THINKING PRECAST?
THINK FP MCCANN

PRECAST FLOORING SOLUTIONS

v.5.3

WHY CHOOSE PRECAST CONCRETE FLOORING SYSTEMS

FP McCann is one of the UK's leading manufacturers of high quality precast concrete products. A family run business with over 60 years' experience, we offer an extensive range of flooring solutions including beam and block/poly flooring, hollowcore flooring, stairs and landings to the industrial, commercial and domestic markets.

Modern manufacturing facilities at Weston Underwood, Derbyshire, Littleport and Uddingston, Lanarkshire and an in-house design team ensures we have the knowledge, experience and the manufacturing capacity to meet our customers' requirements.

FP McCann will deliver to locations throughout the UK and our sales and technical teams are on hand to discuss your requirements. All our products are manufactured in accordance with relevant British and European standards and we are quality assured to ISO 9001 and OHSAS 18001 Health and Safety Management System.

Whether you require a small 60m² plot or a 10,000m² floor, we have the slabs and the capacity to suit your needs. We work with everyone from multinational construction companies, architects, consultants and engineers to self-employed builders and we will always aim to build a solid working relationship with our client base.

CONTENTS

OUR COMPANY

FP McCann is the UK's largest manufacturer and supplier of precast concrete solutions. We are committed to high quality, cost-effective and sustainable solutions tailored to meet clients' requirements.

From our fourteen UK manufacturing facilities, FP McCann offers solutions that include architectural and structural solutions, rooms, flooring, fencing, walling, shafts, tunnels, drainage, rail, power and agricultural products. FP McCann has worked on a large range of Design for Manufacture and Assembly (DfMA) projects across the UK. Our in-house Digital Engineering capability has grown in line with government and client expectations.

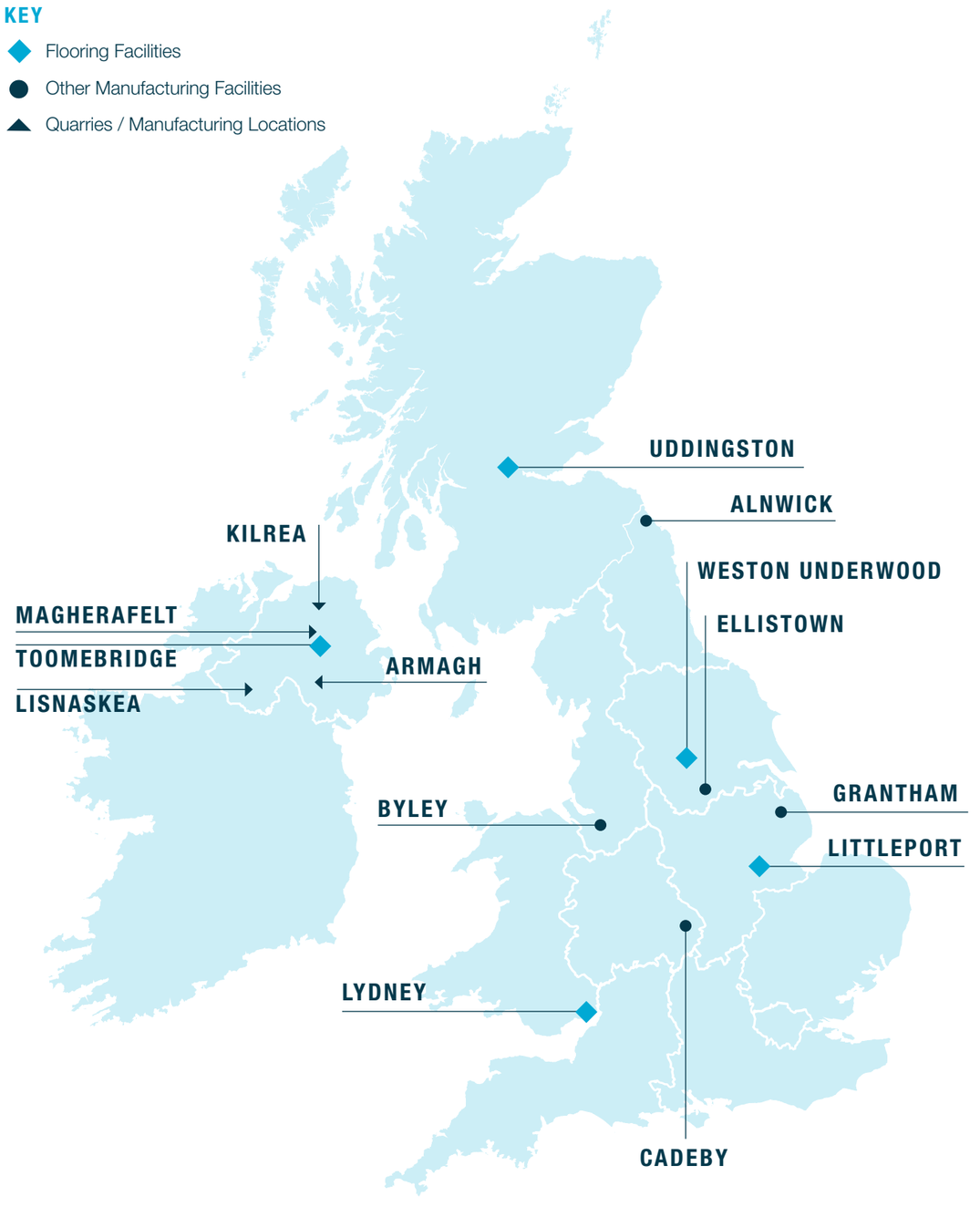
OUR COMPREHENSIVE PRECAST CONCRETE BUSINESS EXTENDS TO INCLUDE:

AGRICULTURE | BOX CULVERTS | BUILDING PRODUCTS | CONCRETE ROOF TILES
DOCK LEVELLER PITS | DRAINAGE | FENCING | FILTER BED SYSTEMS
FLOORING | POWER & INFRASTRUCTURE | PRECAST OFF-SITE BUILDING SOLUTIONS
RAIL | SPECIALIST PRECAST | TANKS & CHAMBERS | TUNNELS & SHAFTS | WALLING

Modern manufacturing plants at Alnwick (Northumberland), Armagh (Northern Ireland), Byley (Cheshire), Cadeby (Leicestershire), Ellistown (Leicestershire), Grantham (Lincolnshire), Lisnaskea (Northern Ireland), Littleport (Cambridgeshire), Lydney (Gloucestershire), Magherafelt (Northern Ireland), Toomebridge (Northern Ireland), Uddingston (Lanarkshire) and Weston Underwood (Derbyshire) incorporate the latest computerised batching, distribution, casting, curing and handling systems and are operated by skilled and experienced workforces to ensure consistency of quality. Their geographical spread gives us an unrivalled ability to serve the construction industry throughout the UK and Ireland.

