



# Truss Systems for Floors and Rafters



The high performance cost effective system using steel or timber webs



## Save Time and Save Money!

“Because of its open web construction, Pryda floor trusses were in their element because we could pass all the plumbing and electrical services straight through, allowing us to maximise head height space”, he said.

If it had been alternative timber joists, we would have to construct bulk heads for these services. Ceiling heights would also have to be reduced to the minimum 2.4 metres requirement - as opposed to the 2.7 metre heights achieved in the upstairs living areas in all units through the use of Pryda floor trusses”.



“One of the great benefits of using Pryda floor trusses was the ease with which I met height restrictions on buildings imposed by the council”.

**David Grant**

*Avanzi Constructions Builder*

# Benefits

A truss system that provides design advantages and labour savings on site, resulting in significant cost savings to the total build.

## Design

### ASSURED PERFORMANCE

Performance is assured through a strong record of successful designs over the past 15 years by designers and builders.

### DESIGN VERSATILITY

Large cantilevers and the long span capacity – up to 7 metres or more – offers functional design freedom and can eliminate the need for interior support walls, timber and steel beams.

### DESIGNED TO ORDER

Stiffness required, depth, timber grades and sizes can be varied to suit any individual job requirements. Computer designed for optimal performance efficiency and lowest material cost.

### DEPTHS TO SUIT

Wide range from 200 to 450mm – or custom manufactured.

### LIMITED SPACE

Designs can accommodate large spans in restricted height applications. In some cases eliminating the need for steel beams.

### COST EFFECTIVE

Timber grade in chords is selected to suit the design requirements of each individual project to provide the most cost effective system.

### LARGER SPANS AT LOW COST

With all-timber Longreach trusses the span capacity increases significantly as the truss depth increases – at little extra cost.

### SLOPING BLOCKS

In some instances can be used to eliminate or reduce the excavation costs associated with sloping blocks.

### COMMERCIAL APPLICATIONS

Available for domestic and commercial applications e.g. may be designed for offices, schools, hospitals and function areas.

### WIDE RANGE OF END SUPPORTS

Standard end support types suit any structural connection required including steel beams, waling plates and other framing connections.

### EXTRA STIFFNESS IN FLOORS

Stiffer than many other floor systems with established dynamic limits to ensure rigidity and overcome springiness and bounce.

### ACCOMMODATES LARGE DUCTS

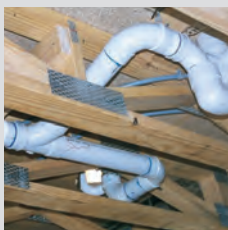
Large rectangular ducts up to 500mm wide can fit within the standard design and special duct routing within rows of trusses can be incorporated.

### DIMENSIONALLY STABLE

Fully kiln-dried timber ensures stability, free from movement due to shrinkage.

### CAD COMPATIBLE

Standard data and design details available for import into CAD.



When used in a floor system, Pryda floor trusses are extremely reliable and can be designed to provide floors that feel 'rock solid'. Pryda floor truss systems are designed to stringent dynamic performance criteria to eliminate 'liveliness' in a floor, which can lead to bounce.

# Construction

Domestic &  
Commercial Builders  
**SAVE TIME  
& MONEY**

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- 1 Pryda floor trusses can be designed to cantilever around voids and stairwells, saving on support beams.
- 2 Access voids for services can be designed and located to specified requirements.
- 3 Strongback beams are fixed to the vertical webs of trusses to ensure even sharing of live loads.

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**Engineers on staff to  
provide technical support**

On site, prefabricated truss systems are generally quicker to install than other types of joists or rafters. As the truss end support connections are all pre-manufactured there is no cutting or complicated fitting required, which will speed-up installation and minimise mistakes.

## **EASY TO INSTALL**

Truss end support connections are pre-manufactured to fit. No cutting or notching will minimise mistakes.

## **EASE OF ACCESS**

Flexible ducting, electrical wiring and electronic data cabling can be easily run within the truss web profile.

