

# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Midalia Steel - Hopley Trusses

Hopleys steel joists are manufactured from light weight galvanised steel for durability and require little or no maintenance. Their obvious advantages over timber products are stability without warping or shrinking, lack of costly offcuts and ease of handling during construction. These characteristics afford the ease of modular design for enhanced strength plus a pleasing appearance when exposed.

The HJ range comes in standard heights of 150mm, 200mm, 250mm & 300mm. The HB range comes in standard heights of 300mm,

**"AT MIDALIA STEEL WE ARE PROUD TO BE A MAJOR DISTRIBUTOR OF HOPLEYS TRUSSES IN WESTERN AUSTRALIA...**

**MMMATE!**

350mm, 400mm & 450mm as well as 'made to order' specials as requirements dictate, and are manufactured to any length required.

The open web design permits ready access for all pass through services, such as pipes and cables. The unique design has no sharp edges or surfaces which adversely affect these services. They offer flat surfaces for easy seating and fixing of ceilings and flooring. They also offer easy man handling, low cartage and crane costs and are an economical, strong alternative to conventional timber and rolled steel beams.

Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Midalia Steel - Hopley Trusses

Their innovative design, high quality fabrication, neat appearance and light weight have proven to be dominant features in outstanding market acceptance of this relatively new product.

Hopleys open web steel joists offer the following design features:

1. Economical
2. Conform to building standards
3. Light weight for ease of handling
4. Made from galvanised steel for long life and low maintenance
5. No twisting under loads, thus improved stability

6. No shrinkage or warping problems
7. Reduced dead loads
8. Open web construction permitting access for pass through services
9. Standards heights available 150mm, 200mm, 250mm, 300mm, 350mm, 400mm & 450mm
10. Hopleys open web steel joists are available Australia wide from our extensive distributor network
11. Steel products conserve our natural timbers and forests

Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Flooring - Commercial & Industrial

Open Web Steel Joists offer unique possibilities in both design and cost effectiveness because of fast erection, high rigidity and a no maintenance finish. Typical industrial applications include mezzanine and multi-level flooring, conveyor decks, catwalks, stages, platforms, workrooms and storage rooms.

Some typical commercial applications include office mezzanines, raised floors, showrooms, computer floors and raised storage areas. They offer a flat easy to mount surface, with good load bearing characteristics and high durability.

The open web design also allows access for pass through services, reducing the overall floor thickness.

The 'HB' Range can be doubled up, when required, to provide structural members which can be hidden within the floor thickness, eliminating unsightly bulkheads.

Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPLEYS TRUSSES

## PRODUCT INFORMATION

Mezzanine Floors/Light Industrial Workrooms/Storage up to 2.4m high/General Industrial Mezzanines

Industrial Flooring						Maximum Allowable Span			
Load	Spacing (mm)	HJ150	HJ200	HJ250	HJ300	HB300	HB350	HB400	HB450
Live Load 3.0kPa	450	3.4	4.2	4.6	5.6	6.6	7.4	8.1	8.8
	600	2.9	3.6	4.0	4.7	6.1	6.7	7.3	7.0
Live Load 5.0kPa	450	3.1	3.8	4.5	5.1	5.8	6.5	7.2	8.0
	600	2.8	3.5	4.0	4.6	5.2	6.0	6.5	7.2

Dead Load = 0.3kPa      Maximum Deflection = Span/250

Workshops/Factories/Classrooms/Offices/Commercial Kitchens/Gymnasiums/Shops

Commercial Flooring						Maximum Allowable Span			
Load	Spacing (mm)	HJ150	HJ200	HJ250	HJ300	HB300	HB350	HB400	HB450
Live Load 3.0kPa	450	-	3.3	3.9	4.5	5.0	5.7	6.3	6.8
	600	-	3.0	3.5	4.0	4.6	5.1	5.7	6.2
Live Load 5.0kPa	450	-	2.8	3.4	3.8	4.3	4.8	5.4	5.9
	600	-	2.6	3.0	3.4	3.9	4.4	4.9	5.4

Dead Load = 0.3kPa      Maximum Deflection = Span/500

Introduction  
Flooring - Commercial & Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Flooring - Domestic

Hopleys light weight galvanised open web joists are ideal for domestic flooring applications. They are suitable for both subfloor and particularly first floor applications because of their light weight and easy installation.