By applying the DFMA principles, FP McCann's design engineers are able to evaluate individual precast concrete products part by part, in addition to documenting the assembly process step by step. This allows them to generate the cost, part count and assembly time to provide a benchmark to measure its success and identify the parts and process improvement opportunities. In turn, this has allowed FP McCann to design and manufacture more cost-effective and efficient high-quality precast concrete products with less wastage and greater on-site recycling. As a result, increased productivity, combined with a reduction in production time and costs, allows FP McCann to be more competitive within the marketplace.

OUR COMPANY



WESTON UNDERWOOD FACILITY

FACTORY INFORMATION

- Former Tarmac Topfloor facility, acquired in 2013
- £4.65M capital expenditure invested in upgrading the facility since January 2014
- Large production capacity incorporating 19 no. x 100m manufacturing lines
- All products are CE marked
- Extensive 45 acre site allows for high storage capacity
- Facilitates Stair Shed, T Beam factory with new moulds and Lift Shaft moulds
- T beam, hollowcore, lift shafts and stairs/landings manufactured on site
- Centrally located, Weston Underwood (Derbyshire) based manufacturing plant allows for easy access to all parts of the country
- High quality extruded T beam and hollowcore allowing universal manufacture across all lines
- Highly experienced in-house design team
- Extensive range of delivery vehicles including artics, rear steer trailers and rigids
- Our highly experienced installation team adhere to the British Precast Flooring Federation Code of Practice for the Safe Installation of Precast Concrete Flooring and Associated Components

UDDINGSTON FACILITY

FACTORY INFORMATION

- Modern precast concrete manufacturing facility located in Glasgow
- Sheds for Stair and Lift Shafts moulds
- Adjacent to main motorway network, our reliable transport fleet are able to service our customers' needs throughout Scotland and North England
- Long-line prestressed concrete production capacity of 1100m² per day
- Bespoke concrete production capability with reinforcement and carpentry facility
- ISO 9001, ISO 14001, OHSAS 18001 and factory production control (CE)
- Highly experienced design, planning, production and installation teams delivering exceptional customer service


HOLLOWCORE FACILITY

LITTLEPORT FACILITY

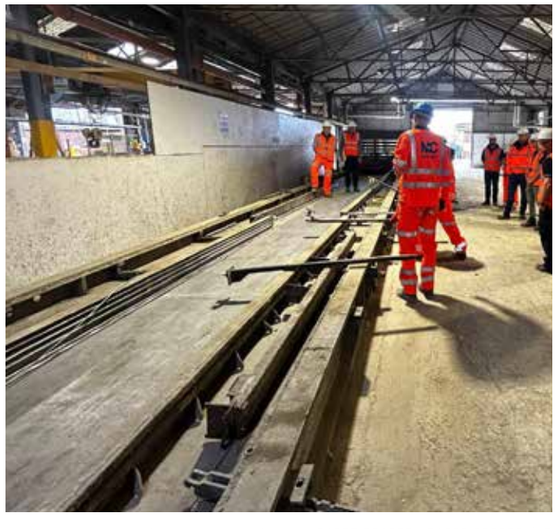
FACTORY INFORMATION

- Purchase from Charcon Construction Solutions business in 2013 and relocation to 32 Arce Site at Littleport
- Ideal geographical location in Cambridgeshire to service the greater London area and the surrounding southern areas
- £10.5M capital investment in upgrading the existing buildings and construction of new flooring and structures manufacturing facilities
- Extensive Range of on-site and delivery vehicles
- 6no. T beam moulds with a daily capacity of 4300 linear metres
- Highly experienced manufacturing team in both standard products as well as bespoke products

LYDNEY FACILITY

FACTORY INFORMATION

- Ideal geographical location in Gloucestershire to service the south west
- Extensive Range of on-site and delivery vehicles
- 2no. T beam moulds with a daily capacity of 1600 linear metres
- Highly experienced manufacturing team in both standard products as well as bespoke products



BEAM & BLOCK / BEAM & EPS FLOORING SYSTEM

The traditional beam and block flooring system involves laying precast, prestressed concrete floor beams across or between walls which are then infilled with concrete blocks.

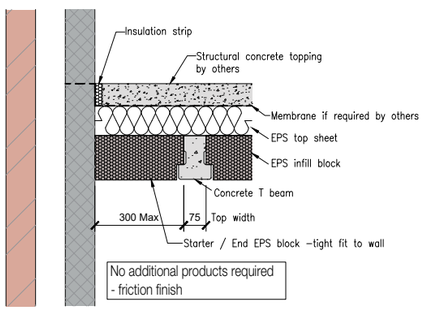
FP McCann manufactures 150mm and 225mm deep concrete floor beams, with the 150mm beams coming in a variety of widths. Spans of up to 7 metres can be achieved, depending on loading conditions. This dry construction method can be used to produce high-quality economic ground and upper floors in residential and other building types. Our quotations will stipulate the number and type of blocks required to complete the floor. Precast concrete floor beams are available on a supply only or a supply and fix basis.

Did you know that 85% of ground floors now utilise beam and block of some form? This could either be with a concrete block or a polystyrene panel.

