



**Ibstock**  
At the heart of building



# SUSPENDED BEAM AND BLOCK FLOOR

TECHNICAL GUIDE 2022





## Suspended beam and block floor

Prestressed beam and block flooring is a popular flooring solution, which is in significant growth.

### WHY STOCK CONCRETE FLOOR BEAMS?

- Beam and block flooring is a highly practical solution for ground and upper floors, quick and easy to install in all weather conditions without the need for special skills
- Immediately creates a safe, level working platform
- 70% of all new build ground floors are constructed using a beam and block system
- For the homeowner, a beam and block floor helps to reduce noise transmittance through floors
- Concrete floor beams provide a high level of thermal insulation and fire resistance
- A standard or wide beam solution is well suited to open plan designs with large span requirements – An excellent alternative to concrete slab and timber floors
- Maintenance free
- Easy to handle

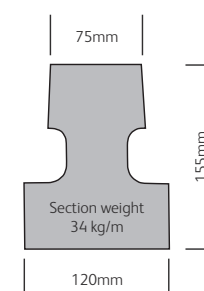
### WHY STOCK SUPREME FLOOR BEAMS?

- UK's largest prestressed concrete manufacturing national supplier facility
- Ensured continuity of supply with no impact on lead time.
- Standard floor beams held in stock, readily available for delivery on time, in full, within 5-7 working days
- Backed by our Supreme Floor Beam Service Promise
- Full suite of transport solutions
- In-house Technical support and design service
- Manufactured in 50mm increments, reducing the need for cutting on-site
- BIM enabled to Level 2 to comply with Specifier's requirements

## Two solutions

Both beams are the same height and can be used together ensuring the most economical construction options.

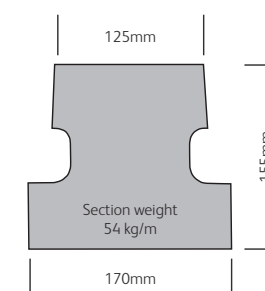
### STANDARD BEAM



Standard floor beams primary use is for housing and residential construction.

- Span up to 6m
- Available from 600mm to 6m
- Available in 50mm increments

### WIDE BEAM



Wide floor beams can span longer distances and support greater imposed loads, making them more suited to commercial projects, as well as housing and residential.

- Span up to 6.75m
- Lighter choice commercial solution compared to 225 deep beam
- Wide beams mean a faster installation due to fewer units to lift, simpler layout and less grouting
- Available from 4m

How to stock Supreme floor beams

BEAMS IN STOCK

- Core range available in easy to sell beam packs
- Beams meet the requirements of 85 % of all merchant sales
- Beams are strapped and clearly labelled making them easy to store, transport and re-order

General orders/enquiries:

T: 0333 999 2220  
F: 01795 433 599  
E: supreme.beamsales@ibstock.co.uk

BEAM PACKS					
TYPE	DIMENSIONS (MM)	DESCRIPTION	PACK QUANTITY	PACK WEIGHT (KG)	PRODUCT CODE
Beam pack	3000	T-beam	8	828	TBMPCK 300
	3600	T-beam	8	994	TBMPCK 360
	4200	T-beam	8	1159	TBMPCK 420
	4800	T-beam	8	1325	TBMPCK 480
Coursing slips	390 x 100 x 40	—	1	3.5	COS 002
Brickslips	172 x 140 x 40	Wide	204	469	COS 140
	172 x 90 x 40	Half pack	204	290	COS 204
	172 x 90 x 40	Full pack	408	570	COS 408
Closure block	210 x 140 x 100	Half width	1	6.5	TCL 210
	440 x 140 x 100	Standard	1	14	TCL 440

Merchant design and supply solution

Beams are ordered through merchants for large scale projects with greater technical requirements.

Design and quotation service available to assist with technical specifications within 24 hours of receipt of enquiry.  
Full quotations available which can include detailed layout drawings. Full structural calculations can be supplied following approval of the drawings for building control.

