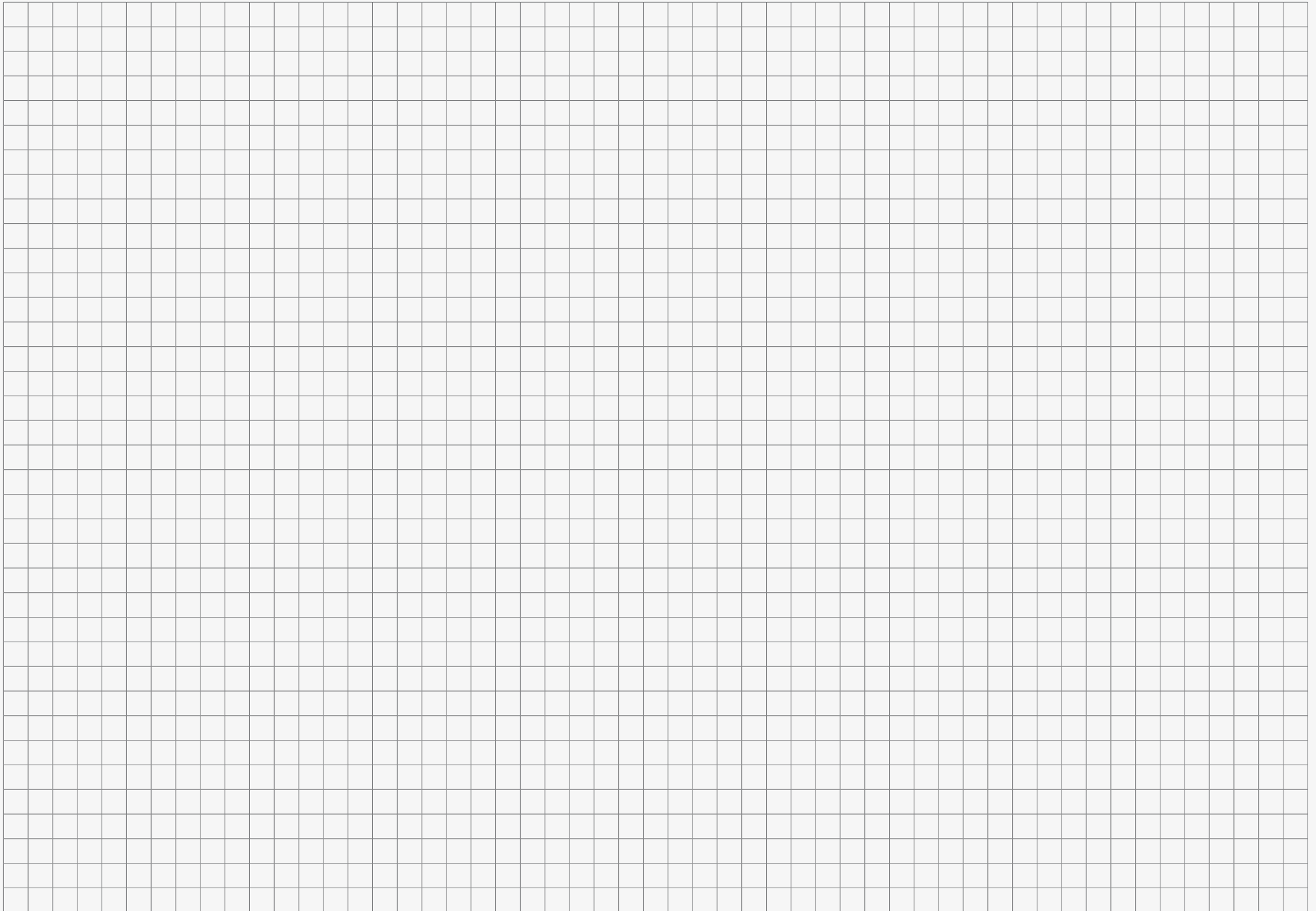
1. For square holes where the box is highlighted refer to value for rectangular holes of the same height.
2. Distance from support is measured to center of hole if hole is circular, or to edge of hole if hole is either square or rectangular.
3. NS - Not Suitable

e-joist Section Code	Installed Span (m)	Circular or Square Holes						
		ø75	ø100	ø125	ø150	ø175	ø200	ø250
		Minimum distance from any support						
ej20045	3.0	0.42	0.72	1.02	NS	NS	NS	NS
	4.0	0.56	0.96	1.36	NS	NS	NS	NS
	5.0	0.70	1.20	1.70	NS	NS	NS	NS
ej24045	3.5	0.37	0.64	0.90	1.17	NS	NS	NS
	4.5	0.48	0.82	1.16	1.50	NS	NS	NS
	5.5	0.58	1.00	1.42	1.83	NS	NS	NS
ej24051	4.0	0.42	0.72	1.03	1.33	NS	NS	NS
	5.0	0.53	0.91	1.29	1.66	NS	NS	NS
	6.0	0.63	1.09	1.54	2.00	NS	NS	NS
ej24090	4.5	0.48	0.82	1.17	1.51	NS	NS	NS
	5.5	0.59	1.01	1.42	1.84	NS	NS	NS
	6.5	0.69	1.19	1.68	2.18	NS	NS	NS
ej30045	4.5	0.30	0.55	0.81	1.07	1.32	1.58	NS
	5.5	0.36	0.67	0.99	1.30	1.62	1.93	NS
	6.5	0.42	0.80	1.17	1.54	1.91	2.28	NS
ej30051	4.5	0.30	0.55	0.81	1.07	1.32	1.58	NS
	5.5	0.36	0.67	0.99	1.30	1.62	1.93	NS
	6.5	0.42	0.80	1.17	1.54	1.91	2.28	NS
	7.0	0.46	0.86	1.26	1.66	2.06	2.46	NS
ej30090	5.0	0.34	0.62	0.91	1.20	1.48	1.77	NS
	6.0	0.41	0.75	1.09	1.44	1.78	2.12	NS
	7.0	0.47	0.87	1.27	1.67	2.07	2.48	NS
	7.5	0.51	0.94	1.37	1.79	2.22	2.65	NS
ej36063	5.0	0.30	0.30	0.55	0.79	1.04	1.28	1.77
	6.0	0.30	0.36	0.66	0.95	1.25	1.54	2.13
	7.0	0.30	0.43	0.77	1.11	1.45	1.80	2.48
	7.5	0.30	0.46	0.82	1.19	1.56	1.93	2.66
ej36090	6.0	0.30	0.30	0.30	0.61	0.95	1.30	1.98
	7.0	0.30	0.30	0.30	0.71	1.11	1.51	2.32
	8.0	0.30	0.30	0.30	0.82	1.27	1.73	2.65
ej40090	6.0	0.30	0.30	0.30	0.30	0.41	0.75	1.44
	7.0	0.30	0.30	0.30	0.30	0.47	0.87	1.67
	8.0	0.30	0.30	0.30	0.30	0.54	1.00	1.91