KEY BENEFITS

- Free quotations available
- Concrete block and poly panel solutions available
- All weather install
- Beam and EPS poly system can be designed in line with new Part L regs being introduced

T BEAM STANDARD DETAIL



Permits inner leaf blockwork to be built above bearing level to offer a tight friction finish.

BEAM & POLYSTYRENE PANEL FLOORING

FP McCann offers a choice of two energy-efficient beam and polystyrene panel systems, outlined below.

TOP SHEET SYSTEM

Our top sheet flooring system incorporates a polystyrene panel which sits within the depth of the floor beam, as well as including an overboard top sheet to sit on top of the floor. U-values of 0.10 W/m²K or better can be achieved with our top sheet system. This system is easier to install than the undercloaking system, creates very minimal waste and has been tested to allow block partitions to be built off the floor.

UNDERCLOAKING SYSTEM

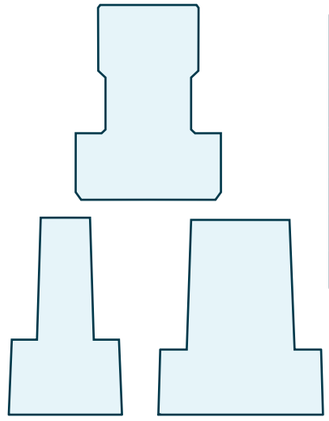
We also supply an undercloaking system which incorporates one panel that fits within the floor beam depth, as well as falling beneath the level of the beam to allow for complete thermal coverage. U-values from 0.08 W/m²K or better can be achieved utilising the undercloaking system and only requires 'one fix' when it comes to infilling with polystyrene as no top sheet is required.

CAMBER

Prestressed concrete beams and planks inherit an upward camber due to the position of the prestressed reinforcement, the benefit being significantly improved span to depth ratios in comparison to standard reinforced concrete. As a guide the upward camber generally should not exceed span/250, however cambers can vary due to a number of reasons. When specifying prestressed beams or planks the building designer should make provision for this upward camber to ensure follow on trades and materials are not over compromised. This can be achieved by considering reduced bearing levels or an adjustment to floor finishes. Camber is sometimes more apparent at particular locations dependent on the precast span directions and span length. i.e neighboring components of different length or spans that are perpendicular to one another. The simplest way to measure camber is by using a tight string line at the bottom of the component from end to end.

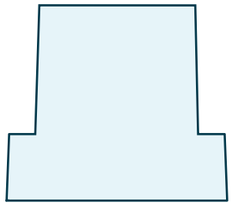
BEAM & BLOCK DIMENSIONS

150MM DEEP T BEAM



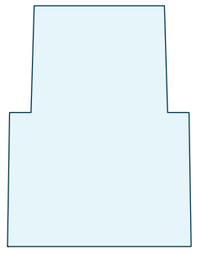
Span Load Table - 150mm Deep T Beam		Finishes = 1.5kN/m²					
		Superimposed load in kN/m²					
Floor case (based on 1400kg/m³ block density)	Floor self weight kN/m²	1.5	2	2.5	3	4	5
150 DEEP T BEAM		Maximum clear span (m)					
Single beam - full block	1.78	4.30	4.10	3.90	3.74	3.46	3.24
Single beam - full block/narrow block, alternate	1.88	4.82	4.58	4.37	4.20	3.90	3.65
Single beam - narrow block	2.07	5.57	5.31	5.08	4.88	4.34	4.26

150MM DEEP WIDE BEAM



Span Load Table - 150mm Deep Wide Beam		Finishes = 1.5kN/m²					
		Superimposed load in kN/m²					
Floor case (based on 1400kg/m³ block density)	Floor self weight kN/m²	1.5	2	2.5	3	4	5
150 DEEP WIDE BEAM		Maximum clear span (m)					
Single beam - full block	1.96	4.75	4.67	4.56	4.37	4.07	3.81
Single beam - full block/narrow block, alternate	2.10	5.07	4.99	4.90	4.80	4.51	4.24
Single beam - narrow block	2.33	5.48	5.40	5.30	5.25	5.10	4.83

225MM T BEAM



Span Load Table - 225mm T Beam		Finishes = 1.5kN/m²					
		Superimposed load in kN/m²					
Floor case (based on 1400kg/m³ block density)	Floor self weight kN/m²	1.5	2	2.5	3	4	5
225MM T BEAM		Maximum clear span (m)					
Single beam - full block	2.29	6.25	5.99	5.74	5.53	5.15	4.84
Single beam - full block/narrow block, alternate	2.55	6.90	6.60	6.34	6.11	5.71	5.38
Single beam - narrow block	2.99	7.77	7.45	7.18	6.94	6.51	6.15

ANCILLARIES & ADDITIONAL SERVICES

SUPPLY & FIX

As well as offering products on a supply only basis, we also offer a supply and install service. Any contract undertaken on a supply and fix basis will include labour and plant, as necessary.

TRANSPORT

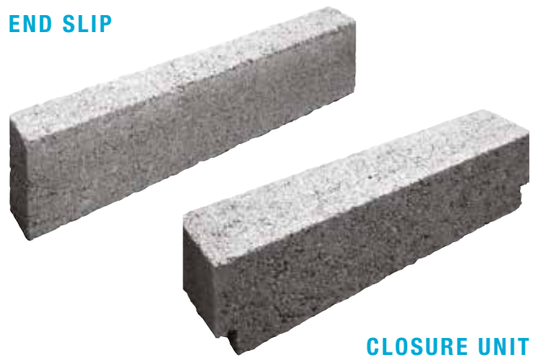
We have a range of delivery vehicles available including articulated vehicles, rear wheel steer trailers or rigid loads. Offload available on request. Please contact us for further details.

MERCHANTS

Beams are readily available for stock and can be supplied in standard lengths. Blocks are available on a supply and fix basis only. For further information on this, please contact us.

