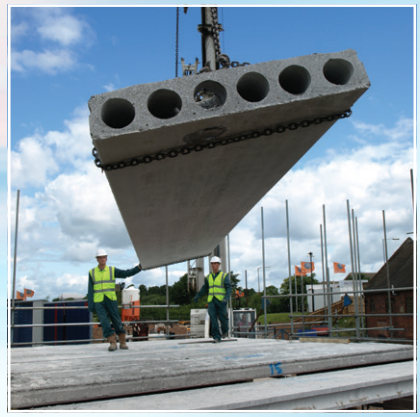

Hollowcore Precast Flooring

Benefits

- Lightweight and easy to install
- Improved sound and thermal insulation
- Immediate working platform
- Eco friendly and 100% recyclable
- Fire resistant
- Supported on masonry or steel
- For commercial and industrial applications

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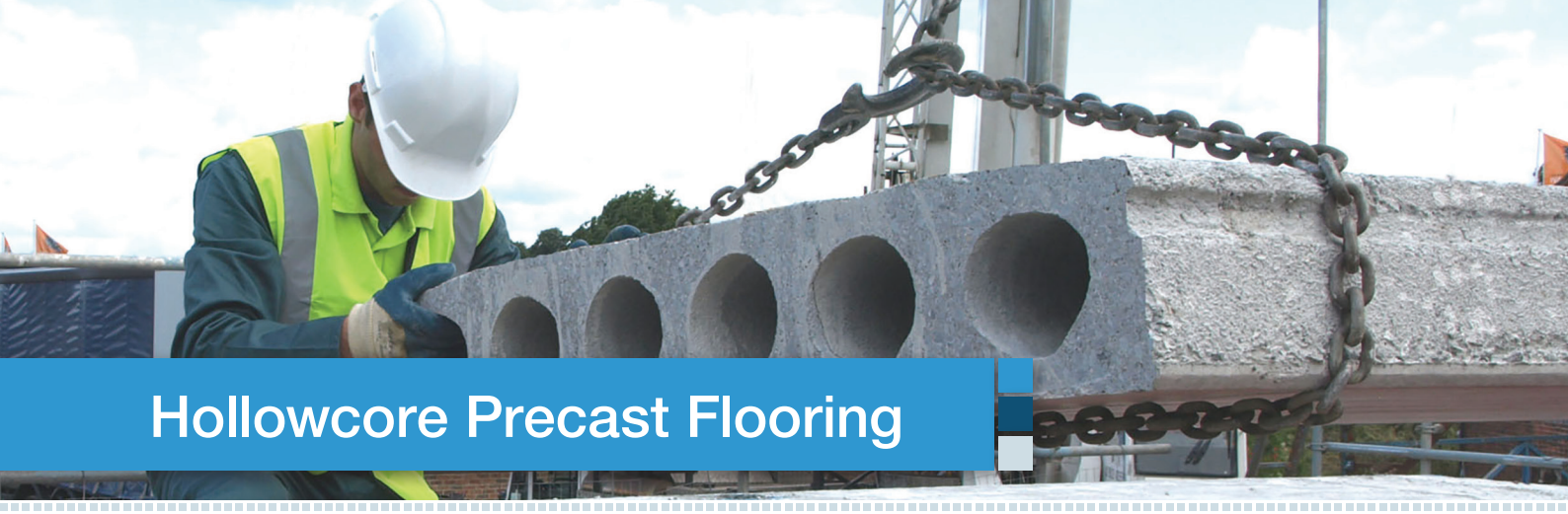


Hollowcore Precast Flooring

Hollowcore floor planks are precast concrete elements with continuous longitudinal voids providing an efficient lightweight section. When grouted, the shear key between adjacent planks ensures that the individual planks behave similarly to a monolithic slab. Hollowcore planks may be used to produce a diaphragm to resist horizontal forces, either with or without a structural topping.

Flexibility and Design

Precast flooring can generally span greater distances than timber, providing the designer with more options. Any alterations to the floor layout can be accommodated by the home owner at a later stage, without the need for any further structural works to the floor.

Separating Floors

Hollowcore floors hold a robust detail relating to Approved Document Part E 'Resistance to the Passage of Sound' and can therefore be used without the need to carry out pre-completion site tests.

Upper Floors in Houses

Noise at home is a major source of concern to occupants. Concrete upper floors provide improved sound insulation between floors – essential for households with families. Also block partition walls can be supported on precast floors, further improving sound insulation between rooms.

Flood Resistant

It is becoming more common to build on flood planes due to the lack of land. In the event of flash floods, concrete floors dry out easily and quickly and remain in place.

Squeak Resistant

Due to the density of concrete and its limited deflection, concrete floors inherently do not cause sound transmission when walked on.

Easy Installation

Installation of Hollowcore floor planks is straightforward. The units are hoisted into position and the joints grouted with 20 N/mm^2 concrete using a maximum 10 mm aggregate to form a monolithic floor.

Eco-Friendly

Masonry homes with concrete floors are energy efficient and their mass helps to balance internal temperatures, thus avoiding the need for air conditioning which can be noisy and harmful to the environment.

