SITE GUIDE

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MINERA® ROOF TRUSSES & JOISTS

ALPINE

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SPACEJOIST INSTALLATION

• After studying the joist designer's layout drawing, decide which area of the room is to be erected first and from which end of the building.
• Place the required joists referring to SpaceJoist layout drawing next to the correct area of the building.
• Check to see if the joists require internal support and/or have differing end details. If any of these conditions exist, attention should be paid as to the correct orientation of the joist before hoisting onto the scaffold.
• Care should be taken not to damage the metal webs when hoisting onto the scaffold (i.e. hoisting straps should be placed around timber chords and not around the metal webs).
• The first joist is normally positioned a dimension of 50mm from the inside face of the brickwork measured to the edge of the joist (see figure 1&2).
• The remaining joists are positioned at the centres specified on the layout drawing (e.g. 600, 480 or 400mm) but set out from the inside face of the brickwork, thus making the distance from the 1st joist to the 2nd equal to the specified joist centres minus 50mm.
• Joists may be required to support stair trimmers and partition walls which, in most cases, will lie in addition to the joists occurring at the specified centres.
• As an aid to setting the joists in their correct positions it is advisable to use a length of tiling batten positioned close to the external support brickwork and temporarily nailed to each joist (see figure 1&2). Once the joists have been positioned the strongback bridging, partition nogging (if required) and restraint straps can be installed.

TEMPORARY SAFETY BRACING FOR FLOORS

The builder is responsible for identifying and minimising the risks involved in erecting SpaceJoist to ensure the health and safety of all workers is maintained. Builders should be aware of the health and safety responsibilities imposed on them by the Construction (Design and Management) Regulations 2015. Proper erection procedures and bracing are vital to the safe construction of SpaceJoist floors.

The following notes may assist builders in preparing a safety assessment:

• Unbraced floors may be unstable.
• Do NOT walk on unbraced joists.
• Do NOT store building materials on unbraced floors.
• SpaceJoists should be erected straight and vertical. Horizontal deviation no more than ±10mm. Vertical deviation no more than ±2mm.
• Temporary bracing consists of diagonal brace, longitudinal brace and permanent Strongback Bridging.
• All longitudinal braces, diagonal braces and Strongbacks should be completely installed and fully nailed.
• Lateral strength should be provided by a diagonally braced system across a minimum of 3 joists as shown below.
• Construction material may only be stored on joists when all bracing is in place. Material should be spread over at least 4 joists and not more than 1.5m from a support.

SITE STORAGE

Site storage is intended to be temporary prior to erection.

• The fabrication and delivery of joists should, therefore, be arranged to minimise the storage time both at the manufacturer's premises and on site.
• ITW Construction Products recommend that the joists are delivered wrapped in protective plastic covering which will protect the joists from short term exposure to inclement weather.
• The joists should be stored horizontally, such that they are supported in such a way as to prevent the likelihood of distortion.

DECKING

Attention should always be paid to the particular manufacturer's instructions but, listed below are some good practice guidelines when installing floor decking.

• Tongue and groove boards should be laid with their long edges running perpendicular to the joists, with the joint between the boards running parallel to the joists.
• Squared edged boards need to be supported continuously along all edges.
• Nail fixings - 3mm ring shank nails with a minimum length equal to 2.5 x board thickness.
• The fabrication and delivery of joists should, therefore, be arranged to minimise the storage time both at the manufacturer's premises and on site.

DO’S AND DON'TS

• Lift the joists in a vertical position.
• Install the joists as they have been designed: refer to the joist designer’s drawings for the correct orientation, spacing etc.
• Do not walk on or store building material on unbraced joists.

Figure 1

Figure 2

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DO... / DON'TS

Dont’s
• Do not drill holes through any part of the joist.
• Do not cut through the chords.
• Do not cut through or remove the webs.

Do’s
• Lift the joists in a vertical position.
• Install the joists as they have been designed: refer to the joist designer’s drawings for the correct orientation, spacing etc.
• Place hoisting straps around timber chords.

Decks

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50 600 550 600

Tiling batten

Nail all binders and brace to each joist with No.2 (3.35 X 65mm) nails.

Section

Maximum joist centres on fully braced floors:

2.4m max

1.5m max

1.2m max

200mm centres along all support and edges (see below)

Nails - 3mm ring shank nails with a minimum length equal to 2.5 x board thickness.

Do not drill holes through any part of the joist.

Do not cut notches in any part of the joist.