They also make fitting for pass through services, such as electrical wiring and plumbing, extremely easy. They offer a flat surface, good load bearing characteristics and high durability.

Our light weight joists reduce flooring dead loads which in turn reduces the size of the supporting

**"They offer a flat surface, good load bearing characteristics and high durability."**

members and lowers overall costs. They allow larger spans, reducing stump and bearer costs and installation time.



Introduction  
Flooring - Commercial & Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Residential Floors/Balconies under 1m high/Balconies over 2m high

Domestic Flooring							Maximum Allowable Span		
Load	Spacing (mm)	HJ150	HJ200	HJ250	HJ300	HB300	HB350	HB400	HB450
Live Load 1.5kPa	450	3.5	4.2	4.8	5.5	6.5	7.3	8.0	8.7
	600	3.2	3.8	4.3	5.0	6.0	6.6	7.2	7.9
Live Load 2.0kPa	450	3.1	3.8	4.5	5.1	5.8	6.5	7.2	8.0
	600	2.8	3.5	4.0	4.6	5.2	6.0	6.5	7.2

Dead Load = 0.25kPa    Maximum Deflection = Span/500

Domestic Bearer Span Table					Maximum Allowable Span
Live Load 1.5kPa		Load Width = Add the joist spans on both sides of the bearer then divide by 2			
Load Width	HJ150	HJ200	HJ250	HJ300	HB300
1800	2400	2900	3500	4000	4500
2400	2200	2700	3200	3600	4100
3000	2000	2500	2900	3200	3800
3600	1900	2300	2600	3000	3500
4200	1800	2100	2400	2800	3300
4800	1700	2000	2300	2600	3200
5400	1600	1900	2100	2400	3100
6000	1500	1800	2000	2200	3000

Dead Load = 0.25kPa    Maximum Deflection = Span/500

Introduction  
Flooring - Commercial & Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note





# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Roofing - General

Although commonly referred to as a joist, the HJ & HB range of products are ideal for use as a truss or rafter in all types of roofing. Skillion or gable constructions are suited to our joists for use in domestic, industrial and agricultural areas. ie. houses, carports, garages, factories, farm sheds and lean-to's. They may also be used for hanging beams and suspended ceilings. Hopleys Joists may be powder coated in a range of fashion colours to make them a design feature on internal applications.



Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPEYS TRUSSES

## PRODUCT INFORMATION

Span		Maximum Allowable Spacing, Simply Supported				
Metres	HJ150	HJ200	HJ250	HJ300	HB350	HB450
3.5	3600					
4.0	2700	4200				
4.5	2100	3300	3600			
5.0	1700	2600	3300	3600		
6.0	1200	1800	2300	3000		
7.0	900	1300	1700	2400	7000	
8.0	650	1000	1300	1800	5600	7000
9.0		800	1000	1200	4400	5800
10.0			800	1100	3400	4700
11.0				900	2500	3900
12.0					1800	3200
Live Load 0.25kPa		Maximum Deflection				
Dead Load 0.13kPa		Span / 180				

This table may also be used for wind uplift to a maximum of 0.4 kPa with suitable lateral restraints. here wind load governs, ie., in excess of 0.4 kPa, the span shall be reduced. No provision has been made for the 1.3kN concentrated load. Where joist ends have rigid connections or are over multiple supports the spans may be increased. Consult your / our engineer for details.

Introduction  
 Flooring - Commercial & Industrial  
 Flooring - Domestic  
 Roofing - General  
 Standard Connection Details  
 Floor Sheeting  
 Floor Performance  
 Spacing & Span  
 Note

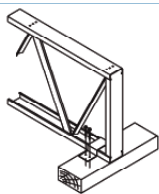




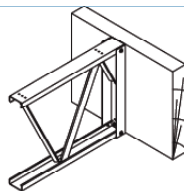
# HOPLEYS TRUSSES

## PRODUCT INFORMATION

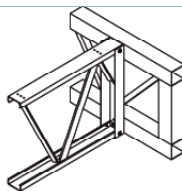
### Standard connection details



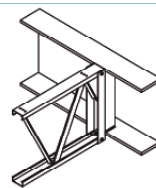
HOPLEYS JOIST TO WALL PLATE  
END CLIP FITTED / NAIL CLIP &  
4 - 12 x 40 SELF TAPPING SCREWS



