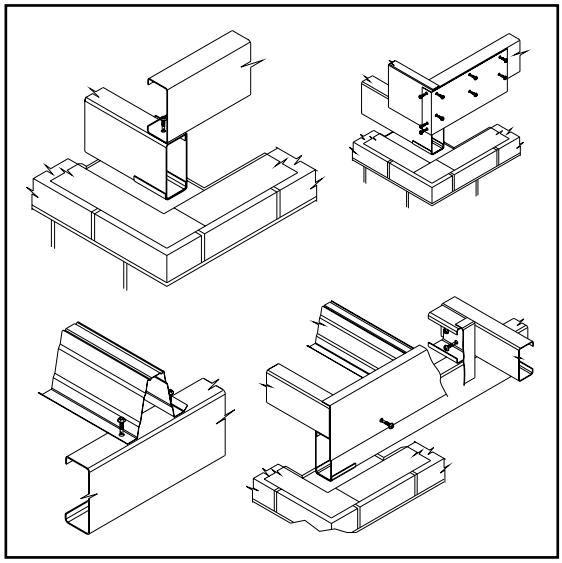
LYSAGHT
House Framing Solutions

QUIKA-FLOOR
Construction Guide

Construction of a LYSAGHT QUIKA-FLOOR flooring system.

What is a LYSAGHT QUIKA-FLOOR?

LYSAGHT QUIKA-FLOOR is a fully engineered and certified steel sub-floor system. QUIKA-FLOOR is the steel alternative to conventional timber bearers and joists and is suitable for both brick veneer and freestanding houses with a maximum fall of land of 4.0 m. Bearers and joists have a large spanning capacity, typically up to 2700 mm.



QUIKA-FLOOR Components

The QUIKA-FLOOR system is comprised of the following components:

- Hot dipped galvanised UNI-PIERS®, each adjustable up to 200 mm
- Galvanised steel bearers, generally 150 mm deep
- ZINCALUME® steel joists, 120 mm deep
- Galvanised load bearing Quika Joists, 120 mm deep
- Accessories such as load bearing angles, angle bracing, bracketry, and screws.

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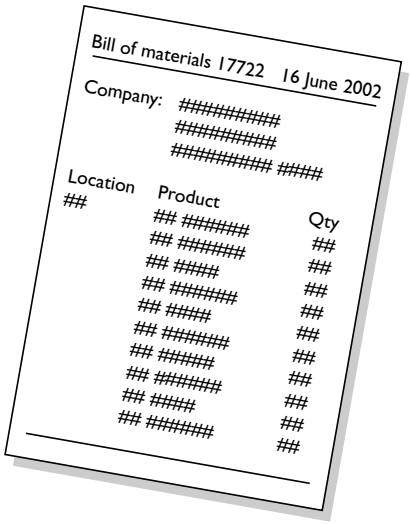
Identifying the items

Each QUIKA-FLOOR system is supplied with a bill of materials which lists the items that are delivered with the job. Check the items delivered against the bill of materials. If any items are missing, contact your BLUESCOPE LYSAGHT supply centre.

A QUIKA-FLOOR system will typically consist of most or all of the following items:

Piers	UNI-PIERS
Bearers	150 mm QUIKA-BEARER
Joists	120 mm QUIKA-JOIST
Load-bearing joists	LL12025
Corner Brackets	To brace external corners against racking
Quika-Bearer Brackets	Used to prevent point load crushing at the end of bearers
Load-bearing angles	Supplied in 3.6 m lengths
Bracing	Strap or angle bracing



Tools for the job

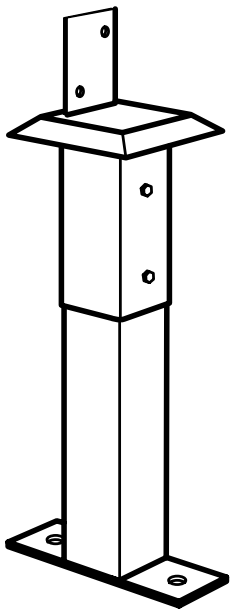
- Tek Screw gun with hexagon socket to suit 14 gauge screws. A 150 mm extension bit is useful.
- Nail gun to suit *Duo Fast®*, *Senco®* or *Max®* hardened twist nails
- 230 mm angle grinder and metal cutting disc
- Cartridge glue gun
- Impact drill and 12 mm masonry drill bit
- Adjustable spanner
- String line
- Tape measure
- A level (water level, dumpy level or laser level)
- Vice grips or G-clamps
- Safety goggles
- Earmuffs
- Gloves suitable to handle steel
- Earth leakage circuit breaker
- Work boots
- Felt-tip marking pen

