

COMMERCIAL, INDUSTRIAL AND OTHER
HEAVILY LOADED FLOORS.

HYPAN® HYBEAM® PLYFLOOR®

A COMPLETE FLOOR SYSTEM.

ENGINEERED
BUILDING
PRODUCTS

futurebuild

HYPAN & HYBEAM
NOW AVAILABLE H2-S TREATED
TO PROTECT
AGAINST TERMITES†

ENGINEERED TIMBER FLOOR SYSTEMS FOR COMMERCIAL, INDUSTRIAL AND OTHER HEAVY LOAD APPLICATIONS



ECONOMICAL

- Engineered timber floor systems are the ideal alternative to heavy concrete and steel methods of construction.
- A lightweight timber structure also reduces the need for expensive and disruptive modifications to support structures, footings, walls etc.

QUICK AND CLEAN TO CONSTRUCT

This is particularly important when construction of mezzanine floors are considered to meet expanding needs.

- Dry construction.
- One trade does all.
- Services may be readily accommodated and concealed within the floor depth - unanticipated future needs, servicing etc able to be easily and neatly met.

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ERGONOMICALLY SUPERIOR

Timber floor systems are ergonomically superior. They are less fatiguing for people required to be on their feet for long periods and the preferred choice for sports and recreational purposes.

ENVIRONMENTALLY RESPONSIBLE

It is environmentally responsible to use renewable Australian plantation grown timber.

*H2-S treated Hyspan and Hybeam is manufactured to provide termite resistance equivalent to AS 1604 Hazard Level 2 for areas of Australia south of the Tropic of Capricorn.



APPLICATION

The following design and installation information is intended to assist designers with the specification of floor systems for commercial, industrial and other heavily loaded floors.

Guidance on the design approach used and assumptions made are also given. This information should be considered in order to verify the applicability of the information contained for particular cases.

DESIGN INFORMATION

LOADINGS

Floor Live Loads

Minimum design floor live loads related to occupancy are given in AS 1170.1 Dead and live loads and load combinations. The tables and other information given in this brochure relate to various combinations of uniformly distributed live load and concentrated live loads included for in AS 1170.1.

Dead Loads

A dead load allowance of 50 kg/m² has been included for in design. This allowance is intended to include the mass of floor coverings, flooring, attached ceiling and services. A further allowance for the mass of joists and bearers has been included for in the designs.

Serviceability Design - Bearers and Joists

Short term and long term load factors of 0.7 and 0.4 respectively have been applied to determine the short term and long term serviceability loads due to live load.

For long term loading, the duration of load factor, $j_2 = 2.0$ (refer AS 1720) has been applied for estimating deflection.

Deflection Limits Used for Design

Structural Element	Short term loading		Long term loading
	Distributed	Concentrated	Distributed or Concentrated
Joists	span/480	span/360	span/300, max. 15 mm
Bearers	span/480	span/360	span/300, max. 15 mm

For continuous spans, the deflection estimates for short term loading assume one span fully loaded and the adjacent span loaded at half that intensity.

Strength Design - Bearers and Joists

Strength checks using AS 1720.1-1988 include checks for dead load, dead load plus distributed live load and dead load plus concentrated live load for beam bending, shear and support.

Duration of load factors for distributed live loads and concentrated live loads corresponding to 5 months and 5 days respectively have been used.

For joist bending, deformation and shear, concentrated loads have been assumed laterally distributed to joists, taking into account the load transfer capability of the plywood flooring associated with the particular joist spacing (refer AS 1720).

FLOORING DESIGN

Plywood flooring design has been prepared in accordance with the design recommendations of the Plywood Association of Australia.

Flooring design is critical for concentrated loads in all cases. It is the strength characteristics of plywood that make it the only wood based sheet material for use where high concentrated loads are required to be supported.

Testing has further shown that the plastic tongue and groove joint used for Plyfloor plywood flooring is able to sustain point loads of up to 7.5 kN for the plywood thicknesses and spans included in this brochure. Nogging of joints is therefore not required.

For point loads in excess of 2.7kN a deflection limit of span/200 under the full concentrated load has been applied for design. For point loads of 2.7kN, the recommendations are based upon full scale prototype testing in which a human comfort response based deflection limit of 1.7mm per 1.0 kN load was used.

It has been assumed that plywood flooring will be installed in accordance with the recommendations of the Plywood Association of Australia.

FLOOR JOISTS AND FLOORING

For Floor Live Loads - 2.0 kPa Uniformly Distributed / 2.7 kN Concentrated

Applications include: Dining rooms, cafeterias and restaurants (excluding dance areas). Can also include bedrooms and private rooms, wards, toilets, bathrooms and dressing rooms, for which the concentrated live load requirement is 1.8 kN.

Table 1a. Floor Joists - Hyspan

HYSpan SECTION D x B	SINGLE SPAN					CONTINUOUS SPAN				
	FLOOR JOIST SPACING (mm)									
	300	400	450	480	600	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)									
95 x 36	1.9	1.8	1.7	1.7	1.7	2.8	2.4	2.2	2.2	2.0
95 x 45	2.2	2.0	2.0	2.0	1.9	3.0	2.6	2.4	2.4	2.2
95 x 63	2.6	2.4	2.4	2.3	2.1	3.3	2.9	2.8	2.7	2.5
130 x 36	3.1	2.8	2.7	2.6	2.4	3.8	3.4	3.2	3.2	3.0
130 x 45	3.3	3.0	2.9	2.8	2.6	4.1	3.7	3.5	3.5	3.2
130 x 63	3.7	3.3	3.2	3.1	2.9	4.5	4.2	4.0	3.9	3.6
150 x 36	3.5	3.2	3.1	3.0	2.8	4.4	4.0	3.8	3.7	3.5
150 x 45	3.8	3.5	3.3	3.2	3.0	4.6	4.3	4.1	4.0	3.7
150 x 63	4.2	3.9	3.7	3.6	3.4	5.0	4.7	4.6	4.5	4.2
170 x 36	4.0	3.6	3.5	3.4	3.2	4.8	4.5	4.4	4.2	3.9
170 x 45	4.3	3.9	3.8	3.7	3.4	5.1	4.7	4.6	4.5	4.2
170 x 63	4.7	4.4	4.2	4.1	3.8	5.5	5.2	5.0	4.9	4.7
200 x 36	4.7	4.3	4.1	4.0	3.7	5.4	5.0	4.8	4.7	4.3
200 x 45	4.9	4.6	4.4	4.3	4.0	5.8	5.4	5.2	5.1	4.8
200 x 63	5.3	5.0	4.8	4.8	4.5	6.3	5.8	5.7	5.6	5.3
240 x 36	5.3	5.0	4.8	4.7	4.5	5.8	5.3	5.1	5.0	4.6
240 x 45	5.6	5.2	5.1	5.0	4.7	6.6	6.1	6.0	5.9	5.6
240 x 63	6.1	5.7	5.5	5.5	5.2	7.2	6.7	6.5	6.4	6.0
300 x 45	6.7	6.2	6.0	5.9	5.6	7.8	7.1	6.9	6.7	6.2
300 x 63	7.3	6.7	6.6	6.4	6.1	-	7.9	7.7	7.5	7.1
360 x 45	7.6	7.1	6.9	6.8	6.4	-	7.5	7.2	7.1	6.6
360 x 63	8.3	7.7	7.5	7.4	7.0					
400 x 45	8.3	7.7	7.5	7.4	7.0					
400 x 63	9.0	8.4	8.1	8.0	7.6					

Minimum bearing 30 mm.

• Temporary mid-span batten to the top edge or mid-span blocking required for construction safety.

Table 1b. Floor Joists - Hybeam

HYBEAM SECTION CODE	FLOOR JOIST SPACING (mm)					REQUIRED BEARING (mm)	
	300	400	450	480	600	no web stiffeners 60/45 web stiffeners	
	MAXIMUM FLOOR JOIST SPAN (m) (SINGLE OR CONTINUOUS SPANS)					END SUPPORTS	INTERMEDIATE SUPPORTS#
HJ200-47	4.2	3.8	3.7	3.6	3.3	30/30	30/30
HJ240-47	4.8	4.5	4.3	4.2	3.9	30/30	30/30
HJ246-57	5.1	4.7	4.6	4.5	4.2	30/30	30/30
HJ300-63	5.9	5.5	5.3	5.2	4.9	30/30	60/30
HJ360-63	6.7	6.2	6.0	5.9	5.6	30/30	60/45

Refers to intermediate supports for continuous span joists

Table 1c. Flooring

FLOOR JOIST SPACING (mm)				
300	400	450	480	600
15 mm F11 PLYFLOOR				19 mm F11 PLYFLOOR

FLOOR JOISTS AND FLOORING

For Floor Live Loads - 3.0 kPa Uniformly Distributed / 2.7 kN Concentrated

Applications include: Assembly areas with fixed seating (classrooms, lecture rooms, projection rooms, etc).

Table 2a. Floor Joists - Hyspan

HYSpan SECTION D x B	SINGLE SPAN					CONTINUOUS SPAN				
	FLOOR JOIST SPACING (mm)									
	300	400	450	480	600	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)									
95 x 36	1.9	1.8	1.7	1.7	1.6	2.5	2.3	2.2	2.1	2.0
95 x 45	2.2	2.0	1.9	1.9	1.7	2.7	2.4	2.3	2.3	2.1
95 x 63	2.5	2.2	2.1	2.1	1.9	3.0	2.7	2.6	2.6	2.4
130 x 36	2.8	2.5	2.4	2.4	2.2	3.4	3.1	3.0	2.9	2.7
130 x 45	3.0	2.7	2.6	2.6	2.4	3.7	3.3	3.2	3.1	2.9
130 x 63	3.4	3.0	2.9	2.9	2.7	4.1	3.7	3.6	3.5	3.2
150 x 36	3.2	2.9	2.8	2.7	2.5	3.9	3.6	3.4	3.3	3.1
150 x 45	3.5	3.1	3.0	3.0	2.7	4.2	3.8	3.7	3.6	3.3
150 x 63	3.9	3.5	3.4	3.3	3.1	4.7	4.3	4.2	4.0	3.7
170 x 36	3.6	3.3	3.2	3.1	2.9	4.4	4.0	3.8	3.7	3.4
170 x 45	3.9	3.6	3.4	3.4	3.1	4.8	4.3	4.1	4.1	3.8
170 x 63	4.4	4.0	3.8	3.7	3.5	5.3	4.9	4.7	4.6	4.2
200 x 36	4.3	3.9	3.7	3.7	3.4	4.9	4.4	4.2	4.1	3.8
200 x 45	4.6	4.2	4.0	3.9	3.7	5.6	5.1	4.9	4.8	4.5
200 x 63	5.0	4.7	4.5	4.4	4.1	6.2	5.7	5.5	5.4	5.1
240 x 36	5.0	4.6	4.5	4.4	4.1	5.2	4.7	4.6	4.5	4.1
240 x 45	5.3	4.9	4.8	4.7	4.4	6.5	5.9	5.6	5.5	5.0
240 x 63	5.7	5.3	5.2	5.1	4.8	7.1	6.6	6.5	6.4	6.0
300 x 45	6.2	5.8	5.6	5.5	5.2	7.0	6.4	6.1	6.0	5.6
300 x 63	6.8	6.3	6.1	6.0	5.7	-	7.9	7.6	7.5	7.1
360 x 45	7.1	6.7	6.5	6.4	6.0					
360 x 63	7.8	7.2	7.0	6.9	6.5	↔				
400 x 45	7.7	7.2	7.0	6.9	6.5					
400 x 63	8.4	7.8	7.6	7.5	7.1	↔				

Minimum bearing 30 mm, except for span in the shaded area provide 45 mm bearing at the intermediate support.

↔ If joist hangers used they must be fixed to the supporting bearer with screws - see page 12.

• Temporary mid-span batten to the top edge or mid-span blocking required for construction safety.