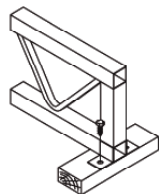
HOPLEYS JOIST TO WALL PLATE  
4 - 12 x 40 SELF TAPPING SCREWS TO TIMBER  
4 - 12 x 20 SELF TAPPING SCREWS TO JOIST



HOPLEYS JOIST TO HOPLEYS  
BEAM WITH HJ SHOE  
8 - 12 x 20 SELF TAPPING SCREWS TOTAL



VERTICAL HUNG SHOE  
50 X 1.6 SHS TACK WELDED  
BETWEEN BEAM FLANGES



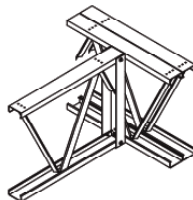
HOPLEYS BEAM TO WALL PLATE  
HOLDING DOWN ANGLES B/S  
2 - M12 x 40 COACH SCREWS



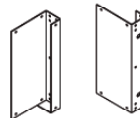
NAIL CLIP  
12 x 20 SELF TAPPING SCREW



HOLDING DOWN ANGLE  
M12 x 40 COACH SCREW



HOPLEYS JOIST TO IJ DOUBLE  
WITH HJ SHOE  
8 - 12 x 20 SELF TAPPING SCREWS TOTAL



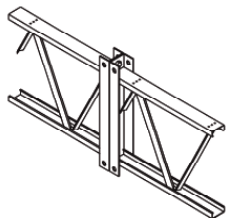
IJ SHOES

Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note

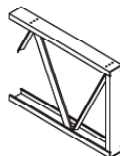


# HOPLEYS TRUSSES

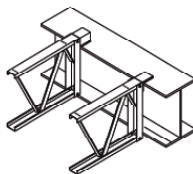
## PRODUCT INFORMATION



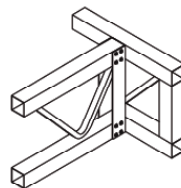
HOPLEYS JOIST  
CONNECTION USING KNEE  
CHANNELS, 2 - M16 X 40 BOLTS



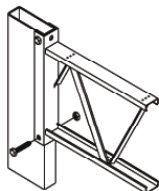
HOPLEYS JOIST  
END CLIP FITTED



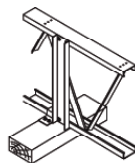
HOPLEYS TOP HUNG SHOES  
50x50 SHS OR 75x8 E.A.  
WELD SHOE AT TOP ONLY



HOPLEYS BEAM TO HOPLEYS  
BEAM WITH HB SHOE  
24 - 12 x 20 SELF TAPPING SCREWS TOTAL



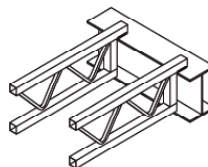
HOPLEYS JOIST TO COLUMN  
REVERSE KNEE CHANNEL  
2 - M16 x 80 BOLTS



HOPLEYS JOIST OVER WALL PLATE  
LOAD CLIP 1 SIDE, 4 - 12 x 20 SELF  
TAPPING SCREWS



LOOSE END CLIP  
ALSO DOUBLES AS  
A LOAD CLIP



HOPLEYS TOP HUNG HB  
WELD TO SUPPORTING  
STEEL WORK

**ALL STEEL FIXINGS CAN BE REPLACED WITH WELDED CONNECTIONS**

Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPELYS TRUSSES

## PRODUCT INFORMATION

### Floor Sheeting

We recommend the following minimum sheet flooring thickness:

1.5kPa Floor Load, Joists @ 450mm c/c

19mm Structaflor™ 'Yellow Tongue' Particleboard Flooring OR 17mm Plywood, F11

1.5kPa Floor Load, Joists @ 600mm c/c

22mm Structaflor™ 'Red Tongue' Particleboard Flooring OR 17mm Plywood, F14

3.0kPa Floor Load, Joists @ 450mm c/c

22mm Structaflor™ 'Red Tongue' Particleboard Flooring OR 17mm Plywood, F14

3.0kPa Floor Load, Joists @ 600mm c/c

25mm Structaflor™ 'Blue Tongue' Heavy Duty Particleboard Flooring OR 19mm Plywood, F14