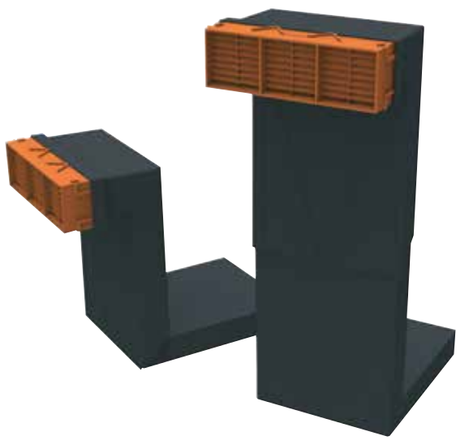
Alongside our beam and block flooring solutions, we offer the relevant ancillary products such as end slips, closure units, ceiling clips, vents and air bricks. These extras will be detailed on our quotation and shown as either an extra-over or an inclusion.

END SLIP

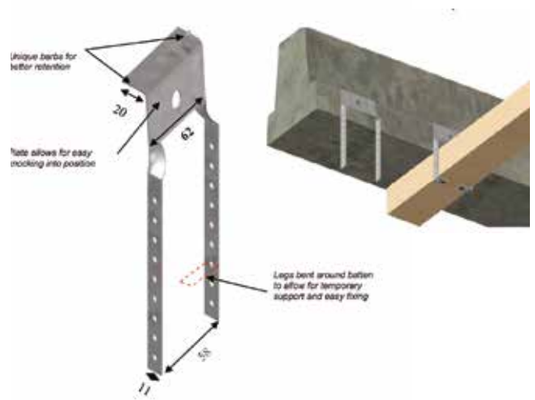


CLOSURE UNIT

VENTS AND AIR BRICKS



CEILING CLIPS



HOLLOWCORE FLOORING

FP McCann manufactures precast concrete hollowcore flooring units. These units are a prestressed concrete slab normally 1200mm wide (part widths are also available if required) and a current depth range of 150mm to 500mm. In addition to this range, we also manufacture a 100mm deep precast concrete floor slab.

Our hollowcore slab production techniques are constantly being updated and developed to offer additional slab depths to the range and also increase efficiency and achieve higher quality. As with our other flooring products, hollowcore slabs can be used with masonry, steel precast and in-situ forms of construction.

Whether you require a small 60m2 plot or a 10,000m2 floor, we have the slabs and the capacity to suit your needs. We work with everyone from multinational construction companies, architects and engineers to self-employed builders and we will always aim to work efficiently and effectively to build solid working relationships

PRESTRESSED HOLLOWCORE FLOORING BENEFITS

- Long spans
- Quick installation, particularly when compared to wet concrete solutions
- Immediate working platform
- High load capacity
- Preformed holes for services
- A wide range of slab depths available
- Can be used with masonry, steel, precast and in-situ forms of construction

DESIGN & MANUFACTURE

- Designed to BS EN 1992-1-1 and BS EN 1992-1-2
- Can be designed as a composite floor
- Lifting points can be provided
- All units can be offered with insulation preattached to the soffit
- Prestressed design with inherent pre-camber (guidance only span/ 300)
- The fire-resistance rating of up to 2 hours
- 50 to 100-year lifespan
- Can easily incorporate disproportionate collapse details

TYPICAL APPLICATIONS

- Residential (Multi-occupancy)
- Offices
- Education
- Car Parks
- Retail
- Custodial

HOLLOWCORE FLOORING

HOLLOWCORE LOAD/SPAN TABLE

Spans indicated opposite allow for characteristic service load (live load kN/m²) + unit self WT + 1.5kN/m² for floor finishes.

Unit Depth (mm)	Self Weight (kN/m²)	Fire Rating (hrs)	Characteristic Service Load kN/m²									
			0.75	1.5	2.0	2.5	3.0	4.0	5.0	7.5	10	15.0
150	2.36	*1	7.50	7.50	7.50	7.50	7.50	7.10	6.60	5.80	5.20	4.50
150H	3.02	*1	7.50	7.50	7.50	7.50	7.40	6.90	6.40	5.60	5.10	4.40
200	2.98	*1	10.00	9.90	9.70	9.20	9.00	8.40	7.90	7.00	6.30	5.40
250	3.62	*1	12.50	11.70	11.30	10.90	10.50	9.80	9.30	8.20	7.50	6.40
260	3.47	*1	13.00	12.50	12.00	11.50	11.00	10.50	10.00	8.50	8.00	7.00
300	3.99	2	14.60	14.30	14.10	13.60	13.30	12.50	11.90	10.70	9.70	7.90
350	4.41	2	16.00	15.00	14.90	14.70	14.50	14.20	13.20	12.00	10.80	9.50
400	4.77	2	17.00	17.00	17.00	16.30	15.70	15.10	14.40	13.10	12.10	10.50
450	5.36	2	17.00	17.00	17.00	17.00	16.50	16.20	15.20	14.00	13.00	11.30
500	5.92	2	18.00	18.00	18.00	18.00	18.00	17.20	16.50	15.00	13.90	12.00

NOTE:
Tables are given as a guide only. When using maximum spans, consideration to the effect of camber/ deflection on finishes/ internal partitions is advised. Reinforcement patterns will vary, dependent on the spans/ loads specified.

Tables do not consider reduced capacities for potential service hole requirements or additional loads to those stated above. For alternative load/ span combinations, including service hole requirements or composite designs, please consult the FP McCann design office.

* 2hr available. Please consult the FP McCann design office for further details.