Design and supply enquiries:

T: 0333 999 2220  
F: 01795 433 599  
E: supreme.beamsales@ibstock.co.uk

Technical helpline:

T: 0333 999 2220

Transport Enquiries:

T: 0333 999 2220

Floor beam load span table

www.supremeconcrete.co.uk



1. Merchant receives customer enquiry



2. Merchant sends drawing to Supreme design team



3. Supreme quotation returned to merchant in 24 hours



4. Merchant sends drawing back to customer with price



5. Beams delivered from Supreme direct to site within 5-7 days (but generally before)

How to stock Supreme floor beams

ASSOCIATED FLOORING PRODUCTS			
TYPE	DIMENSIONS	PACK WEIGHT (KG)	PRODUCT CODE
Brickslips (Full Pack 408)	172 x 90 x 40	570	COS 408
Brickslips (Half Pack 204)	172 x 90 x 40	290	COS 204
Brickslips	172 x140 x 40	469	COS 140
Coursing Slips	390 x 100 x 40	3.5	COS 002
Closure Block	210 x 140 x 100	6.5	TCL 210
Closure Block	440 x 140 x 100	14	TCL 440
Floor Beam Butt Plate	100	—	TBB 125
WLK Ceiling Clips	—	—	WLK 001
Plastic Air Brick – Blue Black	213 x 70 x 60	—	PAB 1BB
Plastic Air Brick – Brown	213 x 70 x 60	—	PAB 1BR
Plastic Air Brick – Buff	213 x 70 x 60	—	PAB 1BU
Plastic Air Brick – Terracotta	213 x 70 x 60	—	PAB 1TE
Plastic Void Vent and Air Brick – Blue Black	—	—	PAB 2BB
Plastic Void Vent and Air Brick – Brown	—	—	PAB 2BR
Plastic Void Vent and Air Brick – Buff	—	—	PAB 2BU
Plastic Void Vent and Air Brick – Terracotta	—	—	PAB 2TE
Plastic Extension Sleeve for Void Vents	—	—	PEX 002
Plastic Telescopic Void Ventilators	—	—	PVV 001

COURSING SLIPS

These slips save a split brick course at side bearing or between end bearing.

CEILING CLIPS

Used with battens to facilitate fixing of ceiling.

BUTT PLATE

Designed to increase bearing locally where beams clash on 100mm or 150mm thick supporting walls at upper floor levels.

BRICK SLIPS

For finishing the floor onto load-bearing walls, parallel edges and between the end of the beams.

PLASTIC VOID VENTS

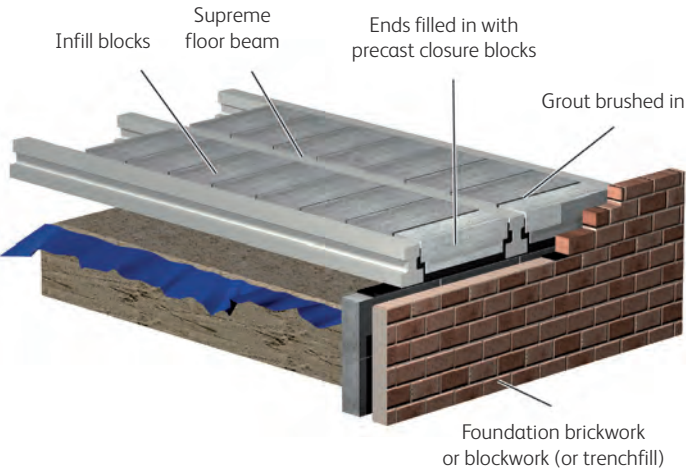
Designed for ventilating the void below suspended ground floors. Vertical and horizontal extension sleeves are available.

CLOSURE BLOCKS

Fit between the beams on the bearing ends. This saves time cutting bricks or blocks.

AIR BRICKS

Air bricks to be used in conjunction with the telescopic void vent.

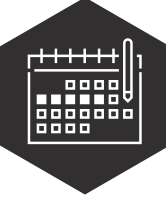


# FLOOR BEAM PROMISE

## 10 STEPS TO SELLING MORE TOGETHER



**1:** WE WILL RESPOND TO ENQUIRIES WITHIN **1 WORKING DAY**.



**2:** WE WILL ENSURE A RELIABLE DELIVERY ON TIME, IN FULL WITHIN **5-7 WORKING DAYS**.



**3:** WE WILL ENSURE **CONTINUITY OF SUPPLY** WITH NO IMPACT ON LEAD TIMES.



**4:** ALL DELIVERIES WILL BE GIVEN VERBAL CONFIRMATION **48 HOURS** BEFORE THE DELIVERY DATE.



**5:** WE WILL HOLD A **FULL RANGE** OF STANDARD FLOOR BEAMS IN STOCK AT ALL TIMES.



**6:** WE WILL PROVIDE A **CONSISTENT, HELPFUL** EXPERIENCE AT ALL OF OUR CUSTOMER TOUCH POINTS.



**7:** WE WILL **LISTEN TO OUR CUSTOMERS** AND BY REVIEWING OUR SATISFACTION SURVEYS, WE WILL DELIVER A GREAT CUSTOMER EXPERIENCE.