Table 2b. Floor Joists - Hybeam

HYBEAM SECTION CODE	FLOOR JOIST SPACING (mm)					REQUIRED BEARING (mm)	
	300	400	450	480	600	no web stiffeners	60/45 web stiffeners
	MAXIMUM FLOOR JOIST SPAN (m) (SINGLE OR CONTINUOUS SPANS)					END SUPPORTS	INTERMEDIATE SUPPORTS#
HJ200-47	3.9	3.5	3.3	3.2	3.0	30/30	30/30
HJ240-47	4.5	4.1	3.9	3.8	3.5	30/30	60/45
HJ246-57	4.8	4.4	4.2	4.1	3.8	30/30	60/45
HJ300-63	5.5	5.1	5.0	4.9	4.6	30/30	90/60
HJ360-63	6.2	5.8	5.6	5.5	5.2	45/30	110/90

Refers to intermediate supports for continuous span joists. Values correspond to 600 mm joist spacing and are conservative for smaller spacings.

Table 2c. Flooring

FLOOR JOIST SPACING (mm)				
300	400	450	480	600
15 mm F11 PLYFLOOR				19 mm F11 PLYFLOOR

FLOOR JOISTS AND FLOORING

For Floor Live Loads - 3.0 kPa Uniformly Distributed / 6.7 kN Concentrated

Applications include: Offices and laboratories.

Table 3a. Floor Joists - Hyspan

HYSpan SECTION D x B	SINGLE SPAN					CONTINUOUS SPAN				
	FLOOR JOIST SPACING (mm)									
	300	400	450	480	600	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)									
95 x 36	1.1	1.0	1.0	1.0	0.9	-	-	-	-	-
95 x 45	1.3	1.2	1.2	1.2	1.2	2.1	2.0	2.0	2.0	1.9
95 x 63	1.6	1.5	1.5	1.5	1.4	2.6	2.5	2.4	2.4	2.3
130 x 36	2.0	1.9	1.8	1.8	1.8	3.3	3.1	3.0	2.9	2.7
130 x 45	2.2	2.1	2.1	2.1	2.0	3.7	3.3	3.2	3.1	2.9
130 x 63	2.7	2.6	2.5	2.5	2.5	4.1	3.8	3.6	3.5	3.2
150 x 36	2.5	2.4	2.4	2.4	2.3	3.9	3.6	3.4	3.4	3.1
150 x 45	2.9	2.7	2.7	2.7	2.6	4.2	3.8	3.7	3.7	3.3
150 x 63	3.5	3.3	3.3	3.3	3.1	4.7	4.3	4.1	4.3	3.8
170 x 36	3.2	3.0	2.9	2.9	2.9	4.4	4.0	3.8	3.6	3.4
170 x 45	3.6	3.4	3.4	3.3	3.1	4.8	4.3	4.2	4.0	3.7
170 x 63	4.4	4.0	3.8	3.7	3.5	5.3	4.9	4.7	4.6	4.2
200 x 36	4.3	3.9	3.7	3.7	3.4	4.9	4.4	4.2	4.1	3.8
200 x 45	4.6	4.2	4.0	3.9	3.7	5.6	5.1	4.9	4.8	4.5
200 x 63	5.0	4.7	4.5	4.4	4.1	6.2	5.7	5.5	5.4	5.0
240 x 36	5.0	4.6	4.5	4.4	4.1	5.2	4.7	4.6	4.5	4.1
240 x 45	5.3	4.9	4.8	4.7	4.4	6.5	5.9	5.6	5.5	5.0
240 x 63	5.7	5.3	5.2	5.1	4.8	7.1	6.6	6.5	6.4	6.0
300 x 45	6.2	5.8	5.6	5.5	5.2	7.0	6.4	6.1	6.0	5.6
300 x 63	6.8	6.3	6.1	6.0	5.7	8.4	7.9	7.6	7.5	7.1
360 x 45	7.1	6.7	6.5	6.4	6.0					
360 x 63	7.8	7.2	7.0	6.9	6.5					
400 x 45	7.7	7.2	7.0	6.9	6.5					
400 x 63	8.4	7.8	7.6	7.5	7.1					

Minimum bearing 30 mm, except for span in the shaded area provide 45 mm bearing at the intermediate support.

☛ If joist hangers used they must be fixed to the supporting bearer with screws - see page 12.

· Temporary mid-span batten to the top edge or mid-span blocking required for construction safety.

Table 3b. Floor Joists - Hybeam

HYBEAM SECTION CODE	FLOOR JOIST SPACING (mm)					REQUIRED BEARING (mm)	
	300	400	450	480	600	no web stiffeners	60/45 web stiffeners
	MAXIMUM FLOOR JOIST SPAN (m) (SINGLE OR CONTINUOUS SPANS)					END SUPPORTS	INTERMEDIATE SUPPORTS#
HJ300-63	5.5	5.1	5.0	4.9	4.6	50/45	90/60
HJ360-63	6.2	5.8	5.6	5.5	5.2	50/30	110/60

Refers to intermediate supports for continuous span joists. Values correspond to 600 mm joist spacing and are conservative for smaller spacings.

☛ LF and FB hangers must be screw fixed to bearer. Web stiffeners needed for FB hangers only - see pages 12 & 13.

Table 3c. Flooring

FLOOR JOIST SPACING (mm)				
300	400	450	480	600
21 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR	33 mm F11 PLYFLOOR

FLOOR JOISTS AND FLOORING

For Floor Live Loads - 4.0 kPa Uniformly Distributed / 4.5 kN Concentrated

Applications include: Corridors, hallways, passageways, foyers, lobbies, public spaces, - subject to crowd loadings (pedestrian traffic only).

Table 4a. Floor Joists - Hyspan

HYSpan SECTION D x B	SINGLE SPAN					CONTINUOUS SPAN				
	FLOOR JOIST SPACING (mm)									
	300	400	450	480	600	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)									
95 x 36	1.4	1.4	1.4	1.3	1.3	2.3	2.0	1.9	1.8	
95 x 45	1.6	1.6	1.5	1.5	1.5	2.4	2.2	2.1	2.1	1.9
95 x 63	1.9	1.9	1.9	1.8	1.8	2.7	2.5	2.4	2.3	2.2
130 x 36	2.4	2.3	2.2	2.2	2.0	3.1	2.8	2.7	2.6	2.4
130 x 45	2.7	2.5	2.4	2.3	2.2	3.3	3.0	2.9	2.8	2.6
130 x 63	3.0	2.8	2.7	2.6	2.4	3.7	3.4	3.2	3.2	2.9
150 x 36	2.9	2.7	2.5	2.5	2.3	3.6	3.2	3.1	3.0	2.8
150 x 45	3.1	2.9	2.7	2.7	2.5	3.8	3.5	3.3	3.3	3.0
150 x 63	3.5	3.2	3.1	3.0	2.8	4.3	3.9	3.7	3.7	3.4
170 x 36	3.3	3.0	2.9	2.8	2.6	4.0	3.6	3.5	3.4	3.1
170 x 45	3.6	3.2	3.1	3.0	2.8	4.3	3.9	3.8	3.7	3.4
170 x 63	4.0	3.6	3.5	3.4	3.2	4.9	4.4	4.2	4.2	3.9
200 x 36	3.9	3.5	3.4	3.3	3.1	4.5	4.0	3.8	3.7	3.4
200 x 45	4.2	3.8	3.7	3.6	3.3	5.1	4.6	4.5	4.4	4.1
200 x 63	4.7	4.3	4.1	4.0	3.7	5.7	5.2	5.0	4.9	4.5
240 x 36	4.7	4.2	4.1	4.0	3.7	4.8	4.4	4.2	4.1	3.8
240 x 45	5.0	4.6	4.4	4.3	4.0	5.9	5.3	5.1	5.0	4.6
240 x 63	5.4	5.1	4.9	4.8	4.5	6.8	6.2	6.0	5.9	5.4
300 x 45	5.9	5.5	5.3	5.3	5.0	6.5	5.9	5.6	5.5	5.1
300 x 63	6.4	6.0	5.8	5.7	5.4	8.0	7.5	7.2	7.1	6.7
360 x 45	6.8	6.3	6.1	6.0	5.7					
360 x 63	7.4	6.9	6.7	6.6	6.2					
400 x 45	7.3	6.8	6.6	6.5	6.2					
400 x 63	8.0	7.4	7.2	7.1	6.7					

Minimum bearing 30 mm, except for spans in the shaded areas provide 45 mm bearing at the intermediate support.

☛ If joist hangers used they must be fixed to the supporting bearer with screws - see page 12.

• Temporary mid-span batten to the top edge or mid-span blocking required for construction safety.

Table 4b. Floor Joists - Hybeam

HYBEAM SECTION CODE	FLOOR JOIST SPACING (mm)					REQUIRED BEARING (mm)	
	300	400	450	480	600	no web stiffeners	60/45 web stiffeners
	MAXIMUM FLOOR JOIST SPAN (m) (SINGLE OR CONTINUOUS SPANS)					END SUPPORTS	INTERMEDIATE SUPPORTS#
HJ200-47	3.2	2.7	2.4	2.2	1.7	30/30	30/30
HJ240-47	4.1	3.7	3.5	3.4	3.1	30/30	90/60
HJ246-57	4.5	4.0	3.8	3.7	3.2	30/30	90/60
HJ300-63	5.2	4.8	4.7	4.6	4.2	45/30	120/90
HJ360-63	5.9	5.5	5.3	5.2	4.9*	60/45	150/110

Refers to intermediate supports for continuous span joists. Values correspond to 600 mm joist spacing and are conservative for smaller spacings.

☛ LF and FB hangers must be screw fixed to bearer and web stiffeners must be used with LF, LT and FB hangers - see pages 12 & 13.

* Do not use continuous spans for this case.

Table 4c. Flooring

FLOOR JOIST SPACING (mm)				
300	400	450	480	600
17 mm F11 PLYFLOOR	19 mm F11 PLYFLOOR	21 mm F11 PLYFLOOR	21 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR

FLOOR JOISTS AND FLOORING

For Floor Live Loads - 5.0 kPa Uniformly Distributed / 3.6 kN Concentrated

Applications include: Assembly areas without fixed seating, such as dance areas, bars, vestibules, and public lounges.

Table 5a. Floor Joists - Hyspan

HYSpan SECTION D x B	SINGLE SPAN					CONTINUOUS SPAN				
	FLOOR JOIST SPACING (mm)									
	300	400	450	480	600	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)									
95 x 36	1.6	1.6	1.5	1.5	1.4	2.1	1.9	1.8	1.8	1.7
95 x 45	1.8	1.7	1.6	1.6	1.5	2.3	2.0	2.0	1.9	1.8
95 x 63	2.1	1.9	1.8	1.8	1.6	2.5	2.3	2.2	2.2	2.0
130 x 36	2.3	2.1	2.1	2.0	1.9	2.9	2.6	2.5	2.4	2.3
130 x 45	2.5	2.3	2.2	2.2	2.0	3.1	2.8	2.7	2.7	2.4
130 x 63	2.8	2.6	2.5	2.4	2.2	3.4	3.1	3.0	2.9	2.7
150 x 36	2.7	2.5	2.4	2.3	2.2	3.3	3.0	2.9	2.8	2.6
150 x 45	2.9	2.7	2.5	2.5	2.3	3.6	3.2	3.1	3.1	2.8
150 x 63	3.3	3.0	2.9	2.8	2.6	4.0	3.6	3.5	3.4	3.2
170 x 36	3.1	2.8	2.7	2.6	2.4	3.7	3.4	3.2	3.1	2.8
170 x 45	3.3	3.0	2.9	2.8	2.6	4.0	3.7	3.5	3.4	3.2
170 x 63	3.7	3.4	3.2	3.2	2.9	4.5	4.1	3.9	3.9	3.6
200 x 36	3.6	3.3	3.2	3.1	2.9	4.1	3.7	3.5	3.4	3.2
200 x 45	3.9	3.5	3.4	3.3	3.1	4.7	4.3	4.1	4.1	3.7
200 x 63	4.4	4.0	3.8	3.7	3.5	5.3	4.8	4.6	4.5	4.2
240 x 36	4.3	3.9	3.8	3.7	3.4	4.5	4.1	3.9	3.8	3.5
240 x 45	4.7	4.2	4.1	4.0	3.7	5.5	4.9	4.7	4.6	4.2
240 x 63	5.2	4.7	4.6	4.5	4.1	6.4	5.8	5.6	5.4	5.0
300 x 45	5.7	5.3	5.1	5.0	4.6	6.0	5.5	5.3	5.1	4.7
300 x 63	6.2	5.7	5.6	5.5	5.2	7.7	7.1	6.9	6.8	6.3
360 x 45	6.5	6.0	5.9	5.8	5.5					
360 x 63	7.1	6.6	6.4	6.3	5.9					
400 x 45	7.0	6.5	6.3	6.2	5.9					
400 x 63	7.6	7.1	6.9	6.8	6.4					

Minimum bearing 45 mm, except for spans in the shaded areas provide 60 mm bearing at the intermediate support.

