

LEWIS®

"Fast Slab" Ground Floor System

The LEWIS® "Fast Slab" lightweight insulated ground floor system in a unique combination of the Dutch VBI PS ground floor renovation system and LEWIS® Dovetailed Sheet metal decking.

The PS renovation floor system is a patented innovation from VBI and is an alternative to block and beam floors. The unique feature of "Fast Slab" is the use of lightweight galvanised steel beams. At 6.5 kg/m the Magnelis® galvanised steel joists weigh only a fraction of pre-cast concrete beams. Joists are supplied in standard lengths and can be cut on site. The tightly fitting EPS infill insulation blocks are available for two thermal performance values – 0.23 W/m²K and 0.20 W/m²K, and sit between the galvanised beams creating a robust and thermally efficient sub floor ready to accept the finished slab. Both the beams and infill blocks are light and easy to handle making installation in difficult to reach areas much easier and ideal for renovation and conversion as well as new build situations.



Ideal for:

- New build
- Conversion and renovation
- Restricted site situations
- Insulated floors
- Extensions
- Conservatory and garden room floors
- Use above poor preforming foundations



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LEWIS® "Fast Slab" Ground Floor System

The standard VBI PS renovation system incorporates reinforcement mesh within the compression slab and a finishing screed – the use of a LEWIS® deck eliminates the need for mesh and also reduces the depth of the slab and finishing screed to an all in one screed depth of 50 mm. Reducing floor height and weight of the slab without compromising load bearing and adding the opportunity to include a highly efficient underfloor heating system.

LEWIS® "Fast Slab"

The LEWIS® deck is placed at 90 degrees across the galvanised beams and covering the whole floor area, the deck is then fixed to the beams with LEWIS® 13 mm self-drilling screws. If being used with under floor heating, the pipes are attached to the top of the LEWIS® deck. A finishing self-levelling screed or fine grade concrete is then laid to a depth of 50 mm (≥ 52 mm with under floor heating). The weight of a 50 mm thick LEWIS® deck and screed is approx. 90 kg/m². This vastly reduces the weight when compared with conventional reinforced concrete floor slabs without reducing load bearing capabilities.

Features:

- Safe and easy to install
- No heavy lifting equipment required
- Improves performance of underfloor heating
- Speeds up installation and screed/concrete curing time
- Maintains the ability to ventilate the void beneath the ground floor without driving moisture into the walls
- Long life span
- Low dead weight and high loadbearing capability

Joist centre to centre dimension	Thickness of LEWIS® top floor system	Dead weight of floor system	Max. joist length (2 support points)
610 mm	50 – 56 mm	106–118 kg/m ²	4,2 m ¹
900 mm	50 – 56 mm	103–115 kg/m ²	3,6 m ¹

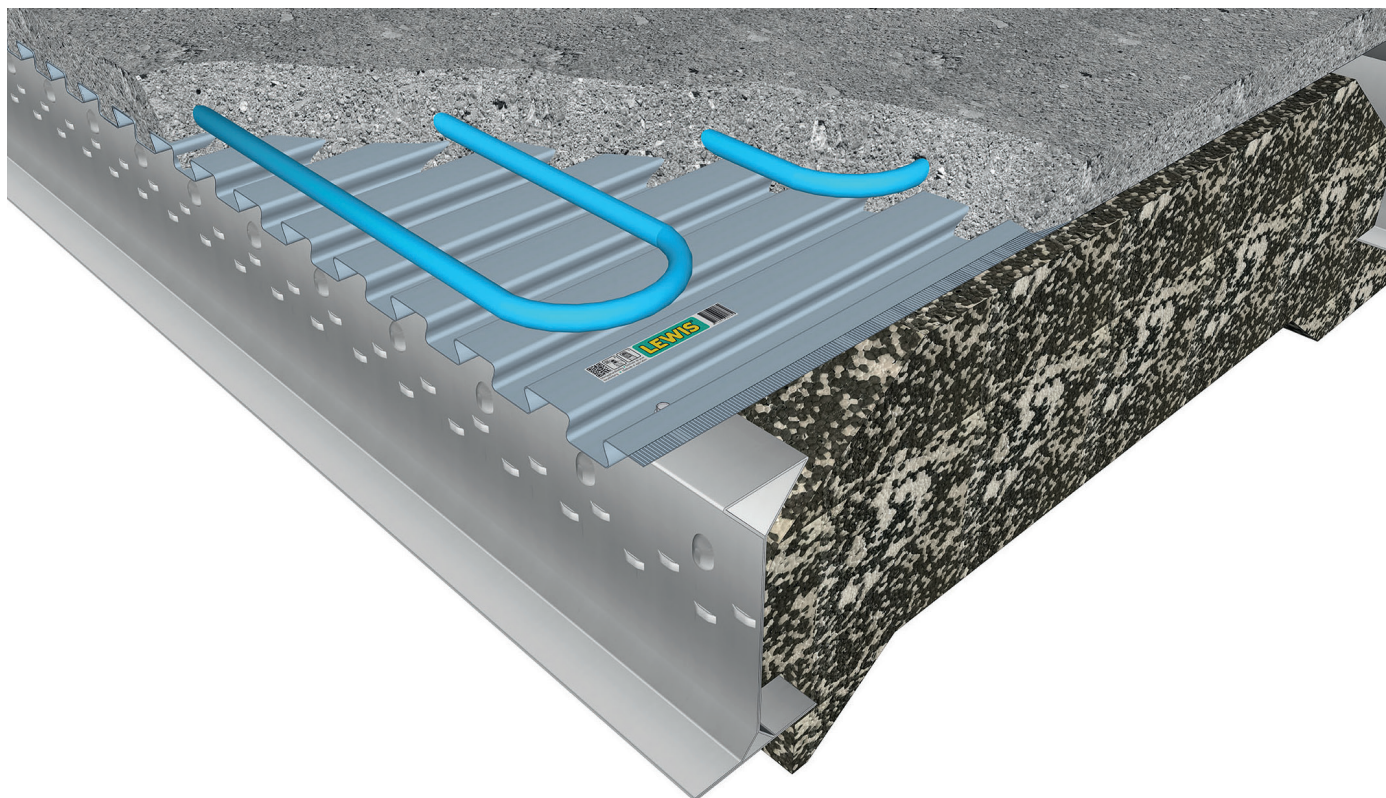
Table of load capacity of VBI joists with the LEWIS® floor