**8:** ALL CALLS WILL BE ANSWERED WITHIN **6 RINGS**.



**9:** WE WILL ALWAYS **VALUE** YOUR BUSINESS.



**10:** WE WILL ALWAYS PROVIDE **DEDICATED CONTACTS** FOR CUSTOMER SERVICE, DESIGN, TECHNICAL AND TRANSPORT ENQUIRIES.



## MARKET LEADING SERVICE OR YOUR MONEY BACK\*

\*Must be claimed within 7 days of service. Subject to investigation and review and can only be requested once by any person / company. Our decision is final.

**GENERAL ORDERS / ENQUIRIES / FLOOR BEAMS DESIGN & SUPPLY ENQUIRIES:**

**Phone:** 0333 999 2220

**Email:** beamsales@supremeconcrete.co.uk

**www.supremeconcrete.co.uk**

## Delivery

### DELIVERY TO DEPOT

Free delivery for fencing, building or padstones over 5 tonnes.

Free delivery for prestressed lintels, beams or padstones over 3 tonnes. We are happy to deliver smaller loads at a small charge of £80 to cover costs.

### COLLECTIONS

Bedford, Barnwell and Sittingbourne – Mon-Fri 0800-1600hrs. Booking may be required.

Collection discount may be available. Collections are limited to vehicle type. Contact sales office for more information.

### PACKING

To ensure our products reach you in the best possible condition, goods are supplied on free-of-charge pallets and bearers.

### LOAD DISCOUNTS

To keep costs as competitive as possible, we apply the following discounts\* to pass on any savings we can make to our customers.

- 2% for 14 to 26.9 tonnes
- 4% for 27+ tonnes

\*Load discounts do not automatically apply for customers on bespoke terms.

### PAYMENTS

All prices are subject to VAT at the current rate.

### DIRECT TO SITE DELIVERIES

- Crane offload – £85 per delivery
- Rigid vehicle – £120 per delivery – Floor beams only
- Please contact the relevant sales office

## Contact

### SUPREME FENCING, BUILDING AND LINTEL PRODUCTS

**T:** 0333 999 2220 – option 1  
**F:** 01487 833 305  
**E:** supreme.sales@ibstock.co.uk

### PRESTRESSED FLOOR BEAMS GENERAL ORDERS/ENQUIRIES

**T:** 0333 999 2220 – option 1, then 2  
**F:** 01795 433 599  
**E:** supreme.beamsales@ibstock.co.uk

### FLOOR BEAM DESIGN AND SUPPLY ENQUIRIES

**T:** 0333 999 2220 – option 1, then 2  
**F:** 01795 433 599  
**E:** supreme.beamsales@ibstock.co.uk

### TECHNICAL HELPLINE

**T:** 0333 999 2220

### TRANSPORT ENQUIRIES

**T:** 0333 999 2220

### STEPOC AND KEYSTONE

**T:** 0333 999 2220 - option1, then 2  
**F:** 01795 433 599  
**E:** supreme.beamsales@ibstock.co.uk

### BESPOKE PRODUCTS AND SERVICES

**T:** 0333 999 2220  
**E:** supreme.enquiries@ibstock.co.uk

## Ibstock Concrete factory addresses

**CASTLEDAWSON (STAIRCASES AND LIFT SHAFTS)**  
Magherafelt BT45 8HG

**DEWSBURY (FLOOR BEAMS)**  
Dewsbury WF12 9EF

**BOOTLE**  
Bootle L30 4UJ

**NORTHWICH**  
Northwich CW9 6AA

**BARNWELL**  
Peterborough PE8 5PD

**BEDFORD**  
Bedford MK45 3JE

**SITTINGBOURNE**  
Kent ME10 3SL

**THORNLEY (CAST STONE)**  
Durham DH6 2QA

**ANSTONE (WALLING STONE)**  
Sheffield S26 6NP

**MASONCRETE (CAST STONE)**  
Derbyshire DE4 2LN

**STRETTON (ROOFING)**  
Burton-on-Trent DE13 0BP

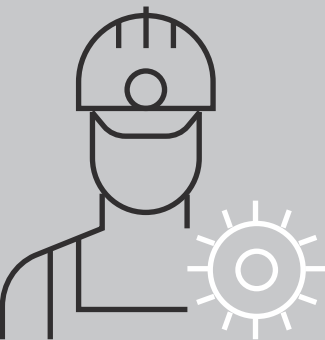
**CEBASTONE (CAST STONE)**  
Ibstock LE67 6HP