☛ If joist hangers used they must be fixed to the supporting bearer with screws - see page 12.

Table 5b. Floor Joists - Hybeam

HYBEAM SECTION CODE	FLOOR JOIST SPACING (mm)					REQUIRED BEARING (mm)	
	300	400	450	480	600	no web stiffeners	60/45 web stiffeners
	MAXIMUM FLOOR JOIST SPAN (m) (SINGLE OR CONTINUOUS SPANS)					END SUPPORTS	INTERMEDIATE SUPPORTS#
HJ200-47	3.2	2.7	2.4	2.2	1.7	30/30	30/30
HJ240-47	3.8	3.4	3.2	3.1	2.6	30/30	90/60
HJ246-57	4.1	3.7	3.5	3.3	2.7	30/30	90/60
HJ300-63	5.0	4.5	4.3	4.2	3.4	45/30	120/90
HJ360-63	5.6	5.2	5.0	4.9*	4.3*	60/45	160/110

Refers to intermediate supports for continuous span joists. Values correspond to 600 mm joist spacing and are conservative for smaller spacings.

☛ LF and FB hangers must be screw fixed to bearer and web stiffeners must be used with LF, LT and FB hangers - see pages 12 & 13.

* Do not use for continuous spans in these cases.

Table 5c. Flooring

FLOOR JOIST SPACING (mm)				
300	400	450	480	600
17 mm F11 PLYFLOOR	19 mm F11 PLYFLOOR	19 mm F11 PLYFLOOR	21 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR

FLOOR JOISTS AND FLOORING

For Floor Live Loads - 5.0 kPa Uniformly Distributed / 4.5 kN Concentrated

Applications include: Corridors, hallways, passageways, foyers, lobbies, public spaces - subject to wheeled vehicles, trolleys and the like, etc, also, grandstands, filerooms, vaults and strongrooms, kitchens (other than in houses), motor and fan rooms.

Table 6a. Floor Joists - Hyspan

HYSpan SECTION D x B	SINGLE SPAN					CONTINUOUS SPAN				
	FLOOR JOIST SPACING (mm)									
	300	400	450	480	600	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)									
95 x 36	1.4	1.4	1.4	1.3	1.3	2.1	1.9	1.8	1.8	1.7
95 x 45	1.6	1.6	1.5	1.5	1.5	2.3	2.0	2.0	1.9	1.8
95 x 63	1.9	1.9	1.8	1.8	1.6	2.5	2.3	2.2	2.2	2.0
130 x 36	2.3	2.1	2.1	2.0	1.9	2.9	2.6	2.5	2.4	2.3
130 x 45	2.5	2.3	2.2	2.2	2.0	3.1	2.8	2.7	2.6	2.4
130 x 63	2.8	2.6	2.5	2.4	2.2	3.4	3.1	3.0	2.9	2.7
150 x 36	2.7	2.5	2.4	2.3	2.2	3.3	3.0	2.9	2.8	2.6
150 x 45	2.9	2.7	2.5	2.5	2.3	3.6	3.2	3.1	3.0	2.8
150 x 63	3.3	3.0	2.9	2.8	2.6	4.0	3.6	3.5	3.4	3.2
170 x 36	3.1	2.8	2.7	2.6	2.4	3.7	3.4	3.2	3.1	2.8
170 x 45	3.3	3.0	2.9	2.8	2.6	4.0	3.7	3.5	3.4	3.2
170 x 63	3.7	3.4	3.2	3.2	2.9	4.5	4.1	3.9	3.9	3.6
200 x 36	3.6	3.3	3.2	3.1	2.9	4.1	3.7	3.5	3.4	3.2
200 x 45	3.9	3.5	3.4	3.3	3.1	4.7	4.3	4.1	4.1	3.7
200 x 63	4.4	4.0	3.8	3.7	3.5	5.3	4.8	4.6	4.5	4.2
240 x 36	4.3	3.9	3.8	3.7	3.4	4.5	4.1	3.9	3.8	3.5
240 x 45	4.7	4.2	4.1	4.0	3.7	5.5	4.9	4.7	4.6	4.2
240 x 63	5.2	4.7	4.6	4.5	4.1	6.4	5.8	5.6	5.4	5.0
300 x 45	5.7	5.3	5.1	5.0	4.6	6.0	5.5	5.3	5.1	4.7
300 x 63	6.2	5.7	5.6	5.5	5.2	7.7	7.1	6.9	6.8	6.3
360 x 45	6.5	6.0	5.9	5.8	5.5					
360 x 63	7.1	6.6	6.4	6.3	5.9					
400 x 45	7.0	6.5	6.3	6.2	5.9					
400 x 63	7.6	7.1	6.9	6.8	6.4					

Minimum bearing 45 mm, except for spans in the shaded areas provide 60 mm bearing at the intermediate support.

☛ If joist hangers used they must be fixed to the supporting bearer with screws - see page 12.

Table 6b. Floor Joists - Hybeam

HYBEAM SECTION CODE	FLOOR JOIST SPACING (mm)					REQUIRED BEARING (mm)	
	300	400	450	480	600	no web stiffeners	60/45 web stiffeners
	MAXIMUM FLOOR JOIST SPAN (m) (SINGLE OR CONTINUOUS SPANS)					END SUPPORTS	INTERMEDIATE SUPPORTS#
HJ200-47	3.2	2.7	2.4	2.2	1.7	30/30	30/30
HJ240-47	3.8	3.4	3.2	3.1	2.6	30/30	90/60
HJ246-57	4.1	3.7	3.5	3.3	2.7	30/30	90/60
HJ300-63	5.0	4.5	4.3	4.2	3.4	45/30	120/90
HJ360-63	5.6	5.2	5.0	4.9*	4.3*	60/45	160/90

Refers to intermediate supports for continuous span joists. Values correspond to 600 mm joist spacing and are conservative for smaller spacings.

☛ LF and FB hangers must be screw fixed to bearer and web stiffeners must be used with LF, LT and FB hangers - see pages 12 & 13.

* Do not use for continuous spans in these cases.

Table 6c. Flooring

FLOOR JOIST SPACING (mm)				
300	400	450	480	600
17 mm F11 PLYFLOOR	19 mm F11 PLYFLOOR	21 mm F11 PLYFLOOR	21 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR

FLOOR JOISTS AND FLOORING

For Floor Live Loads - 5.0 kPa Uniformly Distributed / 7.0 kN Concentrated

Applications include: Retail sales areas.

Table 7a. Floor Joists - Hyspan

HYSpan SECTION D x B	SINGLE SPAN					CONTINUOUS SPAN				
	FLOOR JOIST SPACING (mm)									
	300	400	450	480	600	300	400	450	480	600
	MAXIMUM FLOOR JOIST SPAN (m)									
95 x 36	1.0	0.9	-	-	-	-	-	-	-	-
95 x 45	1.3	1.2	1.2	1.2	1.2	2.1	1.9	1.9	1.9	1.8
95 x 63	1.5	1.5	1.5	1.4	1.4	2.5	2.3	2.2	2.2	2.0
130 x 36	1.9	1.8	1.8	1.8	1.7	2.9	2.6	2.5	2.4	2.3
130 x 45	2.2	2.1	2.1	2.0	2.0	3.1	2.8	2.7	2.6	2.4
130 x 63	2.6	2.5	2.5	2.4	2.2	3.4	3.1	3.0	2.9	2.7
150 x 36	2.4	2.3	2.3	2.3	2.2	3.3	3.0	2.9	2.8	2.6
150 x 45	2.8	2.7	2.5	2.5	2.3	3.6	3.2	3.1	3.1	2.8
150 x 63	3.3	3.0	2.9	2.8	2.6	4.0	3.7	3.5	3.4	3.2
170 x 36	3.1	2.8	2.7	2.6	2.4	3.7	3.4	3.2	3.1	2.8
170 x 45	3.3	3.0	2.9	2.8	2.6	4.0	3.6	3.5	3.4	3.2
170 x 63	3.7	3.4	3.2	3.2	2.9	4.5	4.1	3.9	3.9	3.6
200 x 36	3.6	3.3	3.2	3.1	2.9	4.1	3.7	3.5	3.4	3.2
200 x 45	3.9	3.5	3.4	3.3	3.1	4.7	4.3	4.1	4.1	3.7
200 x 63	4.4	4.0	3.8	3.7	3.5	5.3	4.8	4.6	4.5	4.2
240 x 36	4.3	3.9	3.8	3.7	3.4	4.5	4.1	3.9	3.8	3.5
240 x 45	4.7	4.2	4.1	4.0	3.7	5.5	4.9	4.7	4.6	4.2
240 x 63	5.2	4.7	4.6	4.5	4.1	6.4	5.8	5.6	5.4	5.0
300 x 45	5.7	5.3	5.1	5.0	4.6	6.0	5.5	5.3	5.1	4.7
300 x 63	6.2	5.7	5.6	5.5	5.2	7.7	7.1	6.9	6.8	6.3
360 x 45	6.5	6.0	5.9	5.8	5.5					
360 x 63	7.1	6.6	6.4	6.3	5.9					
400 x 45	7.0	6.5	6.3	6.2	5.9					
400 x 63	7.6	7.1	6.9	6.8	6.4					

Minimum bearing 45 mm, except for spans in the shaded areas provide 60 mm bearing at the intermediate support.

☛ If joist hangers used they must be fixed to the supporting bearer with screws - see page 12.

Table 7b. Floor Joists - Hybeam

HYBEAM SECTION CODE	FLOOR JOIST SPACING (mm)					REQUIRED BEARING (mm)	
	300	400	450	480	600	no web stiffeners	60/45 web stiffeners
	MAXIMUM FLOOR JOIST SPAN (m) (SINGLE OR CONTINUOUS SPANS)					END SUPPORTS	INTERMEDIATE SUPPORTS#
HJ300-63	5.0	4.5	4.3	4.2	3.4	60/45	120/90
HJ360-63	5.6	5.2	5.0	4.9*	4.3*	60/45	160/90

Refers to intermediate supports for continuous span joists. Values correspond to 600 mm joist spacing and are conservative for smaller spacings.

☛ LF and FB hangers must be screw fixed to bearer and web stiffeners must be used with LF, LT and FB hangers - see pages 12 & 13.

* Do not use for continuous spans in these cases.

Table 7c. Flooring

FLOOR JOIST SPACING (mm)				
300	400	450	480	600
21 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR	25 mm F11 PLYFLOOR	33 mm F11 PLYFLOOR

BLOCKING AND LATERAL SUPPORT FOR JOISTS

At supports

All Hybeam joists and Hyspan joists with D/B greater than 4 (i.e. deeper than 130, 170 and 240 for 36, 45 and 63 mm thickness respectively) should be blocked or restrained against rollover at support points. (see diagrams below).