Do not cut through or remove the webs.

— Do not walk on or store building material on unbraced joists. —
METAL WORK

Use the horn detail for easier sealing to brickwork with silicon sealant.

Hangars allow joists to be supported on brickwork. 3 courses or 6/7mm fully cured brickwork above to achieve minimum load rating.

Alters for slight tolerance on verticals to allow fix in place. Less tolerance but easier to manufacture.

Nail using 3 No. 3.1 x 90mm nails. Minimum size 35 x 97mm TR26. Nail using 3 No. 3.1 x 90mm nails.

For open web joists, e.g. Cullen LH Hanger.

The JHI Masonry Joist Hanger shown allows joists to be supported to blockwork. (PST strap provides restraint to wall if needed.)

Use correct sized face fix hanger for open web joists, e.g. Cullen LH Hanger.

The RB-JHI Rapid Build Masonry Joist Hanger provides a superior level of performance with no need for masonry above and the FHJH allows for higher load carrying capacity.

Additional verticals can be attached to the face of the joist to allow fixing. Minimum size 35 x 97mm TR26. Nail using 3 No. 3.1 x 90mm nails.

Use noggin between joists to prevent movement.

Bottom chord notched to allow plasterboard to run through (max. 15mm). Top chord notched accordingly. Use trimmable end detail and noggin between joists to prevent movement.

Where required, restraint must be provided perpendicular to the floor joists using the PFS Strip. Restraint must also be provided parallel to the floor joists using the PST Strip or PST for coursing where required.

Use when continuous beam required over raised bearing.

Use open web feature for installation of services.

Bottom chord notched to allow joists to steel application.

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SD1 - Horn for Airtightness

SD2 - Hanger Support onto Masonry

SD3 - Top Chord Support

SD4 - Hanger to Joist

SD5 - Internal Bearing Long Block

SD6 - Internal Bearing Plated Verticals

SD7 - Internal Bearing Pocket

SD8 - Aperture Details

SD9 - Strongback with Chase Verticals

SD10 - Strongback with Additional Verticals

SD11 - Strongback with Nailer Blocks

SD12 - Strongback Joined on Additional Verticals

SD13 - Top Chord Support onto Steel

SD14 - Notching into Steel

SD15 - Restraining Strip with Additional Noggin

SD16 - Restraining Strip with Chase Verticals

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Use noggin between joists to prevent movement.

Bottom chord notched to allow joists to steel application.

Top chord notched to allow joists to steel application.

Restrains use additional 72 x 47mm noggin if no Strongback near Noggin/Strongback to span over minimum 3 joists.

Restrains for masonry support can be attached to the side of the Strongback bridging if position is correct.

Masonry Joist Hanger

The UH Universal Hanger shown is designed for any joist to joist, jut to trimmer or plate to steel application.

The UH Universal Hanger for heavier load applications & MHE Multi Hanger for solid headers.

A wider range of metalwork is available including the UH Universal Hanger for heavier load applications & MHE Multi Hanger for solid headers.

Lateral restraint of the walls can be provided by the floor. (PFS Strip shown)

Noggin Support

The UZ-Clip is a multifunctional connector for supporting solid timber noggin. Various applications include support of decking, plasterboard and lightweight partitions.

Restrain Strip

The RB-JHI Rapid Build Masonry Joist Hanger provides a superior level of performance with no need for masonry above and the FHJH allows for higher load carrying capacity.

Masonry Joist Hanger

Restrains for masonry support can be attached to the side of the Strongback bridging if position is correct.

Top chord supported joist eliminates the use of a rim board, but requires panels to be higher. Solid noggin on top of panel in between joists to provide support for panel above. Plasterboard needs to extend to top of panel, hence bottom chord held back. Decking will typically extend to back of panel to be these in to the floor.

Traditional arrangement for bottom chord supported joists on normal height panels. Rim board around outside closes off floor zone. Solid blocking in between joists provides support for panel above. Decking will typically extend to back of rim boards to be these in with the floor.

Standard height panel, top chord supported joist. Rim board makes up the difference in height. Rim boards spaced apart on outer edges of panel. Solid noggin on top of rim board in between joists to provide support for panel above.

Decking will typically extend to back of noggin/end of joist to be panels in with the floor.

For more information please refer to the SpaceJoist Technical Guide

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STANDARD DETAILS

SD1 - Horn for Airtightness

SD2 - Hanger Support onto Masonry

SD3 - Top Chord Support

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