5.0kPa Floor Load, Joists @ 450mm c/c

25mm Structaflor™ 'Blue Tongue' Heavy Duty Particleboard Flooring OR 19mm Plywood, F14

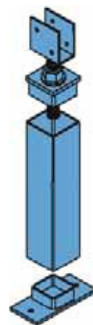
5.0kPa Floor Load, Joists @ 600mm c/c

25mm Structaflor™ 'Blue Tongue' Heavy Duty Particleboard Flooring OR 21mm Plywood, F14

An approved construction grade adhesive should be used to bond the sheet flooring to the joists.

Approximately 2 tubes of 850ml will be required per 10 - 3600mm x 900mm sheets.

Check with your/our Engineer to determine the appropriate design loads for your floor.



"We use and recommend DURAGAL® Adjustable Stumps"

Introduction  
Flooring - Commercial & Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Floor Performance

Steel framed floors are generally stronger, lighter and have less deflection than a conventionally framed timber floor. They offer many benefits including savings in costs, installation time and dead loads. Steel framed floors also react differently to applied loads than a timber floor.

This dramatic increase in dynamic performance and without the effects of creep, rot and termites, will see your steel floor deflect the same amount after 20 years as it did when completed.

Our span tables have been designed to keep the deflection below the level required by the Building Code of Australia.

When using Hopleys Joists to create large open areas such as family or rumpus rooms, please consult your Hopleys representative.

Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



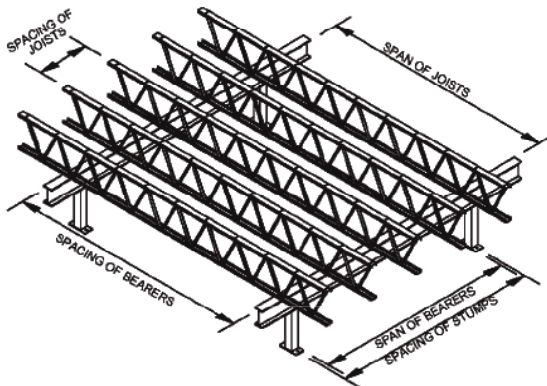
# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Spacing and Span

“Spacing” is the centre to centre distance between structural members and is assumed to be 450mm unless noted otherwise “Span” is the face to face distance between points of support for the structural members. “Single Span” is the span of a member supported at both ends with no intermediate support. This is also known as “simply supported”.

“Continuous Span” is when a member has support at both ends and also at one or more evenly spaced points between the ends.



Introduction  
Flooring - Commercial & Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note



# HOPLEYS TRUSSES

## PRODUCT INFORMATION

### Design Certification

To the Building Surveyor,

All span tables, connection details and installation advice given in this Design Aid Manual has been prepared using a combination of practical load testing procedures and sound accepted engineering principles in accordance with the following Australian Standards.

AS1170.1 - Structural design actions - Permanent, imposed and other actions.  
AS1170.2 - Structural design actions - Wind Loads.  
AS4100 - Steel Structures  
AS4600 - Cold Formed Steel Structures

I certify that the information contained in this Design Aid Manual is correct and complies with the relevant standards listed above. For site specific certification, or special requirements not covered in this manual, please contact your Hopleys representative.

Certified for and on behalf of Hunt Engineering & Staff Pty Ltd.

  
**Howard Morley**  
Howard Morley & Associates Pty  
MIDALIA, QPENG, 401200

**“DO IT RIGHT  
FIRST TIME MMMATE”**

**PLEASE NOTE: YOU MUST OBTAIN AN  
ENGINEERS CERTIFICATION FOR YOUR  
SPECIFIC JOB TO ENSURE THAT YOU  
ADEQUATELY SUPPORT LOAD REQUIREMENTS  
AND RELEVANT SPANS.**

Introduction  
Flooring - Commercial &  
Industrial  
Flooring - Domestic  
Roofing - General  
Standard Connection Details  
Floor Sheeting  
Floor Performance  
Spacing & Span  
Note