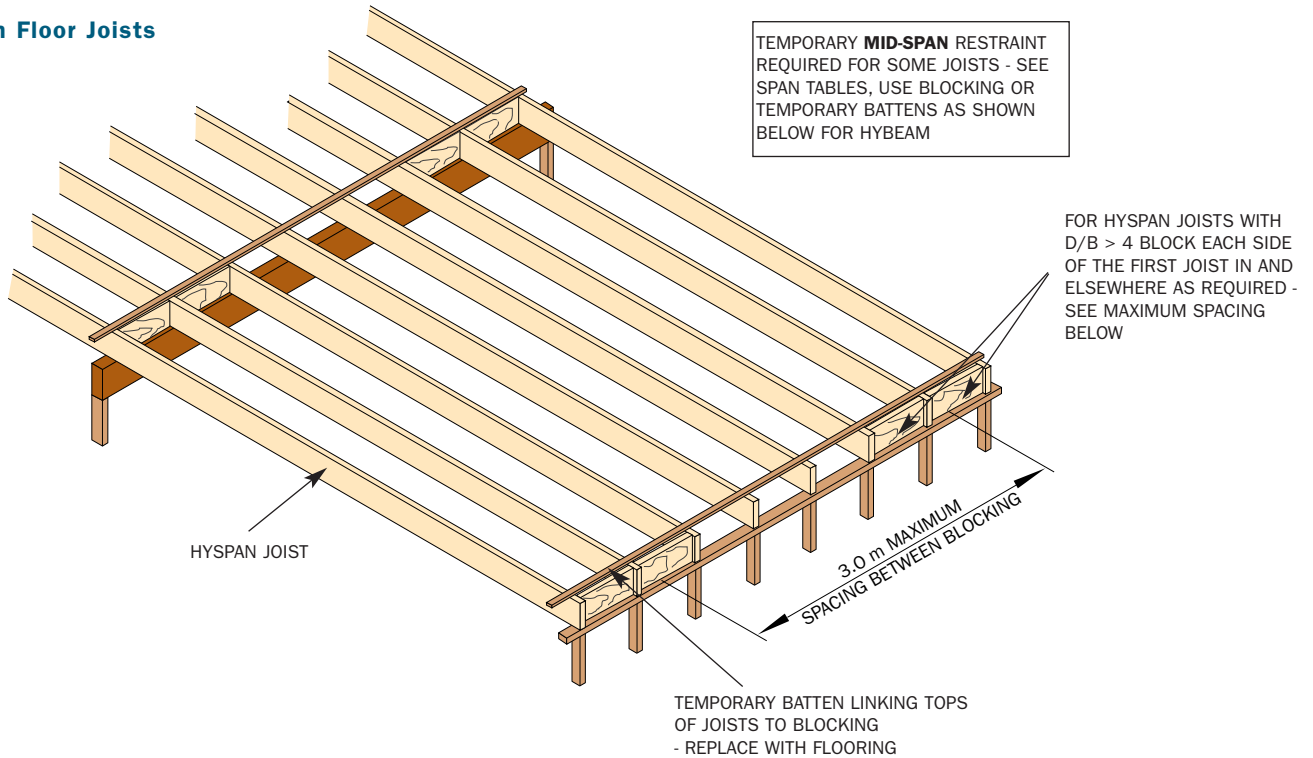
Whilst continuous blocking may be used it is also satisfactory to provide intermittent blocking (say 3.0 m apart along the support line) combined with temporary battens during construction, or flooring in the finished structure, linking the tops of joists back to the blocking restraints as shown.

Intermediate blocking

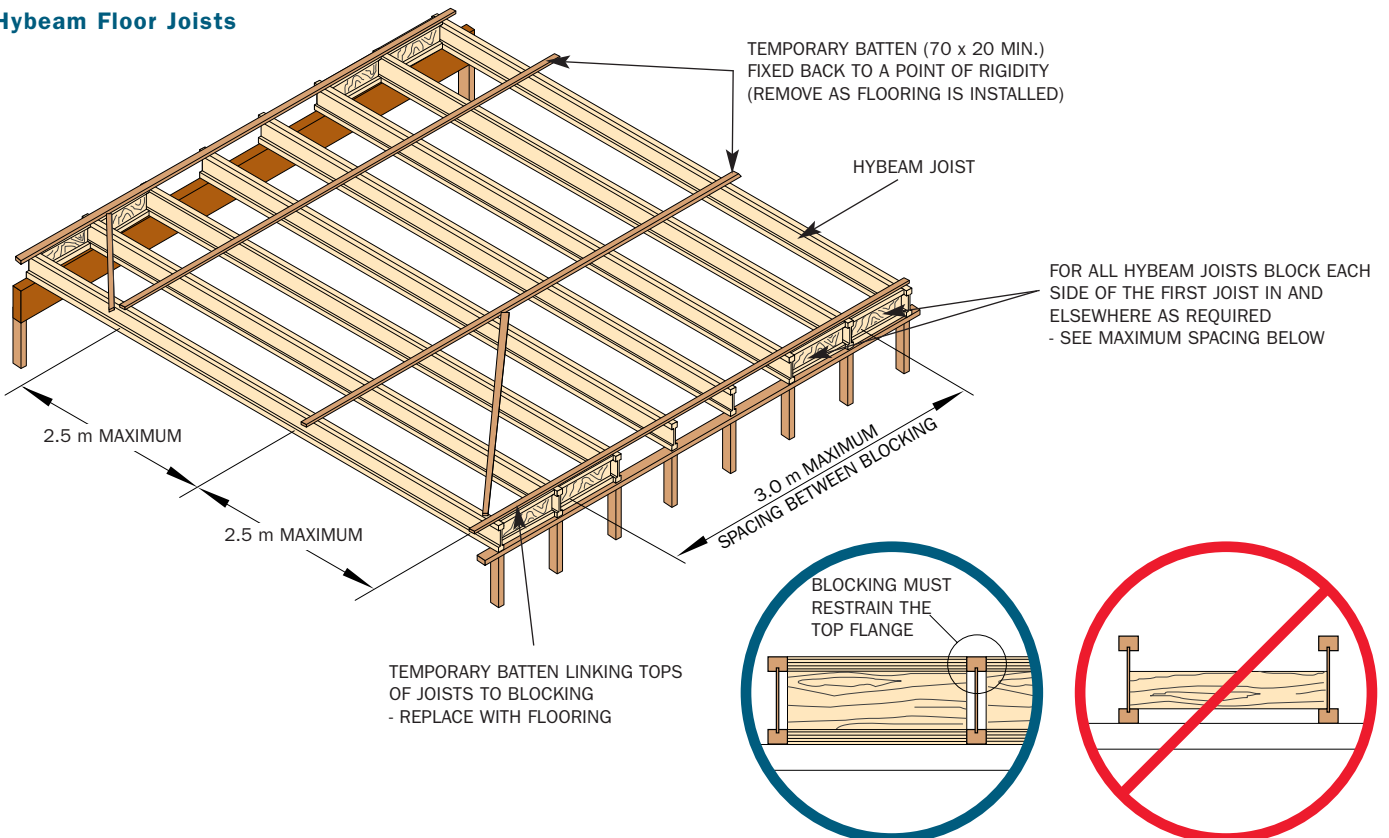
Intermediate blocking between joist supports is not required in the finished structure however for all Hybeam and some slender Hyspan sections temporary restraint to the top edge (or blocking) should be provided in order to prevent buckling and rollover occurring between supports during construction. (see diagrams below).

Whilst Hybeam and Hyspan will usually be straight, any bowed joists should be straightened by blocking or battens prior to flooring being fixed.

Hyspan Floor Joists



Hybeam Floor Joists



JOIST HANGERS FOR HYSPAN JOISTS

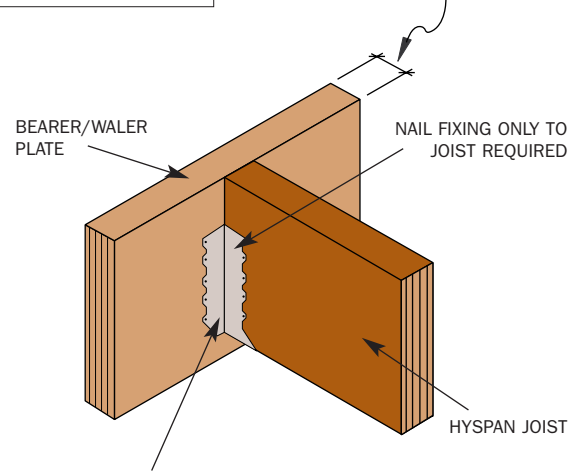
Joist Hanger Specification


HYSPAN JOIST SIZE (D x B)	FACE MOUNT HANGERS		
	PRYDA HANGER CODE	FIXING METHOD ¹	
		NAILED	SCREWED
		N° OF NAILS TO BEARER	N° OF TYPE 17 SCREWS TO BEARER
95 x 36	FB3890	10	6
95 x 45	FB5090		
130 x 36	FB38120	12	6
130 x 45	FB50120		
150 x 36	FB38140	16	8
170 x 36			
200 x 36	FB38180	20	8
240 x 36	FB38220	26	10
150 x 45	FB50140	16	8
170 x 45			
200 x 45	FB50180	20	8
240 x 45	FB50220	26	10
300 x 45			
360 x 45			
400 x 45			
170 x 63	FB65170	18	8
200 x 63			
240 x 63			
300 x 63	LF2511	12	10
360 x 63	LF2514	12	12
400 x 63			


Installation Requirements

WHERE HANGERS ARE LESS THAN 2/3 DEPTH OF JOIST SKEW NAIL TOP OF JOIST TO SUPPORT ALSO

MINIMUM THICKNESS
45 mm FOR ALL SCREW FIXED BRACKETS
40 mm FOR NAILED LF BRACKETS
35 mm FOR NAILED FB BRACKETS



- NAIL OR SCREW FIX HANGER TO BEARER / WALER
- SCREWS **MUST** BE USED WHERE THE '  ' SYMBOL APPEARS IN THE RELEVANT SPAN TABLE
- NUMBER OF NAILS OR SCREWS REQUIRED GIVEN IN THE ADJACENT TABLE


1. Screws must be used for attaching hanger to bearer where '  ' symbol appears in the relevant span table.
2. Screw and nail numbers assume hanger fixed to Hyspan or other JD4 (or better) timber bearer or waler plate.
3. For 'FB' hangers nails should be $\varnothing 3.15 \times 35$ flat head. For 'LF' hangers nails should be $\varnothing 3.75 \times 40$ flat head. Screws must be hexagon head Type 17, No. 12 x 45 mm long.
4. Normal minimum edge and end distances and fastener spacing requirements apply.