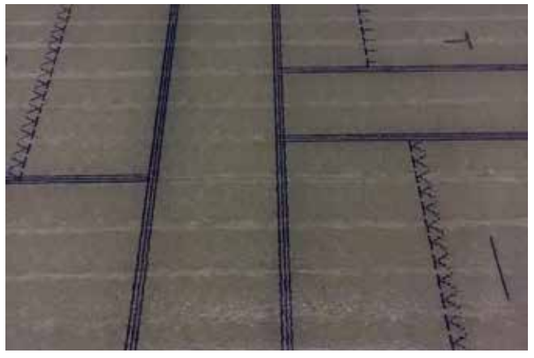
SOLID COMPOSITE PLANK LOAD/ SPAN TABLE

Unit Depth & Concrete Topping (mm)	Self Weight (kN/m²)	Fire Rating (hrs)	Propped Y/N	Characteristic Service Load Kn/m²								
				0.75	1.50	2.00	2.50	3.00	4.00	5.00	10.00	15.00
75 + 75	3.57	1	N	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.50
75 + 100	4.24	1	N	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.65
100 + 50	3.55	*1	N	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.10	3.68
100 + 100	4.75	*1	N	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.30	3.90
75 + 75	3.57	1	Y	7.50	7.00	6.80	6.50	6.35	5.95	5.60	4.56	3.92
75 + 100	4.24	1	Y	8.32	7.78	7.52	7.25	7.02	6.62	6.29	5.12	4.05
100 + 50	3.55	*1	Y	7.80	7.27	7.00	6.75	6.50	6.10	5.60	4.10	3.65
100 + 100	4.75	*1	Y	9.10	8.50	8.22	8.08	7.82	7.33	7.05	5.80	4.00

INK JET PLOTTER

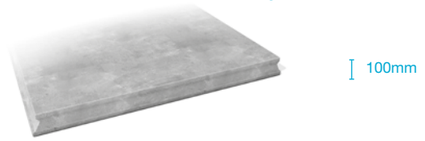
The ink jet plotter brings quality, detailing and dimensional benefits to our hollowcore flooring product. During the manufacturing process, the ink jet accurately details the exact dimensions from the designers AutoCAD drawings onto the top surface of the hollowcore.

This ensures that the lengths and any required features are formed exactly as designed. The unique identification of each unit, together with the weight and traceability information, is also printed onto the flooring units.

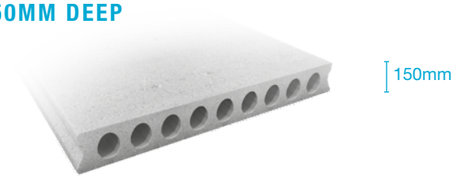


AVAILABLE SLAB DEPTHS

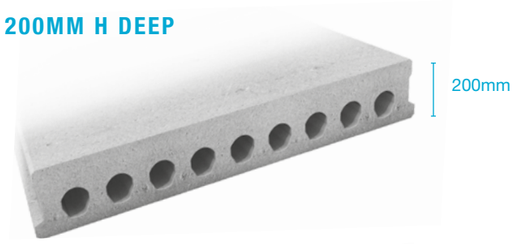
100MM DEEP (60/75/160 ALSO AVAILABLE)



150MM DEEP



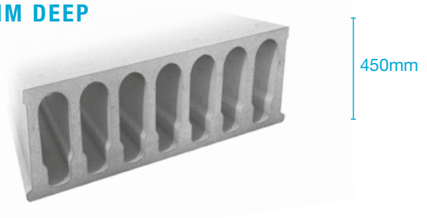
200MM H DEEP



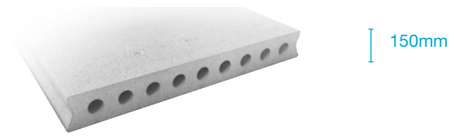
260MM DEEP

350MM DEEP

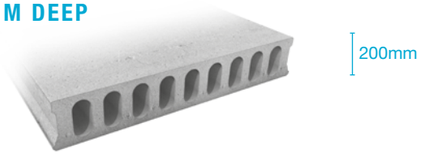
450MM DEEP



150MM H DEEP

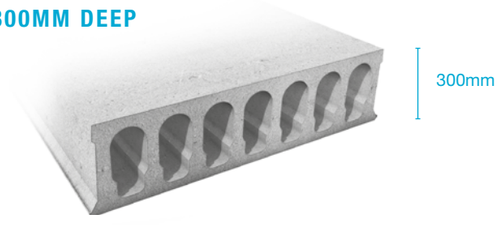


200MM DEEP

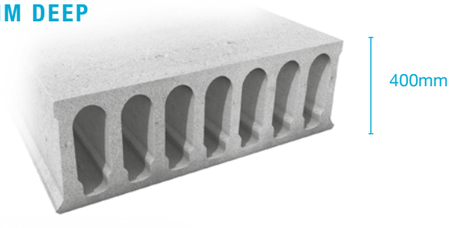


250MM DEEP

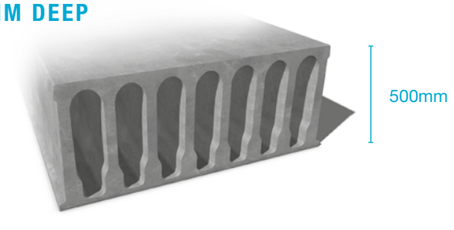
300MM DEEP



400MM DEEP



500MM DEEP



PRECAST STAIRS & LANDINGS

FP McCann provides precast concrete stairs and landings which allow immediate access to site personnel and following trades and also the final end-users.

Using FP McCann precast stairs helps to eliminate the need for expensive form work and temporary propping. All the flights have cast in lifting points to make installation efficient, easy and safe. FP McCann has built up vast knowledge and experience of different types of applications of precast concrete stairs and landings over the years. We can share this knowledge through our technical support, design and installation services.

KEY BENEFITS

- Self-compacting concrete provides a high-quality finish
- Cast on edge or flat, depending on finish requirements
- A range of casting options are available for integral or separate landings
- Quick installation
- Immediate access
- High load capacity

PRECAST CONCRETE STAIRS AND LANDING INSTALLATION SERVICE

Our specialist team will install your stairs with expertise and efficiency. Our installers are highly-trained and vastly experienced. By choosing to use our installation service we aim to get your job done quickly and safely. We can offer professional advice and guidance on compliance with health and safety legislation. Especially when it comes to working at height, we can supply the necessary fall protection whilst the staircases are installed.