Rectangular Holes				
Height x Width (mm)				
125 x 250	150 x 300	175 x 350	200 x 400	250 x 500
Minimum distance from any support				
1.02	NS	NS	NS	NS
1.39	NS	NS	NS	NS
NS	NS	NS	NS	NS
1.23	1.29	NS	NS	NS
2.13	2.13	NS	NS	NS
NS	NS	NS	NS	NS
1.42	1.49	NS	NS	NS
2.36	2.35	NS	NS	NS
NS	NS	NS	NS	NS
1.17	1.51	NS	NS	NS
1.42	1.84	NS	NS	NS
1.68	2.18	NS	NS	NS
NS	NS	NS	NS	NS
NS	NS	NS	NS	NS
NS	NS	NS	NS	NS
1.98	1.98	1.97	1.96	NS
NS	NS	NS	NS	NS
NS	NS	NS	NS	NS
NS	NS	NS	NS	NS
0.91	1.20	1.48	1.77	NS
1.09	1.49	1.82	2.12	NS
2.06	2.47	2.62	2.71	NS
2.77	2.96	3.05	3.10	NS
1.85	1.93	1.97	1.99	2.01
2.63	2.65	2.65	2.65	2.63
NS	NS	NS	NS	NS
NS	NS	NS	NS	NS
0.30	0.61	1.33	1.60	1.98
0.30	1.45	1.98	2.21	2.44
0.30	2.45	2.75	2.91	3.07
0.30	0.30	1.09	1.42	1.73
0.30	0.69	1.65	1.96	2.26
0.30	1.75	2.34	2.59	2.85

e-joint	
Dimensional Tolerances	Length -0 mm, + 20mm
	Depth -0 mm, + 2 mm
	Width -1 mm, + 1 mm
Adhesive (flange/web)	Phenolic Formaldehyde
Branding	Each e-joint is branded as least once with the product name for identification and evidence of compliance with manufacturing control standards.
Storage	e-joints must only be stacked in the upright position to avoid any damage during storage or handling. Only stack on level bearers (3.0m spacing max) providing a ground clearance of at least 150mm. e-joints are not to be placed over ponded water and are to be kept as dry as practicable. Do not stack e-joints on the flat.
flange	
Veneer	Thickness 3.2 mm (nominal)
	Species Maritime Pine and/or Radiata Pine
	Joints Outer 2 plies are scarf jointed Inner plies – scarf and/or butt jointed
Moisture Content	8% - 15% (at time of despatch)
Density	650 kg/m ³ (approximately)
Adhesive	Phenolic – AS 2754.1
Bond	Type A – AS/NZS 2098.2
LVL Manufacturing Standard	AS/NZS 4357 Structural Laminated Veneer Lumber.
Joint Group	JD4
Finish	Unsanded faces, sawn edges and arrised edges.
web	
Veneer	Thickness 3.2 mm (nominal)
	Species Mixed Plantation Pine
Moisture Content	8% - 15% (at time of despatch)
Adhesive	Phenolic – AS 2754.1
Bond	Type A – AS/NZS 2098.2
Plywood Manufacturing Standard	AS/NZS 2269 Structural Plywood.
Material Safety Data Sheets (MSDS)	Please refer to the Wesbeam website at www.wesbeam.com to download the MSDS sheets for LVL and Plywood.







e-beam Specifications

Veneer

Thickness	3.2 mm (nominal)
Species	Maritime Pine and/or Radiata Pine
Joints	Outer 2 plies are scarf jointed Inner plies – scarf and/or butt jointed

Moisture Content

8% - 15% (at time of despatch)

Dimensional Tolerances

Length	- 0 mm, + 20mm
Depth	
up to 400mm	- 0 mm, + 2 mm
> 400mm	- 0 mm, + 4mm
Thickness	- 0 mm, + 4 mm

Straightness

Spring & Bow	1 mm in 1,000 mm AS/NZS 2098.10
Squareness	1 mm in 100 AS/NZS 2098.10
Twist	$< \frac{\text{Length (mm)} \times \text{Width (mm)}}{3500 \times \text{Thickness (mm)}}$ AS/NZS 2098.10

Density

660 kg/m³ (approximately)

Adhesive

Phenolic – AS 2754.1

Bond

Type A – AS/NZS 2098.2

Finish

Unsanded faces, sawn edges and arrised edges.

Storage

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

Material Safety Data Sheets (MSDS)

Please refer to the Wesbeam website at www.wesbeam.com to download the MSDS sheets.

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