JOIST HANGERS FOR HYBEAM JOISTS

Installation requirements for different hanger types

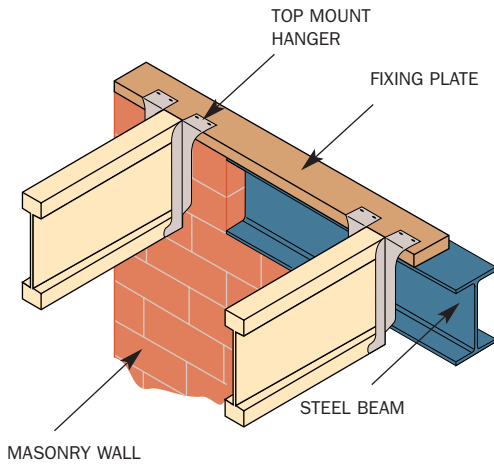
MINIMUM THICKNESS OF BEARER
45 mm FOR SCREW FIXED BRACKETS
40 mm FOR NAILED LF & LT BRACKETS
35 mm FOR NAILED FB BRACKETS

WEB STIFFENERS NEEDED FOR SOME CASES ONLY - SEE RELEVANT SPAN TABLE

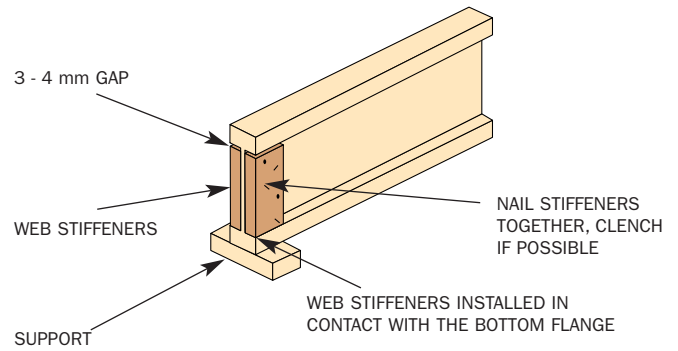
- NAIL OR SCREW FIX HANGER TO BEARER / WALER
- SCREWS **MUST** BE USED WHERE THE '  ' SYMBOL APPEARS IN THE RELEVANT SPAN TABLE
- NUMBER OF NAILS OR SCREWS REQUIRED GIVEN IN THE FOLLOWING TABLE

- WEB STIFFENERS REQUIRED
- SKEW NAIL TOP FLANGE TO SUPPORT FOR HJ246, HJ300 AND HJ360 HYBEAM

Top mount hangers for fixing Hybeam to masonry and steel



Installation of web stiffeners



WEB STIFFENER THICKNESSES

HJ200-47	19 mm	HJ360-63	27 mm
HJ240-52	21 mm	HJ400-90	39 mm
HJ300-63	27 mm		

* Plywood in appropriate thicknesses is available or use as stiffeners

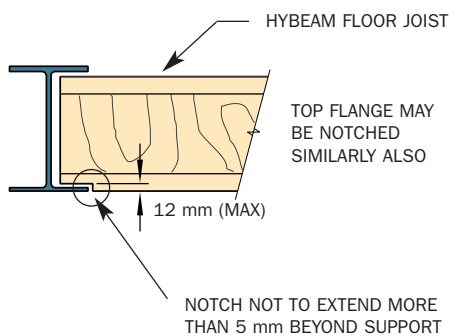
Joist Hanger Specification

HYBEAM SECTION CODE	FACE MOUNT HANGERS			TOP MOUNT HANGERS
	PRYDA HANGER CODE	FIXING METHOD ¹		PRYDA HANGER CODE
		NAILED	SCREWED	
	N° OF NAILS TO BEARER	N° OF TYPE 17 SCREWS TO BEARER		
HJ200-47	FB50180	20	6	LT187
	LF187	8	6	
HJ240-47	FB50220	26	6	LT189
	LF189	10	6	
HJ246-57	FB60130	12	6	LT22596
	LF22596	10	6	
HJ300-63	FB65170	18	8	LT251188
	LF2511	12	8	
HJ360-63	FB65170	18	8	LT2514
	LF2514	12	8	

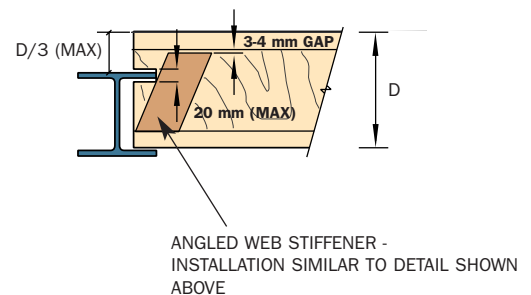
Notes for installation

1. Screws must be used for attaching bracket to bearer where the '🔩' symbol appears in the span table.
2. Screw and nail numbers assume hanger fixed to Hyspan or other JD4 (or better) timber bearer or waler plate.
3. For 'FB' hangers nails should be $\varnothing 3.15 \times 35$ mm flat head. For 'LF' and 'LT' hangers nails should be $\varnothing 3.75 \times 40$ mm flat head. Screws must be hexagon head Type 17, N°12 x 45 mm long.
4. Normal minimum edge and end distances and fastener spacing requirements apply.
5. This bracket may require 2 mm packing under the seat.

FLANGE NOTCHING at End Supports



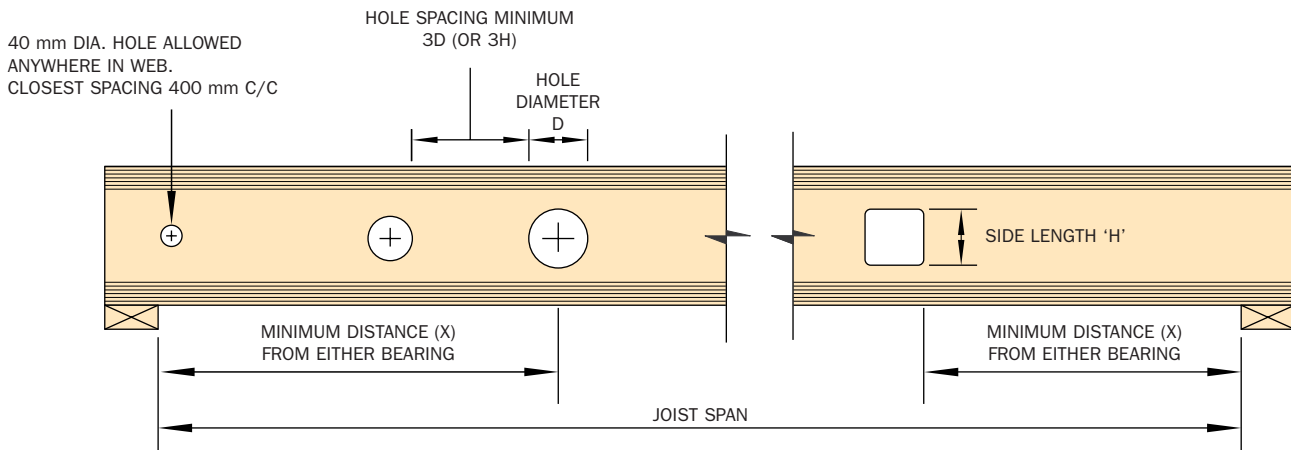
WEB NOTCHING (with stiffeners)



- Notches must not be overcut
- Web and Flange notches may be combined

WEB HOLES FOR HYBEAM JOISTS

The following web hole locations for circular and square holes apply for Hybeam joists installed in accordance with the spans and loadings given in this brochure.

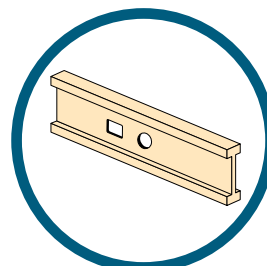


Web Hole Locations

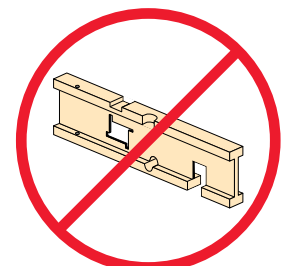
HYBEAM SECTION CODE	JOIST SPAN (m)	CIRCULAR OR SQUARE HOLES			
		HOLE DIAMETER 'D' OR SIDE LENGTH 'H'			
		75	100	125	150
		MINIMUM DISTANCE "X" FROM EITHER SUPPORT - SEE DIAGRAM			
HJ200-47	2.0	0.6	1.0*	-	-
	3.0	0.7	1.2	-	-
	4.0	1.2	1.4	-	-
	4.4	1.4	1.6	-	-
HJ240-47	2.0	0.3	0.6	0.9	-
	3.0	0.4	0.9	1.4	-
	4.0	0.9*	1.2*	1.8*	-
	5.0	1.4*	1.6*	2.3*	-
HJ246-57	2.0	0.3	0.5	0.8	-
	3.0	0.3	0.5	0.9	-
	4.0	0.8	1.0	1.3	-
	5.0	1.3	1.5	1.8	-
	5.3	1.4	1.6	1.9	-
HJ300-63	3.0	0.4	0.6	0.9	-
	4.0	0.4	0.7	0.9	-
	5.0	0.9	1.1	1.3	-
	6.1	1.4	1.6	1.8	-
HJ360-63	3.0	0.3	0.3	0.4	0.6
	4.0	0.3	0.3	0.4	0.7
	5.0	0.4	0.6	0.9	1.1
	6.0	0.9	1.1	1.4	1.6
	7.0	1.3	1.5	1.8	2.0

Notes

- Tables may be interpolated for intermediate spans. For spans outside the range call our 1800 808 131 enquiries number for advice.
 - Data applies for floor joists not supporting offset load bearing walls.
 - Square holes centred mid height of joist, circular holes need not be centred mid-height.
 - Maximum of three holes per span except that holes 40 mm or less in diameter or height need not be considered in the total.
 - Spacing between holes must be at least three times the diameter of the larger hole.
 - Cut all holes carefully. Do not overcut. Do not bore or cut flanges.
- * Value applies for circular holes only, for square holes locate at mid-span.



DO CUT IN WEB AREA AS SPECIFIED



DO NOT CUT NOTCH OR BORE THROUGH FLANGE

BEARERS

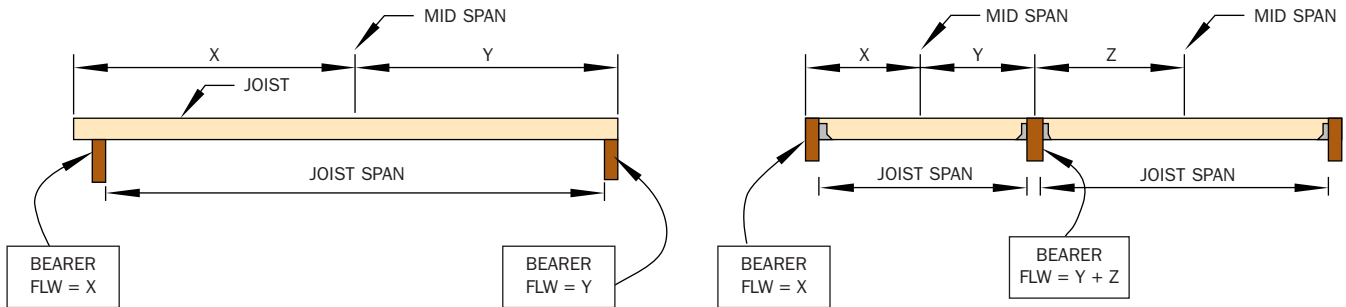
The bearer span tables and bearing length requirements apply for the stated distributed floor live load. Corresponding concentrated live loads up to 7.0 kN given in AS 1170.1 are not critical for bearer design in any of the distributed live load cases included.

Floor load width

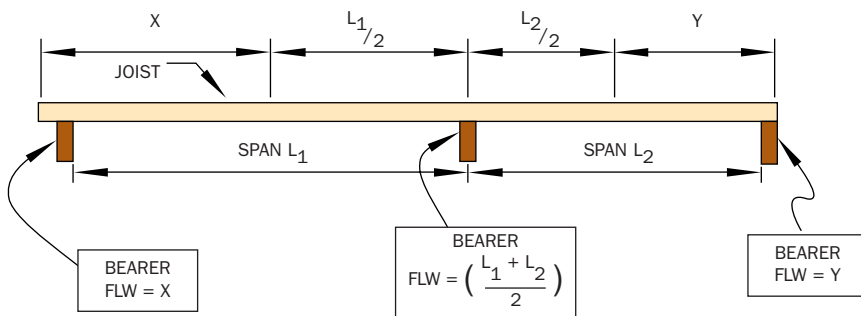
Floor load width (FLW) needs to be determined in order to enter the bearer span tables and to determine the bearing requirements for a given span and size.

The following diagrams show how 'FLW' for bearers may be determined for a number of different cases.