	Loading (kN/m ²)	Point loading (kN)	Walls (kN/m ²)	Finish (kN/m ²)
Class A	1,75 C _{0,1} = 0,4	3	$\leq 0,5^{**}$	$\leq 1,0$

Loading figures compliant with NEN-EN 1991-1:2002/NB:2007

* attach the LEWIS® sheeting to the VBI joist with self-tapping screws at centre to centre ≤ 500 mm

** line load < 1 kN/m



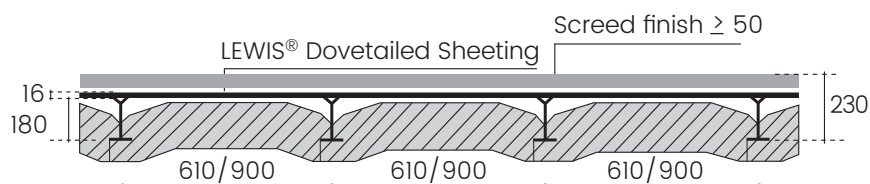
Rapid Installation

The lightweight nature of the beams, insulation blocks and LEWIS® deck ensures a quick and simple installation of the supporting sub-floor. No heavy lifting equipment is required and installation can, in most cases, be carried out by one person. The EPS insulation blocks are light but strong allowing foot traffic – providing a working deck from which to fit the LEWIS® deck. Once the LEWIS® deck is in place, heating pipes can be simply fixed to the deck by using LEWIS® plastic “P” pipe clips or the LEWIS® cliprail system. The completed floor can be completed in one visit with liquid free flowing self-levelling screed or fine grade concrete.

Fast Delivery

All the components for LEWIS® "Fast Slab" are available from stock. In addition to standard length of 2500 mm, LEWIS® can also be ordered in nonstandard lengths of up to 6000 mm.

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TECHNICAL SPECIFICATIONS LEWIS® DOVETAIL SHEETING

Sheet weight	5,8 kg/m ²
Nominal width	630 mm
Effective width	580 mm
Standard length	2000 mm
Length range	tot 6000 mm

VBI joist

Joist weight	6,5 kg/m ^l
standard lengths	3000 - 3300 - 3600 - 3900 - 4200 mm

Insulation

EPS-filling blocks	centre to centre 610 mm/900 mm
Length of filling block	1200 mm
Thermal transmittance	0.23 W/m ² K (white) 0.20 W/m ² K (grey)

Joists, filling elements and LEWIS® sheeting can be easily made to size.

Improved project programme

The use of a LEWIS® "Fast Slab" solution not only reduces the overall weight of the floor and height by reducing slab depth (50 mm in most cases) but also improves on the overall project programme by rapidly speeding up the process of installation, drying out time (reduced slab depth) and elimination several layers of the installation when compared against traditional block and beam.



LEWIS® is a registered trademark of Reppel b.v.

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