Choosing the correct UNI-PIER

UNI-PIERS are supplied in length increments of 200 mm. The length ranges are:

- for 65 x 65 x 2 mm UNI-PIERS: from 200 to 2800 mm;
- for 75 x 75 x 2.5 mm UNI-PIERS: from 400 to 4000 mm.

The maximum allowable adjustment on each pier is 200 mm. Before ordering, establish the distance from the top of each footing to the underside of each bearer, and order your piers to fit within the various 200 mm ranges. For example, if the actual height is 675 mm: use a 600 mm UNI-PIER.



Related documents

- UNI-PIER connections specification appropriate to the wind rating (use UNI-PIER specification tables) of the building
- UNI-PIER load capacity specification (appropriate to the wind rating of the building)
- UNI-PIER bracing specification
- Design data for a LYSAGHT QUIKA-FLOOR flooring system

Construction procedures

Preliminary check

• Establish the height to be used for the bottom of the bearers (commonly it will be 270 mm below the underside of the finished floor).

• For brick veneer construction, check overall dimensions and levels of brickwork.

• Using the *Pier and Bearer Layout* (supplied by BLUESCOPE LYSAGHT), position the bearers on the site.

QUIKA-BEARER brackets for brick veneer and brick skirting wall constructions

Screw a QUIKA-BEARER bracket at the end of each bearer with at least four screws (Fig 1). It may be necessary to install additional QUIKA-BEARER brackets if a point load is located along a bearer. If the point load is substantial, an additional pier may be needed. Ensure a damp course is fitted according to the appropriate standard.

Layout positions of piers

Using the *Pier and Bearer Layout*, mark the location of the UNI-PIERS on the footings. Each alternate UNI-PIER base-plate should be set at right angles to the previous one to assist bracing.

Fix piers to footings

• Fix UNI-PIER base plates to concrete footings with two galvanised Dynabolts 125 x 12 mm (don't tighten them yet). Refer to the UNI-PIER connection specification, or

• Cast the UNI-PIER into the footing; ensuring the concrete is above ground level and slopes away from the post.

Place UNI-PIER heads on the UNI-PIER posts.

Position bearers

• External bearers have the web to the outside (Fig 1).

• For brick veneer construction: the first bearer is set with the web 150 mm in from the outside face of brickwork. The ends of remaining internal bearers are 150 mm in from the outside of the brickwork.

• For clad construction with a brick skirting wall: bearers are set flush with the outside of brickwork.

• For freestanding construction: bearers are set flush with the external face of the frame.

Place a bearer on the UNI-PIER heads, aligning the ends as mentioned previously. Level the bearer.
One at a time, raise a UNI-PIER head to the bearer. With the UNI-PIER head hard up under the bearer, and the post vertical, fix the UNI-PIER head to the bearer as described in the relevant UNI-PIER connection specification – typically 2 screws for non-load bearing and 4 screws for load bearing (Fig. 2) Refer to the UNI-PIER connection specification for fixing.