Bearer supporting single span joists



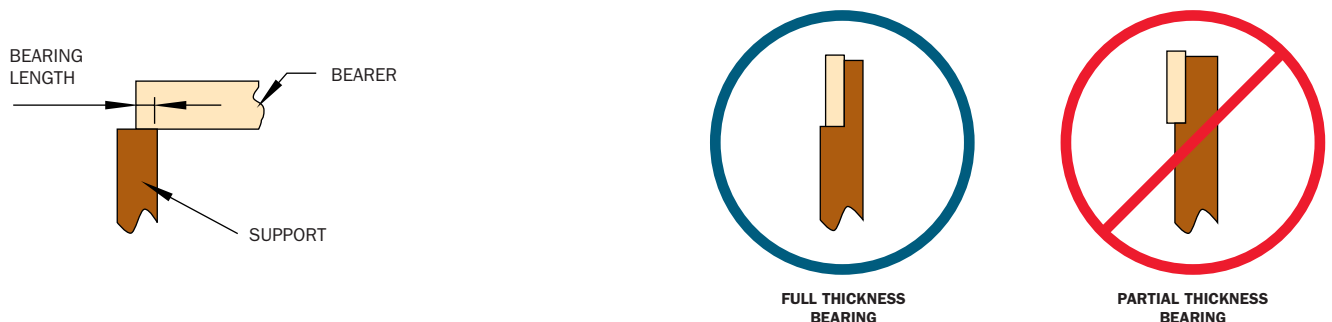
Bearer supporting continuous span joists



BEARING

The heavy floor loads and large floor areas included for in this brochure mean that consideration of bearing requirements is important. Failure to provide adequate bearing could result in crushing or permanent deformation at supports. A means by which adequate bearing can be determined for each load case is provided.

The design charts given for bearing assume that the bearers are supported across their full thickness and that the supporting material has equal or higher bearing strength than that of Hyspan. Materials with higher bearing strength than Hyspan include, concrete, steel, the end grain of timber posts and the side grain of timber species of Strength Group S2 or SD5 and higher.



BEARERS FOR HEAVILY LOADED FLOORS

Maximum Spans for Bearers

2.0 kPa Distributed Live Load Case

HYSpan SECTION D x B	SINGLE SPAN									CONTINUOUS SPAN								
	FLOOR LOAD WIDTH 'FLW' (m)																	
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
	MAXIMUM SPAN (m)																	
130 x 63	2.3	2.0	1.8	1.6	1.5	1.4	1.4	1.3	1.3	2.6	2.3	2.1	1.9	1.8	1.7	1.5	1.5	1.4
150 x 63	2.6	2.3	2.0	1.9	1.8	1.7	1.6	1.5	1.5	3.0	2.7	2.4	2.2	2.0	1.9	1.8	1.7	1.6
170 x 63	3.0	2.6	2.3	2.1	2.0	1.9	1.8	1.7	1.7	3.4	3.0	2.7	2.4	2.3	2.2	2.0	1.9	1.8
200 x 63	3.5	3.0	2.7	2.5	2.4	2.2	2.1	2.0	2.0	4.0	3.5	3.2	2.9	2.7	2.5	2.4	2.2	2.1
240 x 63	4.2	3.6	3.2	3.0	2.8	2.6	2.5	2.4	2.4	5.0	4.2	3.8	3.4	3.2	3.1	2.9	2.7	2.6
240 x 75	4.4	3.9	3.4	3.2	3.0	2.8	2.7	2.6	2.5	5.2	4.5	4.0	3.6	3.4	3.3	3.1	2.9	2.8
300 x 63	5.0	4.5	4.1	3.8	3.6	3.3	3.2	3.0	2.9	5.8	5.3	4.9	4.3	4.0	3.8	3.6	3.4	3.2
300 x 75	5.2	4.7	4.3	4.0	3.8	3.5	3.4	3.2	3.1	6.1	5.5	5.1	4.7	4.3	4.1	3.9	3.7	3.5
360 x 63	5.7	5.2	4.8	4.5	4.3	4.0	3.8	3.7	3.5	6.7	6.1	5.6	5.2	4.7	4.5	4.2	4.0	3.8
400 x 63	6.2	5.6	5.1	4.9	4.7	4.4	4.2	4.1	3.9	7.2	6.6	6.0	5.6	5.2	4.8	4.6	4.3	4.1
400 x 75	6.4	5.8	5.4	5.1	4.9	4.6	4.5	4.3	4.1	7.5	6.8	6.3	5.9	5.6	5.4	5.1	4.8	4.5
450 x 63	6.7	6.1	5.6	5.3	5.1	4.8	4.7	4.5	4.4	7.9	7.2	6.6	6.0	5.5	5.2	4.9	4.7	4.5
450 x 75	7.0	6.4	5.9	5.6	5.3	5.0	4.9	4.7	4.6	8.2	7.5	6.9	6.4	6.1	5.9	5.6	5.3	5.0
525 x 75	7.8	7.1	6.6	6.2	6.0	5.6	5.5	5.3	5.2	-	8.3	7.7	7.2	6.9	6.5	6.2	5.9	5.6
600 x 75	8.6	7.8	7.2	6.9	6.6	6.2	6.0	5.9	5.7	-	-	8.5	7.9	7.5	7.1	6.7	6.4	6.1

Spans may be interpolated for intermediate FLW cases

BEARING

Figure 1a. Bearing Length at End Supports

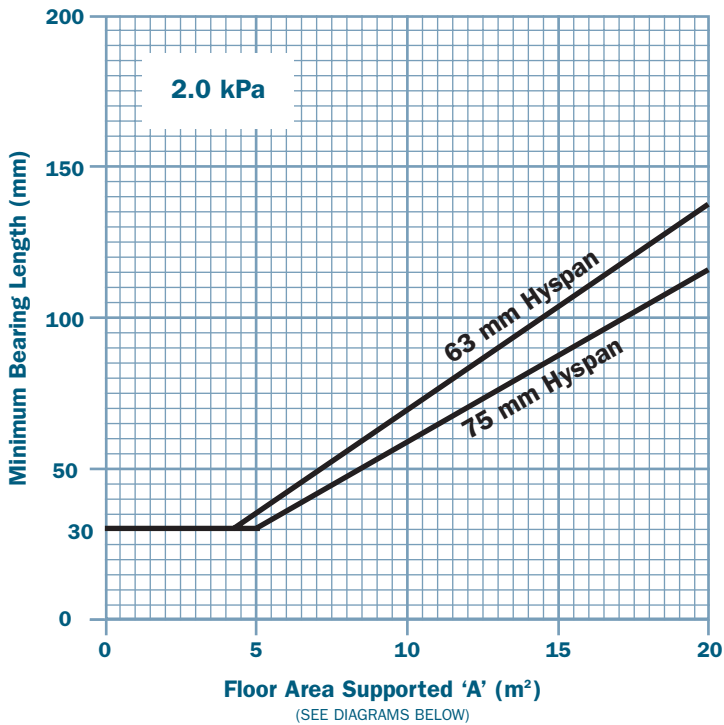
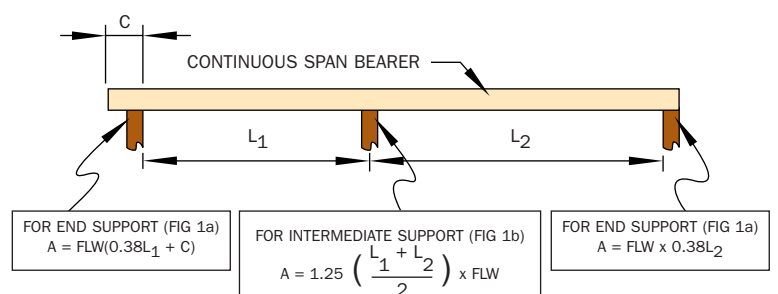
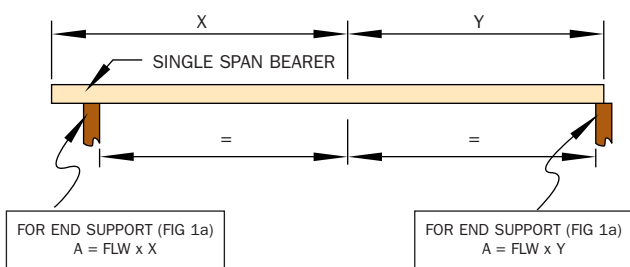
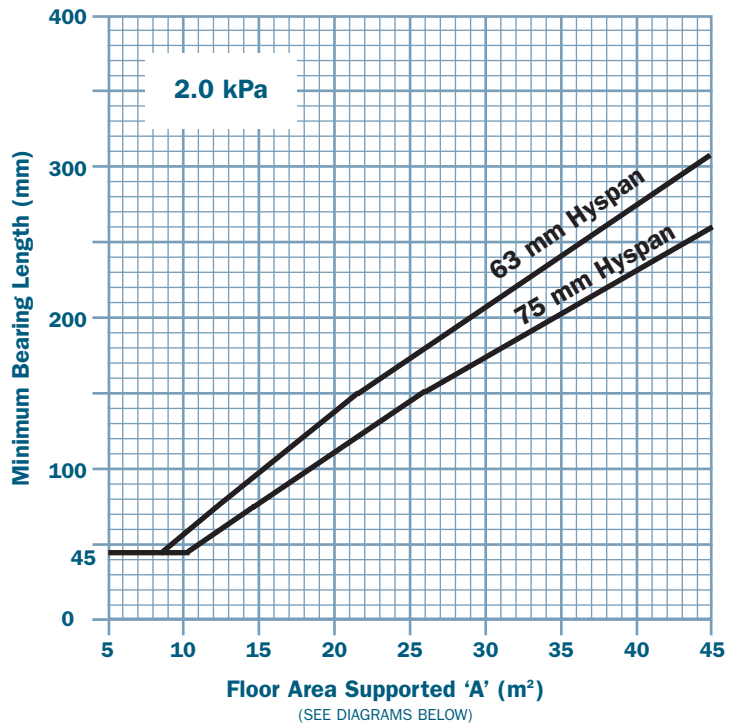


Figure 1b. Bearing Length at Intermediate Supports



Actual spans should be used for calculating 'A'

BEARERS FOR HEAVILY LOADED FLOORS

Maximum Spans for Bearers

3.0 kPa Distributed Live Load Case

HYSpan SECTION D x B	SINGLE SPAN									CONTINUOUS SPAN								
	FLOOR LOAD WIDTH 'FLW' (m)																	
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
	MAXIMUM SPAN (m)																	
130 x 63	2.1	1.8	1.6	1.5	1.4	1.3	1.3	1.2	1.2	2.4	2.1	1.9	1.7	1.5	1.4	1.3	1.3	1.2
150 x 63	2.4	2.1	1.9	1.7	1.6	1.5	1.5	1.4	1.4	2.8	2.4	2.2	1.9	1.8	1.6	1.5	1.4	1.4
170 x 63	2.7	2.4	2.1	2.0	1.9	1.7	1.7	1.6	1.5	3.1	2.7	2.5	2.2	2.0	1.9	1.7	1.6	1.6
200 x 63	3.2	2.8	2.5	2.3	2.2	2.0	2.0	1.9	1.8	3.7	3.2	2.9	2.6	2.4	2.2	2.0	1.9	1.8
240 x 63	3.8	3.4	3.0	2.8	2.6	2.5	2.3	2.3	2.2	4.4	3.9	3.5	3.1	2.8	2.6	2.4	2.3	2.2
240 x 75	4.0	3.6	3.2	3.0	2.8	2.6	2.5	2.4	2.3	4.7	4.1	3.7	3.4	3.1	2.9	2.7	2.5	2.4
300 x 63	4.7	4.2	3.7	3.5	3.3	3.1	2.9	2.8	2.7	5.5	4.8	4.4	3.9	3.5	3.3	3.1	2.9	2.7
300 x 75	4.9	4.4	4.0	3.7	3.5	3.2	3.1	3.0	2.9	5.7	5.1	4.6	4.2	3.8	3.6	3.3	3.1	3.0
360 x 63	5.4	4.9	4.5	4.2	3.9	3.7	3.5	3.4	3.2	6.3	5.7	5.1	4.6	4.2	3.9	3.6	3.4	3.2
400 x 63	5.8	5.3	4.9	4.6	4.4	4.1	3.9	3.7	3.5	6.8	6.2	5.5	4.9	4.5	4.2	4.0	3.7	3.6
400 x 75	6.0	5.5	5.1	4.8	4.6	4.3	4.1	4.0	3.8	7.1	6.4	5.9	5.5	5.0	4.6	4.3	4.1	3.9
450 x 63	6.3	5.8	5.3	5.0	4.8	4.6	4.3	4.1	3.9	7.4	6.7	5.9	5.3	4.9	4.6	4.3	4.1	3.9
450 x 75	6.6	6.0	5.5	5.2	5.0	4.8	4.6	4.5	4.3	7.7	7.0	6.5	6.0	5.5	5.2	4.8	4.6	4.3
525 x 75	7.4	6.7	6.2	5.9	5.6	5.3	5.2	5.0	4.9	-	7.9	7.3	6.6	6.1	5.7	5.4	5.1	4.9
600 x 75	8.1	7.4	6.8	6.5	6.2	5.9	5.7	5.6	5.4	-	-	7.9	7.2	6.7	6.3	5.9	5.6	5.4