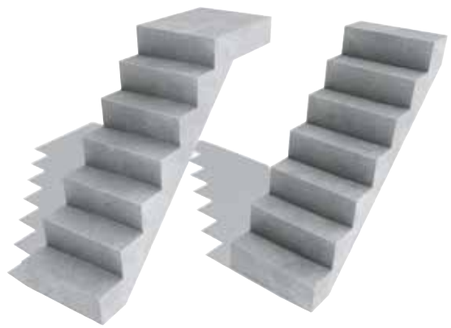
When using our installation service, an FP McCann Contracts Manager will visit your site before installation to discuss all health and safety issues and ensure all the correct procedures are in place. They will also ensure the crane requirements are correctly planned and that costs and time are kept as low as possible, minimising disruption.

PRECAST CONCRETE STAIRS AND LANDING DESIGN SERVICE

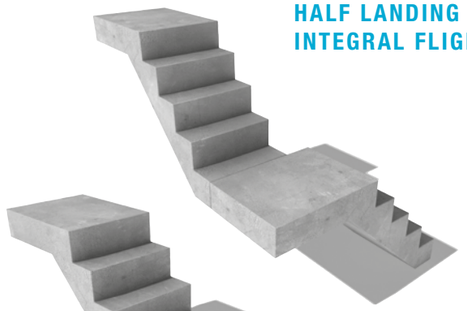
With our designers years of experience, we can offer a design service covering many staircase applications, including creative solutions to unconventional applications.

INTEGRAL TOP LANDING

STRAIGHT FLIGHT



HALF LANDING WITH INTEGRAL FLIGHT



INTEGRAL LANDINGS TOP AND BOTTOM

PRECAST STAIRCORES

FP McCann has vast experience in delivering bespoke precast stair core solutions based on two design options, stability cores and freestanding cores. The key difference being that stability cores provide lateral stability to the whole surrounding structure.

We offer a full design and installation service throughout the UK. We work closely with your design team at an early stage to develop the optimum solution to meet your needs. As a result, the minimum of temporary works is required on-site.

L and T shaped walls form our precast concrete stair cores. If the core dimensions suit, precast box units can also be adopted. Inside the stair core, FP McCann provides precast stairs and landings with cast-in lifting points making installation efficient and safe.

The wall thickness will depend on the type of stair core you choose (ie. stability or freestanding), fire rating and the number of storeys. However, with FP McCann huge production and mould capacity we have a solution for all scenarios.

We manufacture all the precast components using self-compacting concrete which results in a high-quality finish.

KEY BENEFITS

- Units produced in a factory-controlled environment
- Quick installation
- Increased health and safety with reduced temporary works
- Immediate working platform
- Inherent fire resistance

PRECAST LIFT SHAFTS

FP McCann manufactures precast modular lift shafts which can be tailored to suit any project. Since construction is completed off-site, the lift shaft is erected very quickly, greatly assisting the build programme schedule.

FP McCann's lift shafts can be built from 1200mm each way up to 2750mm, in increments of 50mm. Wall thickness starts at 150mm, but this can be increased to 200mm or 250mm.

Our standard lift design supports all loading from the lift equipment during installation, operation, and maintenance. The lift shaft can also be designed to support vertical loads from other structural elements such as beams and slabs.

We work closely with your lift supplier to ensure that all components are accurately positioned, including channels and recesses.

We use a water resisting concrete admixture to cast the lift pit sections, to protect against water ingress.

Lift shafts that are at least 4 stories high may need to be restrained at intervals moving up the building, assumed to be achieved by tying back to the main structure. If shafts are to be erected ahead of the main structure, it may be necessary to provide temporary support.

KEY BENEFITS

- Quick and easy to install
- Flexible, bespoke modular design
- Off-site construction minimises disruption on-site
- Minimal on-site labour and costs
- Minimal on-site health and safety risks
- Cast-in fittings provided for lift installation
- Factory-fitted and tested lifting beam/sockets, if required
- Minimum one hour fire resistance
- Temporary works or propping is minimised or eliminated
- Can replace block work or act as shear walls

SINGLE LIFT SHAFT

DOUBLE LIFT SHAFT

TRIPLE LIFT SHAFT

THERMABEAM™

INSULATED GROUND FLOORING SOLUTIONS

ThermaBeam™ is an insulated precast flooring system that combines both high performance expanded polystyrene (EPS) insulation and structural grade reinforced concrete, forming a continuous layer of insulation across the entire floor.

The ThermaBeam™ flooring system is manufactured in steel moulds to strict quality standards. The C45/55 structural concrete is cast onto the insulation, eliminating air gaps and minimising heat loss; thereby providing a significant reduction in cold bridging, resulting in an evenly spread thermal performance. U-Values as low as 0.10W/m² can be achieved. This is because the units bear on the inner leaf of cavity walls, a reduction in heat loss can be achieved at the wall-floor junction because the insulation extends beyond the floor to the face of the wall cavity, ensuring continuity of insulation at the junction.

Therefore, the ThermaBeam™ flooring system is a more thermally efficient method of construction compared to traditional methods as it helps to maximise the thermal performance and energy rating of the building. With a choice of two insulation types available - poly or poly plus, it is the perfect solution for use as a ground floor in domestic and residential buildings.

The ThermaBeam™ flooring system also helps to reduce CO^2 emissions by decreasing the amount of non-renewable energy required to heat the building, helping to achieve the required Target Emissions Rating (TER).

ThermaBeam™ units are available in standard depths of 300mm and 375mm and a choice of four nominal widths – 400, 600, 900 and 1200mm.