Longevity

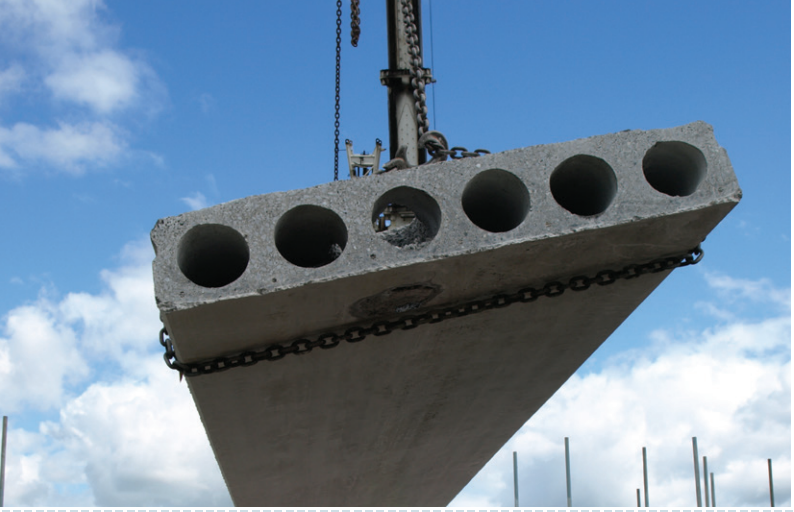
Concrete products are completely resistant to vermin, rot and termites. It is inorganic and of no nutritional interest to pests thus the structure will remain intact for the life of the building.

Immediate Working Platform

The completed floor provides an immediate working platform for follow on trades. This reduces site delays to a minimum.

Fire Resistant

The safety of you and your family are paramount should a fire start. Traditional masonry construction including concrete floors gives four times longer to exit, i.e. 2 hours protection against 30 minutes for timber. Concrete is inherently fireproof with no need for anti-fire chemical treatment and its thermal capacity absorbs heat from the fire, thus cooling it reducing the rate of spread from ignition to full fire.



Technical Details

Design

All Hollowcore planks are designed to the requirements of EC2. Standard Hollowcore planks have a minimum fire resistance of 1 hour. Units are manufactured to the following nominal depths 150 mm, 200 mm, 250 mm, 300 mm, 400 mm and 500 mm.

Quality

Quality is the prime concern of designers, developers, builders and ultimately homeowners. The robustness of a concrete floor adds to the quality of a house. Concrete floors act as a thermal store, this can reduce heating costs especially when under-floor heating systems are used.

Load / Span Table – Non Composite Floor

Overall Structural Depth (mm)	Fire Resistance (hours)	Self Weight (kN/m²)	Spans indicated below allow for characteristic service load, self weight of units and 2.0kN/m² for finishes								
			Characteristic service loads (kN/m²)								
			1.50	2.00	2.50	3.00	4.00	5.00	7.50	10.00	12.50
			Effective span (m) to include 100 mm bearing both ends								
150	1	2.25	7.0	7.2	6.9	6.6	6.2	5.8	5.1	4.6	4.2
150HD	1	3.00	7.1	6.9	6.6	6.4	6.0	5.7	5.0	4.6	4.2
200	1½	2.25	9.3	8.9	8.5	6.2	7.7	7.3	6.4	5.8	5.3
200HD	1½	3.00	9.0	8.7	8.3	8.1	7.6	7.2	6.4	5.8	5.3
250	2	3.00	11.4	10.9	10.5	10.1	9.5	9.0	8.0	7.3	6.7
320	2	3.71	12.5	12.1	11.7	11.3	10.7	10.2	9.0	8.3	7.7
400	2	4.25	16.6	16.3	15.8	15.3	14.5	13.8	12.4	11.4	10.6

Finishes and Service Runs

Floor Finishes

The grouted precast floor provides a firm working platform for following trades and is a suitable base for either sand / cement screeds or timber finishes. As all prestressed floor units are cambered, levelling screeds or packing may be required when laying floating finishes. Where required, a structural concrete topping can be laid together with the joint infill to form a composite concrete floor to increase the strength of the flooring system.

Ceiling Fixings

Proprietary site drilled anchor systems are suitable for fixing suspended ceilings, and when installed to the manufacturer's instructions, these provide a simple and economic fixing method. Anchor fixing systems can be suitable for suspended disabled persons hoists.

Ceiling Finishes

Textured paint finishes or plaster finishes may be applied direct to Hollowcore planks in accordance with the manufacturer's instructions.

Horizontal Services

The essential services for a modern dwelling can be accommodated in ducts within the floor finish or the suspended ceiling void. Larger services such as waste pipes can be run in skirting ducts around the perimeter of the floor.

Vertical Services

Holes for soil pipe openings may be formed during manufacture of the units, or subject to the design capacity of the unit. Large openings for services or roof lights are normally trimmed with steelwork.

Engineer's Sections

Visit **www.longley.uk.com** for detailed engineer's section drawings.

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