Spans may be interpolated for intermediate FLW cases

BEARING

Figure 2a. Bearing Length at End Supports

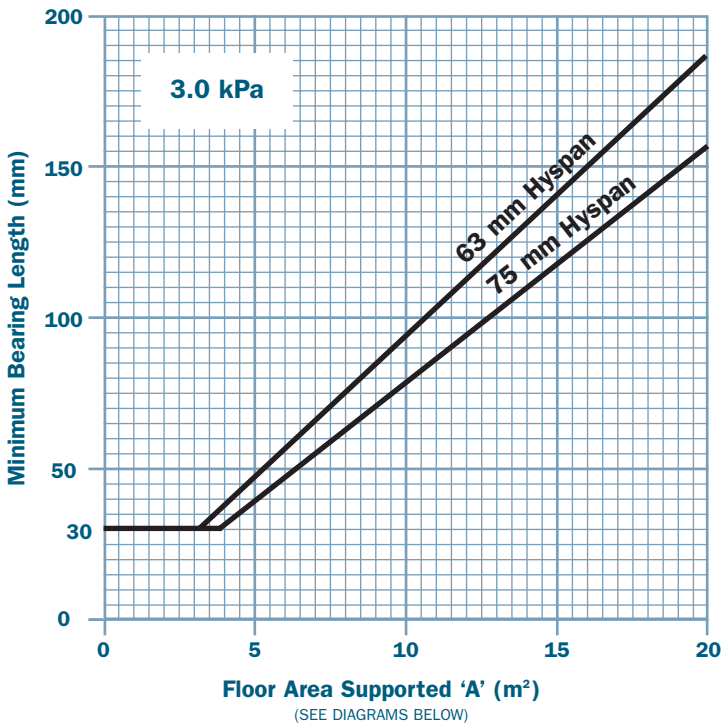
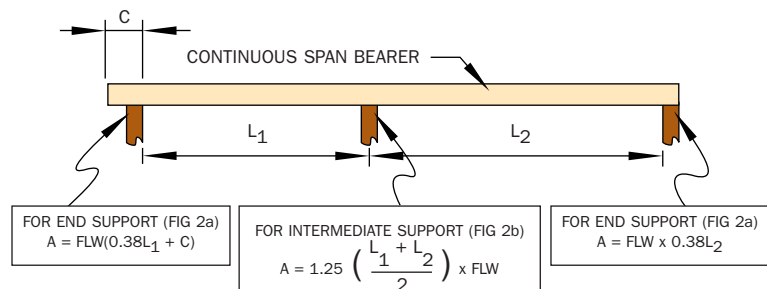
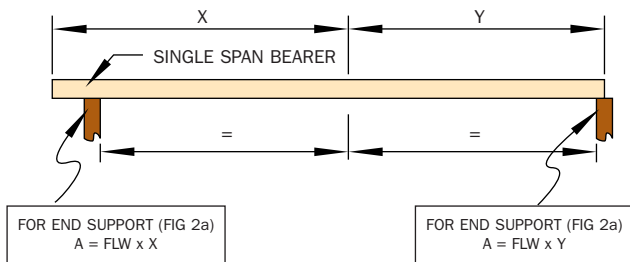
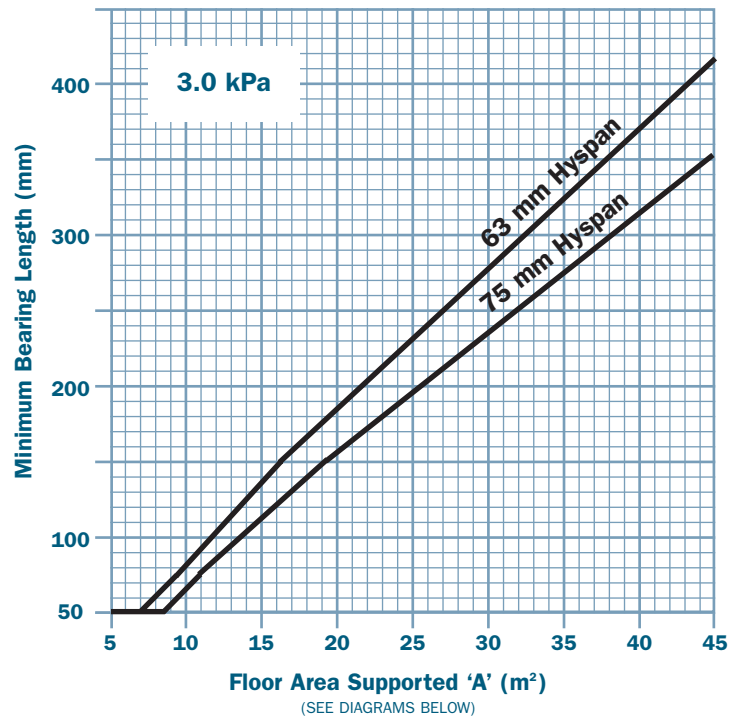


Figure 2b. Bearing Length at Intermediate Supports



Actual spans should be used for calculating 'A'

BEARERS FOR HEAVILY LOADED FLOORS

Maximum Spans for Bearers

4.0 kPa Distributed Live Load Case

HYSpan SECTION D x B	SINGLE SPAN									CONTINUOUS SPAN								
	FLOOR LOAD WIDTH 'FLW' (m)																	
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
	MAXIMUM SPAN (m)																	
130 x 63	1.9	1.7	1.5	1.4	1.3	1.3	1.2	1.1	1.1	2.2	1.9	1.7	1.5	1.4	1.3	1.2	1.1	1.1
150 x 63	2.2	2.0	1.8	1.6	1.5	1.4	1.4	1.3	1.2	2.5	2.2	1.9	1.7	1.6	1.5	1.4	1.3	1.2
170 x 63	2.5	2.2	2.0	1.9	1.7	1.6	1.5	1.5	1.4	2.8	2.5	2.2	1.9	1.8	1.6	1.5	1.5	1.4
200 x 63	3.0	2.6	2.3	2.2	2.1	1.9	1.8	1.7	1.6	3.3	2.9	2.6	2.3	2.1	1.9	1.8	1.7	1.6
240 x 63	3.6	3.1	2.8	2.6	2.5	2.3	2.2	2.1	1.9	4.0	3.5	3.1	2.7	2.5	2.3	2.2	2.1	1.9
240 x 75	3.8	3.3	3.0	2.8	2.6	2.4	2.3	2.2	2.1	4.3	3.7	3.4	3.0	2.7	2.5	2.4	2.2	2.1
300 x 63	4.5	3.9	3.5	3.3	3.1	2.9	2.7	2.6	2.4	5.0	4.4	3.9	3.4	3.1	2.9	2.7	2.6	2.4
300 x 75	4.7	4.1	3.7	3.5	3.3	3.1	2.9	2.8	2.7	5.3	4.6	4.2	3.7	3.4	3.2	3.0	2.8	2.7
360 x 63	5.1	4.6	4.2	3.9	3.7	3.4	3.2	3.0	2.9	6.0	5.6	4.6	4.1	3.7	3.4	3.2	3.0	2.9
400 x 63	5.5	5.0	4.6	4.3	4.1	3.7	3.5	3.3	3.1	6.5	6.1	4.9	4.4	4.1	3.8	3.5	3.3	3.2
400 x 75	5.8	5.2	4.8	4.6	4.3	4.1	3.9	3.6	3.5	6.7	6.1	5.5	4.9	4.4	4.1	3.9	3.6	3.5
450 x 63	6.0	5.5	5.1	4.8	4.5	4.1	3.8	3.6	3.4	7.1	6.1	5.3	4.8	4.4	4.1	3.9	3.7	3.5
450 x 75	6.3	5.7	5.3	5.0	4.8	4.6	4.3	4.0	3.8	7.4	6.7	6.0	5.4	4.9	4.6	4.3	4.0	3.8
525 x 75	7.0	6.4	5.9	5.6	5.4	5.1	4.9	4.7	4.4	8.2	7.5	6.6	6.0	5.5	5.2	4.9	4.6	4.4
600 x 75	7.7	7.1	6.5	6.2	5.9	5.6	5.5	5.2	4.9	-	8.2	7.2	6.5	6.0	5.7	5.4	5.1	4.9

Spans may be interpolated for intermediate FLW cases

BEARING

Figure 3a. Bearing Length at End Supports

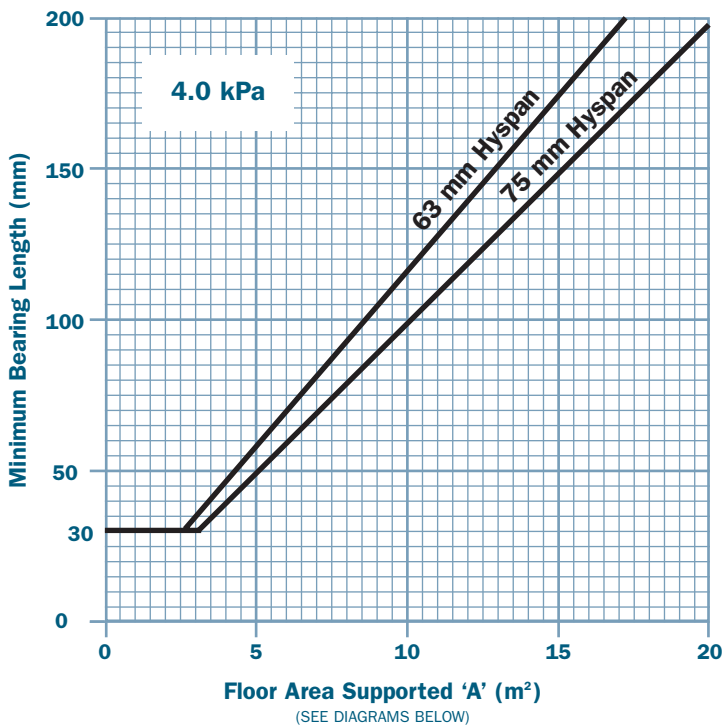
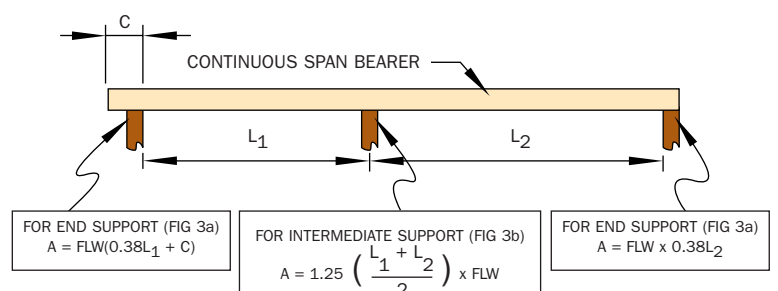
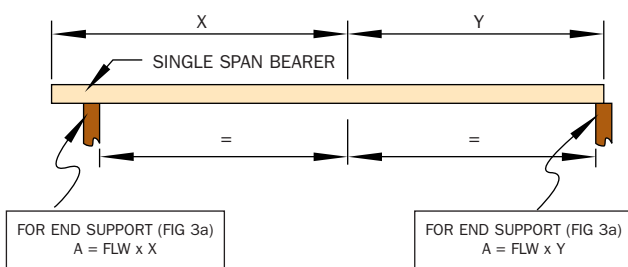
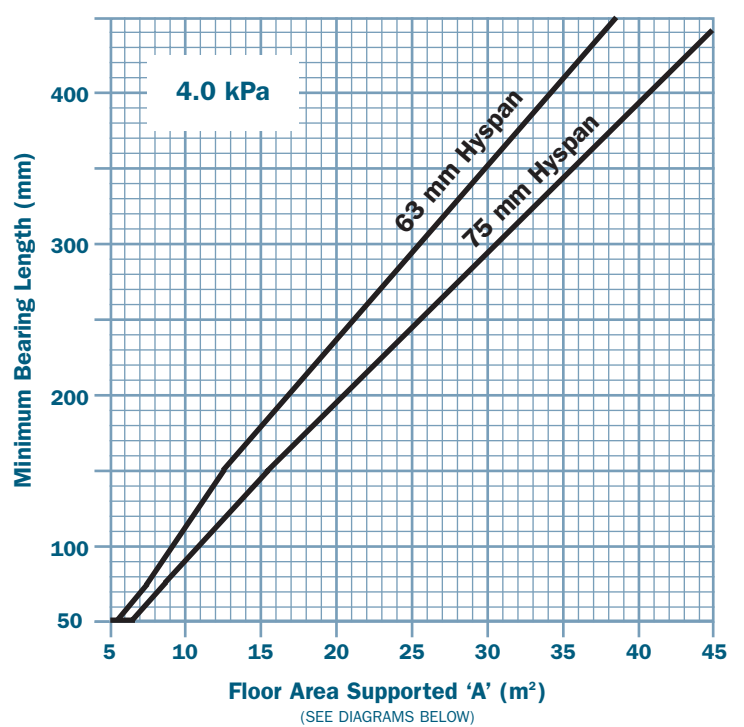