BENEFITS

- Low on-site costs and space required since units are manufactured off-site
- Fast installation, enabling a safe platform for follow-on trades within a few hours
- Excellent thermal performance due to its insulating properties. A reduction in cold bridging is achieved, resulting in better Psi (ψ) values
- U-Values as low as 0.10W/m² K, based on a P/A ratio of 0.2 can be achieved
- Helps building to achieve a higher energy-efficiency rating
- Reduced safety issues – reduced on-site working
- High quality units are designed in accordance with relevant BS EN standards: BS EN 1992-1-1:2004 (Eurocode 2: Design of concrete structures) and BS EN 13224:2001 (Precast Concrete Products – Ribbed Floor Elements
- Low carbon footprint – since less energy is required to heat building
- Spans up to 7.5m (depending on load)

KEY

1. Self levelling compound
2. C25/30 structural grout
3. EPS insulation
4. Side bearing stool
5. DPC

THERMABEAM™ TECHNICAL SPECIFICATIONS

DESCRIPTION

The ThermaBeam™ flooring system consists of the following components:

EPS – moulded rigid boards in two grades in accordance with BS EN 13163 : 2012.
(white, λ*90/90* = 0.038 and Grey, λ*90/90* = 0.030)

Concrete – minimum grade C45/55 to BS EN 206 : 2013, BS 8500-1 : 2015 and BS 8500-2 : 2015

Steel reinforcement – to BS 4449 : 2005

Thermabeam unit	Perimeter/ Area Ratio	U-Value (W/m²K)
300mm	0.2	*0.11W/m²K
375mm	0.2	*0.10W/m²K

* Figures based on the Poly Plus Insulation

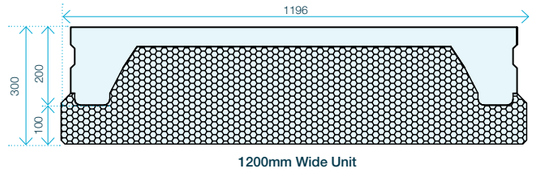
ANCILLARY ITEMS

The below items can form part of the overall floor construction:

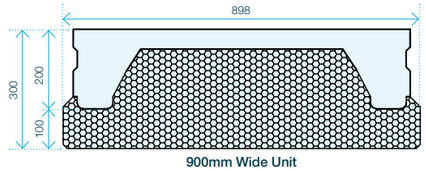
- Joint filling — concrete or sand-cement mortar with a strength class C25/30 and maximum aggregate size of 10mm
- **Concrete floor screed – typically between 25 and 100mm thick
- **Self-levelling compound
- **Timber battens – to receive floor finishes
- **Other suitable non-structural applied floor finishes
- **Damp-proof courses (dpcs), damp-proof membranes and gas barrier membranes (with third-party approval and compatible with EPS)
- Telescopic ventilators

** Items supplied by other companies

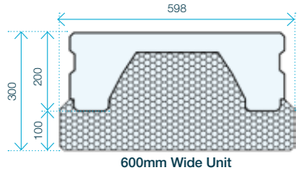
300MM THERMABEAM™



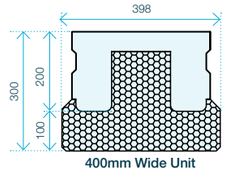
1200mm Wide Unit



900mm Wide Unit

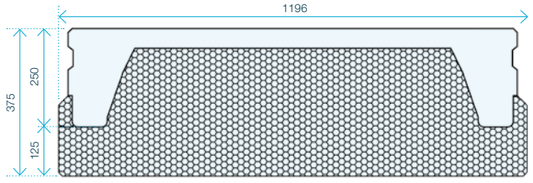


600mm Wide Unit

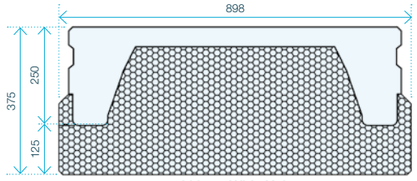


400mm Wide Unit

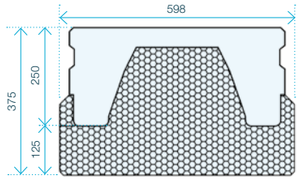
375MM THERMABEAM™



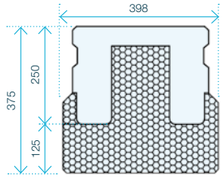
1200mm Wide Unit



900mm Wide Unit



600mm Wide Unit



400mm Wide Unit

All dimensions in mm

T BEAM FOR INNOVATIVE SOCIAL HOUSING SCHEME

Site: New Residential Development Gorebridge, Midlothian

Client: Midlothian Council

Build Partner: Cruden

Products Supplied: Precast Concrete T-Beam and Block Flooring

FP McCann's precast concrete T-Beam and Block flooring system has been installed as part of a £17.5 million state-of-the-art social housing project in the Midlothian village, Gorebridge. Leading Scottish housebuilder Cruden is underway with the unique residential development that will deliver a diverse range of housing options, including 75 flats, cottage flats and houses. Notably, the scheme will feature 10 extra care units, 2 bariatric units and a 4-bedroom, 6 person wheel-chair accessible house.

Cruden has been working closely with partners Midlothian Council and architect Hackland & Dore to ensure the design of the development is tailored to meet the diverse needs of the Gorebridge community and the end result will be an impressive residential site with accessibility, sustainability and community at its core.

In addition to the innovative heat-pump heating solutions, the homes will feature advanced insulation techniques. High-performance insulation will ensure that the homes are energy-efficient, maintaining comfortable indoor temperatures year-round while reducing energy consumption and utility costs for tenants.

Contributing to the advanced heating and insulation features on the project to ensure that the homes are energy efficient and aligned with Scotland's ambitious aims to reduce greenhouse gas emissions and to promote sustainable and renewable energy, FP McCann's precast concrete T-Beam and Block flooring has been specified as a single span system across the brickwork foundation layer. The tried and tested beam and block process not only provides a solid and safe working platform, but also a floor that has excellent thermal insulation, fire resisting and noise reducing properties.