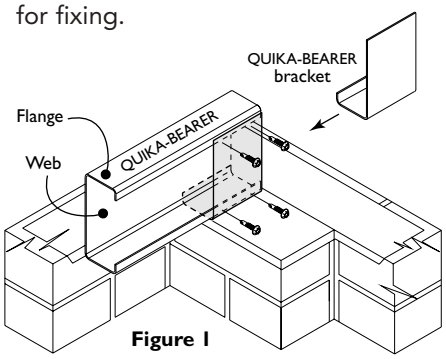


Figure 1

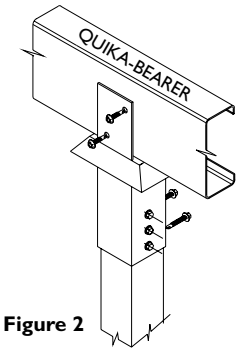


Figure 2

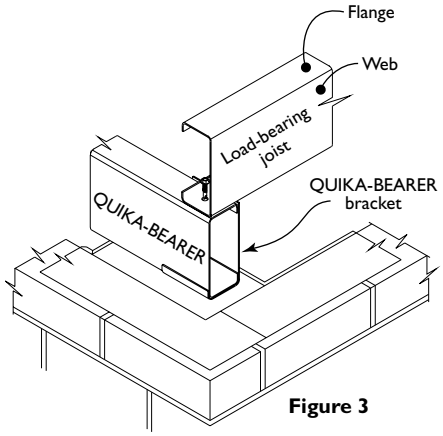


Figure 3

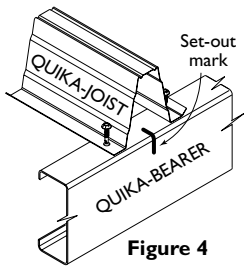


Figure 4

Cutting and clean-up of materials
Cut materials over the ground and not over other materials. Sweep all metallic swarf and other debris at the end of each day and at the completion of the installation.

Tighten Dynabolts

Tighten the Dynabolts in the UNI-PIER footings. Grout under any unevenly-supported UNI-PIER base.

Level bearers and fix-off heads

Raise the bearer to its final correct height and check it is level.

Fix each UNI-PIER head to its post as described in the appropriate *UNI-PIER Connection Specification*. Typically four screws are required for non load-bearing piers, and eight screws for load-bearing piers.

If the brickwork is not level, bearers may have to be packed-up over engaged piers.

Load-bearing joists

Load-bearing joists are used to support load-bearing walls along the perimeter of a house. They are supplied in stock lengths and may need cutting to length on site. The locations of load-bearing joists are shown on the *Joist Layout* (supplied by BLUESCOPE LYSAGHT).

Lay a load-bearing joist on its web and pre-drill the flange where it intersects bearers.

Position a load-bearing joist with the web to the outside (Fig 3). With the end of the joist flush with the outside bearer, screw the joist in place with two screws through the pre-drilled holes (Fig 3).

Quika Joists

Set-out and mark the positions on the bearers for joists at 450 mm centres, measuring from the outside of the load-bearing joist.

Ensure that joists don't protrude past the edge of the bearers otherwise they will interfere with load-bearing angles.

Place the joists on the bearers, over the set-out marks. Place one screw in one end of a joist, check the position of the other end, and place two screws. Place the second screw at the first end (Fig 4).

Check that the joists are straight before fixing at each bearer with two screws.

Tie Down Procedure

Bearer to brickwork tie down shall be in accordance with local council recommendations.

Load-bearing angles

Fit load-bearing angles to the ends of joists as shown on the *Joist Layout*. These angles are supplied in 3.6 m lengths so you may have to cut the last angle.

Start at the place where you started the set-out for the joists. (As a check on your joist layout, the end of a full-length angle should align with the centre of a joist (Fig 5).

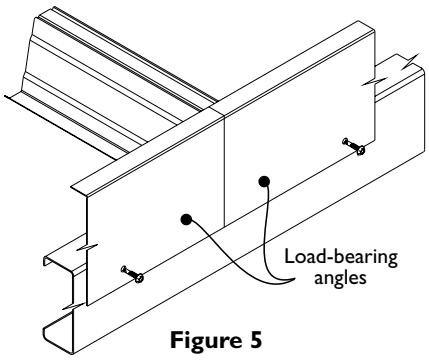


Figure 5

Push the angle down firmly on top of the joists, and fix into the web of the bearer with one 14—20 x 22 mm screw on the mid-span of every joist (Fig 5). Do not fix at the external corners because the screws will foul the corner brackets.

On internal corners, it may be necessary to install an offcut of load-bearing joist to support the end of the load-bearing angle. Fix offcuts with two 14—20 x 22 mm screws (Fig 6).