Figure 3b. Bearing Length at Intermediate Supports



Actual spans should be used for calculating 'A'

BEARERS FOR HEAVILY LOADED FLOORS

Maximum Spans for Bearers

5.0 kPa Distributed Live Load Case

HYSpan SECTION D x B	SINGLE SPAN									CONTINUOUS SPAN								
	FLOOR LOAD WIDTH 'FLW' (m)																	
	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
MAXIMUM SPAN (m)																		
130 x 63	1.8	1.6	1.4	1.3	1.2	1.1	1.1	1.0	1.0	2.0	1.8	1.5	1.4	1.2	1.1	1.1	1.0	1.0
150 x 63	2.1	1.8	1.6	1.5	1.4	1.3	1.2	1.2	1.1	2.3	2.0	1.8	1.6	1.4	1.3	1.2	1.2	1.1
170 x 63	2.3	2.1	1.9	1.7	1.6	1.5	1.4	1.3	1.3	2.6	2.3	2.0	1.8	1.6	1.5	1.4	1.3	1.3
200 x 63	2.8	2.4	2.2	2.0	1.9	1.8	1.6	1.6	1.5	3.1	2.7	2.3	2.1	1.9	1.8	1.6	1.6	1.5
240 x 63	3.3	2.9	2.6	2.4	2.3	2.1	2.0	1.9	1.8	3.7	3.3	2.8	2.5	2.3	2.1	2.0	1.9	1.8
240 x 75	3.5	3.1	2.8	2.6	2.4	2.3	2.2	2.0	1.9	3.9	3.4	3.1	2.7	2.5	2.3	2.2	2.0	1.9
300 x 63	4.1	3.6	3.3	3.1	2.9	2.6	2.5	2.3	2.2	4.7	4.1	3.5	3.1	2.9	2.6	2.5	2.3	2.2
300 x 75	4.4	3.8	3.5	3.2	3.0	2.9	2.7	2.5	2.4	4.9	4.3	3.8	3.4	3.1	2.9	2.7	2.5	2.4
360 x 63	4.9	4.3	3.9	3.7	3.4	3.1	2.9	2.8	2.6	5.6	4.8	4.2	3.7	3.4	3.1	2.9	2.8	2.6
400 x 63	5.3	4.8	4.4	4.1	3.7	3.4	3.2	3.0	2.9	6.1	5.2	4.5	4.1	3.7	3.4	3.2	3.0	2.9
400 x 75	5.5	5.0	4.6	4.3	4.1	3.7	3.5	3.3	3.1	6.5	5.7	5.0	4.4	4.0	3.7	3.5	3.3	3.1
450 x 63	5.8	5.3	4.9	4.4	4.1	3.7	3.5	3.3	3.1	6.6	5.6	4.9	4.4	4.1	3.8	3.6	3.4	3.2
450 x 75	6.0	5.5	5.1	4.8	4.5	4.2	3.9	3.7	3.5	7.1	6.3	5.5	4.9	4.5	4.2	3.9	3.7	3.5
525 x 75	6.8	6.1	5.7	5.4	5.1	4.8	4.5	4.2	4.0	7.9	7.0	6.1	5.5	5.1	4.8	4.5	4.2	4.0
600 x 75	7.4	6.8	6.3	5.9	5.7	5.3	5.0	4.7	4.5	-	7.5	6.7	6.0	5.6	5.2	4.9	4.7	4.5

Spans may be interpolated for intermediate FLW cases

BEARING

Figure 4a. Bearing Length at End Supports

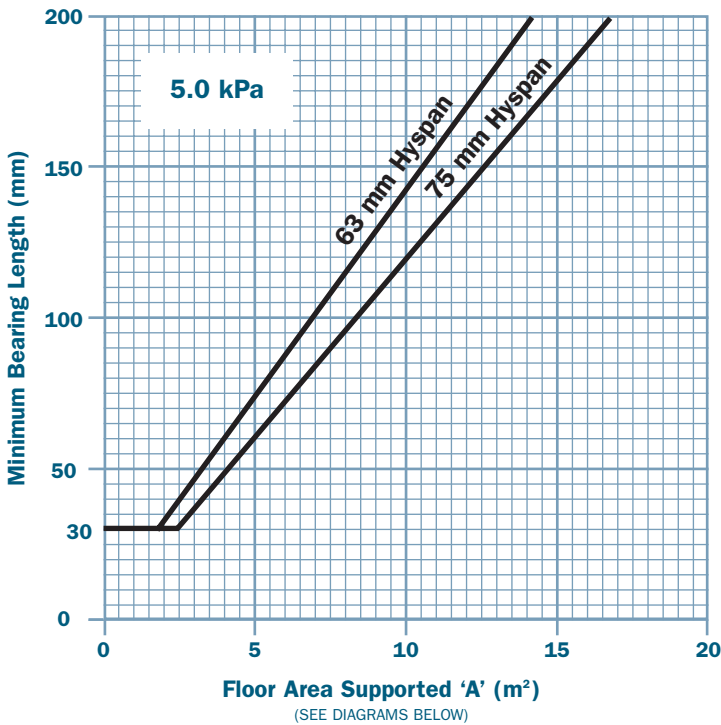
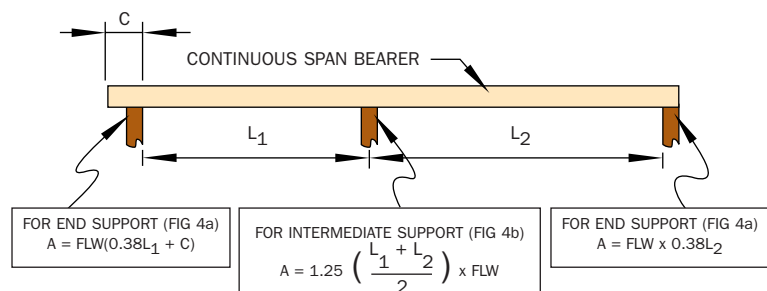
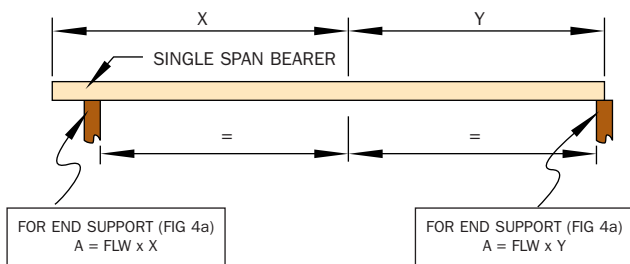
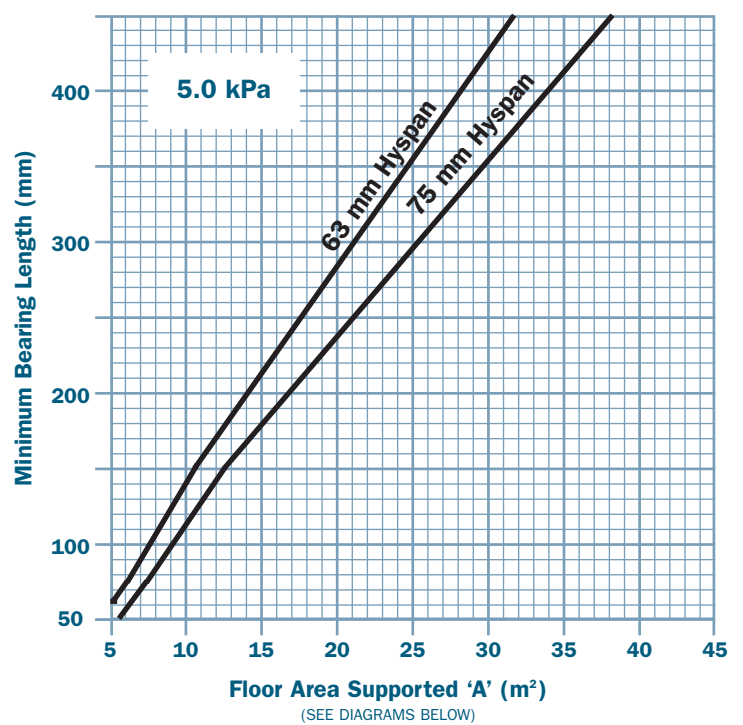


Figure 4b. Bearing Length at Intermediate Supports



Actual spans should be used for calculating 'A'

A WORD ABOUT THE PRODUCTS

Hyspan is Structural Laminated Veneer Lumber manufactured and structurally characterised in accordance with AS/NZS 4357. Structural properties for Hyspan were evaluated by CSIRO Division of Building Research (now Division of Building, Construction and Engineering) in accordance with the principles contained in AS 4063. Structural Properties are given in 'Limit States Design with Hyspan'.

Hybeam is an 'I' beam composite of Hyspan for flanges and Structural Plywood as webs. The properties for Hybeam have been determined in accordance with AS 1720 using the principles of mechanics and material properties for Hyspan and F14 stress grade Structural Plywood. Web to flange joints are resorcinol bonded.

Plyfloor is Structural Plywood manufactured by woodlogic in accordance with AS/NZS 2269. Plyfloor is generally only available with F11 stress grade properties as given in AS 1720 for Structural Plywood.

Hyspan, Hybeam and Plyfloor are manufactured from plantation grown Radiata Pine.

Quality Control Hyspan, Hybeam and Plyfloor are all manufactured in fully quality controlled processes. Quality control is independently audited and products certified under an ISO Type 5 scheme by the Plywood Association of Australia (PAA). As evidence of compliance with quality standards each product is branded with the PAA logo.

Handling & Disposal of waste Apply standard care and precautions as appropriate for preservative treated timber when handling treated Hyspan and Hybeam and disposing of off-cuts. For more information contact futurebuild for a copy of the Material Safety Data Sheet.

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Technical Enquiries
Freecall 1800 808 131
Facsimile (03) 9793 9727

www.chhfuturebuild.com

The logo for futurebuild, featuring the letters 'CHH' in a stylized font above the word 'futurebuild' in a bold, lowercase sans-serif font.

A Carter Holt Harvey Business