PRECAST CONCRETE FRAMES, HOLLOWCORE & STAIR FLIGHTS ON LEARNING CAMPUS

Site: Dunfermline Learning Campus. Fife, Scotland

Client: Fife Council

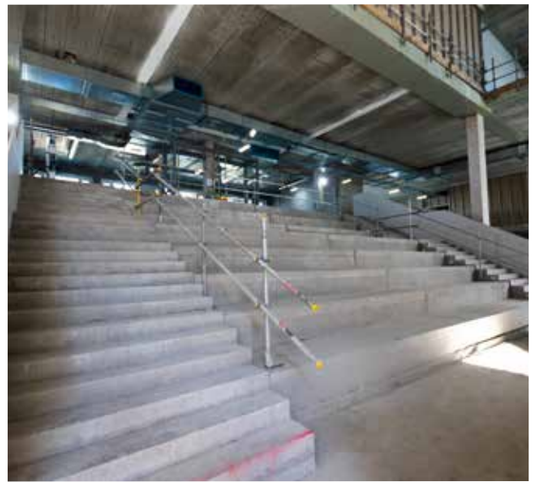
Main Contractor: BAM Construction

Products Supplied: Internal/External Precast Walls; Columns; Stair Flights/Landings; Hollowcore Flooring

FP McCann's structural precast division has worked in collaboration with BAM Construction on the £115 million contract to build the new Dunfermline Learning Campus on behalf of Fife Council. The flagship scheme opened to students for the start of the new term, is equipped with innovative internal spaces and has over 26,500m^2 of Passivhaus treated floor area (TFA). Architect on the project AHR designed the 2,700 student campus covering the 55 acre site, with AECOM appointed as the structural engineers.

Working closely alongside BAM Construction and their designers, FP McCann's engineers, manufacturing facilities and install teams were able to satisfy the requirement for the design and build project, embracing the operational carbon targets of the building by employing Modern Methods of Construction (MMC). With airtightness a key element of the embodied carbon targets set in line with the Net Zero Carbon Public Sector Building Standard, FP McCann's structural precast concrete frame is integral to the building achieving these goals.

In total, the Company has supplied and fixed some 1,500 individual precast concrete units including some 18,000m^2 of hollowcore flooring. The off-site manufactured precast structural frame system delivered from Byley, Grantham and Uddingston, is comprised of 180 columns, 177 internal walls and 600 external wall panels. In addition to this, 38 stair flights and 28 stair landings have been installed. The hollowcore planks forming the flooring of the upper levels of the campus are generally 200mm deep topped with a 75mm non-structural screed. Individual planks range from 7000mm long to 9000mm long.



BESPOKE GOODS TWIN LIFT SHAFTS IN PORTSMOUTH

Site: New Electronics Manufacturing Facility, Farlington, Portsmouth

Client: Harwin PLC

Main Contractor: Knights Brown

Products Supplied: Bespoke Precast Concrete Panel Selection Twin Goods Lift Shaft

FP McCann has recently manufactured and fitted a 23.5 metres high bespoke precast concrete panel goods twin lift shaft as part of a new £30 million manufacturing facility in Farlington, Portsmouth. Ringwood-based construction company Knights Brown is undertaking the multi-level state-of-the-art electronics factory for leading industrial connector technologies group Harwin PLC.

As the appointed D&B contractor, Knights Brown approached FP McCann in the very early stages of design to consider the options for building the 4 level goods twin lift shaft, itself larger than a typical modular box section precast concrete lift shaft. On consideration by FP McCann's in-house design team, it was determined that the best method of build would be utilising precast concrete panel sections manufactured offsite and assembled on site by the FP McCann specialist installation team.

A key feature of the twin lift shaft is the rear panel section wall construction consisting of 13 individual units 12.14 metres wide. Side elevation and front level sections complete the build with apertures of 5.62 metres allowing for the two goods lifts to be installed at 4.12 metres wide. Four precast concrete top lid slabs complete the build.

The panel sections have been delivered from FP McCann's Grantham factory in Lincolnshire and from start to finish the goods lift shaft was completed in 16 days.

LITTLEPORT OFFICE:
Wisbech Road
Littleport
Cambridgeshire
CB6 1RA
T 01353 861416
sales@fpmccann.co.uk

LYDNEY OFFICE:
Lydney Ind Est
Harbour Road
Lydney
GL15 4EJ
T 01594 847500
sales@fpmccann.co.uk

UDDINGSTON OFFICE:
New Edinburgh Road
Uddingston Glasgow
Lanarkshire
G71 6NE
T 01698 803300
sales@fpmccann.co.uk

WESTON UNDERWOOD OFFICE:
Bullhurst Lane
Weston Underwood
Derbyshire
DE6 4PH
T 01335 361269
sales@fpmccann.co.uk

AGRICULTURE
Lydney 01594 847500 Grantham 01476 562277 Toomebridge 028 7965 0471

BOX CULVERTS
Weston Underwood 01335 361269 Toomebridge 028 7965 0471

BUILDING PRODUCTS
Cadeby 01455 290780

DOCK LEVELLER PITS
Weston Underwood 01335 361269

DRAINAGE
Ellistown 01530 240000 (England/Wales) Magherafelt 028 7954 9026 (Scotland) Toomebridge 028 7965 0471

FENCING
Cadeby 01455 290780

FILTER BED SYSTEMS
Littleport 01353 861416

FLOORING
Weston Underwood 01335 361269 Uddingston 01698 803300 Littleport 01353 861416

POWER & INFRASTRUCTURE
Grantham 01476 562277 Uddingston 01698 903300 Toomebridge 028 7965 0471

PRECAST OFF-SITE SOLUTIONS
Byley 01606 843500 Grantham 01476 562277 Littleport 01353 861416 Toomebridge 028 7965 0471

RAIL
Littleport 01353 861416 Toomebridge 028 7965 0471

ROOF TILES
Cadeby 01455 290780

SPECIALIST PRECAST
Littleport 01353 861416 Toomebridge 028 7965 0471

TANKS & CHAMBERS
Littleport 01353 861416 Toomebridge 028 7965 0471

TUNNELS & SHAFTS
Cadeby 01455 290780 Toomebridge 028 7965 0471

WALLING
Grantham 01476 562277 Lydney 01594 847500
Uddingston 01698 803 300 (Scotland) Toomebridge 028 7965 0471

FPMCCANN.CO.UK