## **NO CUTTING HOLES**

Simplifies the work of following trades. Plumbing, ventilation ducts and conduits can be simply attached to the webs or chords without any cutting or drilling holes.

## **FASTER INSTALLATION**

Quicker installation times reduces construction costs.

## **STABLE PLATFORM DURING CONSTRUCTION**

The wide chord flanges are more stable for tradesmen moving around the elevated areas on a job.

## **LIGHTWEIGHT**

Trusses are much lighter than solid timber sections. Easier to handle/lift on site.

## **FLOOR SET-DOWN FEATURE**

A section of Longreach floor trusses can be manufactured with a reduced depth to accommodate tiled wet areas. e.g. Bathrooms and balconies.

## **CONSISTENT DEPTH**

Longreach floor trusses can be manufactured to the same depth for the entire project. This eliminates uneven ceiling levels at minimal extra cost - regardless of variations in spans.

## **ROBUST CONSTRUCTION**

Prefabricated stronger than other systems. Resists the effects of mishandling.



# Options

Pryda offers a choice of truss type depending on customer requirements

## Truss Type

### LONGREACH

A premium performance floor and rafter truss system using all timber webs and chords for maximum stiffness. Can be manufactured to any depth from 200 to 450 mm. A major feature of all-timber Longreach is that low-cost increases in depth will significantly increase span capacity or stiffness.

### SPAN

Use galvanised high strength steel diagonal webs for lightweight and economy, available in nominal 250, 300 and 400 mm depths. Floor and rafter steel web design has a patented deep V profile incorporating stiffeners for improved performance and resistance to damage during handling on site.



## End Support Types

Pryda floor trusses have 18 end support types to choose from. Some are specific to top chord support over steel work, others butt into steel channel, some form integral bracing and support for the upper storey. All are designed in consideration of quick installation and structural performance. Go to the Pryda website [www.pryda.com.au](http://www.pryda.com.au) to view the available end support types.

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4 The floor truss and beam depth are similar, to enable a waling plate support type to be used, saving on support brackets and installation time.

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5 The solid end detail enables the truss to be trimmed on site to suit variable spans. It also supports upper wall frames that are offset small distances inside the lower wall frame.

6 An end trimmer assists stability bracing and helps support upper storey walls.



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7 Top chord support saves time and cost of packing the steel beam and fitting support brackets.



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Increased span capacity at minimal cost

# Performance

## Truss Spans and Depth

This table illustrates the significant increase in span capacity by increasing floor truss depth and/or larger chord timber size, and higher timber grade.

**Spans for residential floor loads (1.5kPa/1.8kN) at 450mm centres**

TOP & BOTTOM CHORD TIMBER		TRUSS DEPTH (MM)			
Size (mm)	Grade	250	300	350	400
70x35	MGP10	4400	5000	<b>5400</b>	5800
90x35	MGP10	5000	<b>5500</b>	6000	6400
90x45	F17 Hardwood	5700	6300	6900	7400

Reading down the table shows that for a given depth, greater spans or improved stiffness can be achieved as timber grade, thickness or width increases. This performance improvement also results in higher cost timber chords.

Reading across the table shows that for each timber chord selection, greater span or stiffness can be achieved as depth increases. This improvement is at very little extra cost.

The diagonal pattern in the table shows that a cost saving can be achieved by increasing the depth of the truss, thereby reducing chord timber performance requirements, without compromising the span capacity of the truss.



### GUIDE TO SPECIFICATION

Information for designers on the design principles for Pryda floor and rafter truss systems to incorporate relevant details within their specifications.



### GUIDE TO INSTALLATION

Information for builders and tradesmen for the correct on-site installation procedures for Pryda floor and rafter trusses

## Quotes

To source a quote please contact your preferred Pryda fabricator. Their contact details can be accessed via [www.pryda.com.au](http://www.pryda.com.au)

For more details on Pryda floor and rafter truss systems (other than quotes) contact your local Pryda representative on **1300 657 052**