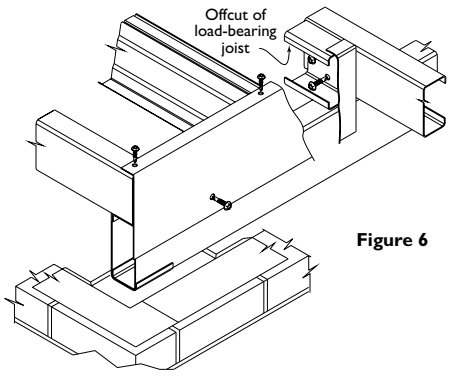


Figure 6

Floor sheeting

Glue and nail, or screw the rest of the floor sheeting to the manufacturer's specification.

Corner brackets

Corner brackets prevent racking of a bearer in relation to a joist. Install corner brackets at each external corner (Fig 7).

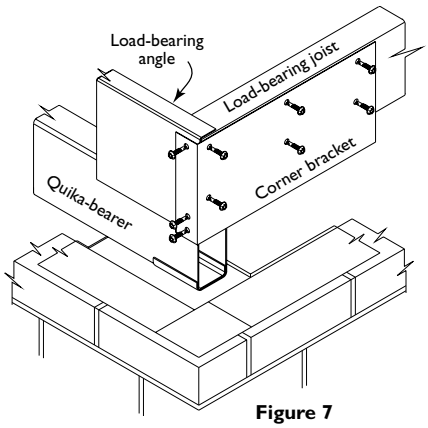


Figure 7

Bracing for freestanding construction

For freestanding construction install bracing as shown on the *Pier and Bearer Layout*. Bearer braces are required where braces run at 90 degrees to the bearer line as noted on the *Pier and Bearer Layout*. Bearer braces are attached to bearers with LYSAGHT general purpose brackets (Fig 8). General purpose brackets are fixed with four 14-20 x 22 mm screws to the bearer brace and two 14-20 x 22 mm screws to the main bearer.

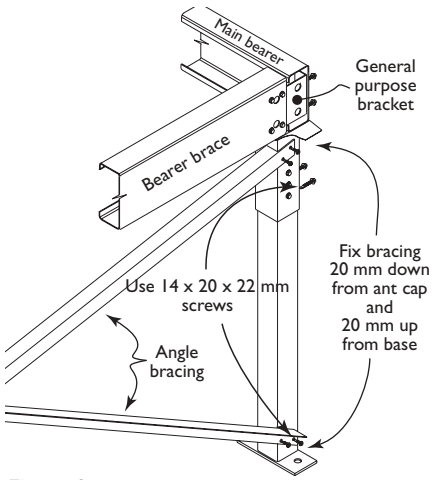
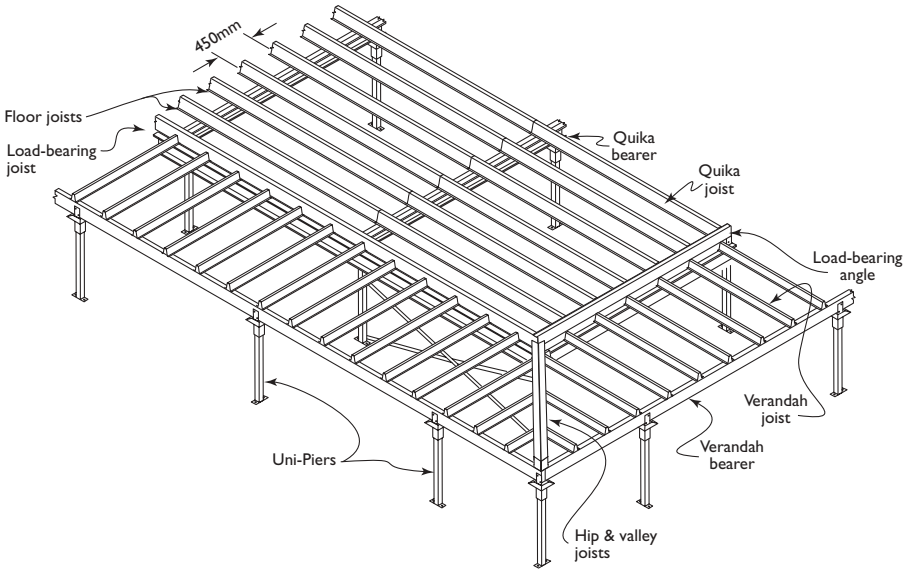


Figure 8

Schematic Diagram of Quika-Floor System



BLUESCOPE LYSAGHT

Information, brochures and your local distributor

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