**LEIGHTON BUZZARD (ROOFING)**  
Leighton Buzzard LU7 4SD

**SHEARSTONE (WALLING STONE)**  
Somerset BA4 4SQ

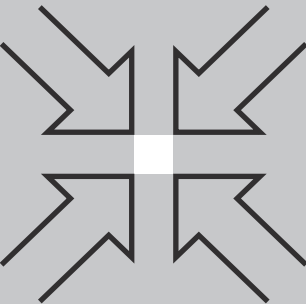


# TECHNICAL INFORMATION



## Floor beam manufacture

Supreme Floor Beams are manufactured by the slip form method. The characteristic T profile and textured finish of the floor beams ensures a strong bond is established between the beam and the infill grout. They are designed and manufactured in accordance with EN 15037-1:2008. Supreme Floor Beams are 155mm deep and are manufactured in two widths; 120mm and 170mm wide respectively and in the same profile. This helps to simplify installation. Please note that the 170mm wide floor beams are only available in lengths over 4000mm. They are produced to a concrete strength class of C 50/60. The raw materials used comply with EN standards.

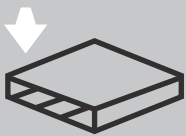


## Infill blocks

Specific performance specifications are required in accordance with the building regulations in respect of infill blocks and directly applied screeds. A wide variety of suitable infill blocks are available. Infill blocks should be in accordance with the relevant sections of BS EN 15037. Aggregate concrete blocks should meet one of the following two criteria:

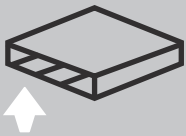
- A compressive strength of 7.3 N/mm<sup>2</sup>, or
- Be able to sustain a transverse load of 3.5 kN.

In most instances, blocks will be 100mm thick with a face size of 440mm x 215mm. Specialist flooring blocks may differ but in all cases the blocks must be classified as **'suitable for use in flooring'**. If in doubt please consult the block manufacturer.



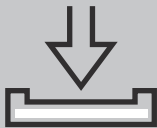
## Ground floor (application)

Supreme floor beams are ideal for domestic and commercial ground floor uses. They also provide a quick-to-construct flooring solution for extensions and garages



## Upper floor (application)

Supreme floor beams are also suitable for upper floors in domestic dwellings; for example if a dense floor is required to create a 'quiet home'. They are also ideal for where the first floor partitions are to be blockwork and must be supported by the floor.



## Structural integrity

Until the floor is grouted, shuttering boards or scaffolding planks should be used as a spreader over the beams and blocks to take any barrow or other wheeled loads. Any load placed on the floor should not exceed the load for which the floor was designed; these loads should be short-term and kept to a minimum.



## Infill grout

The floor should be completed as soon as possible by brushing in a wet grout mix of 1:3 cement and sharp washed sand, a stiffer mix of the same proportions should be used to fill any double or multiple beams, these joints should be 'hard packed'. The floor should be cleaned and wetted prior to grouting to enable the grout to penetrate and provide a stable construction.



## Bespoke design service

On request, Supreme Concrete can produce bespoke floor designs and specifications; for example for projects where polystyrene infill panel floors are preferred to conventional infill blocks.

## General orders/enquiries:

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F: 01795 433 599  
E: [supreme.beamsales@ibstock.co.uk](mailto:supreme.beamsales@ibstock.co.uk)





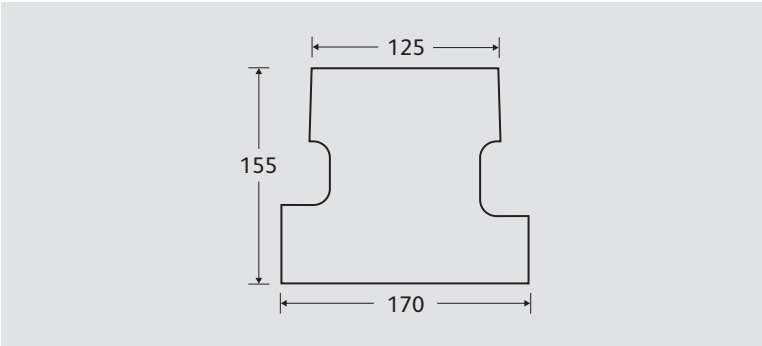
Floor self-weights

FLOOR SELF-WEIGHTS				EFFECTIVE CENTRES
CENTRES	BLOCKS @ 650KG/M³	BLOCKS @ 1350KG/M³	BLOCKS @ 2000KG/M³	
S 520	1.19kN/m²	1.768kN/m²	2.31kN/m²	
S 407	1.35kN/m²	1.893kN/m²	2.41kN/m²	
S 295	1.61kN/m²	2.107kN/m²	2.58kN/m²	
D 640	1.69kN/m²	2.160kN/m²	2.60kN/m²	
D 527	1.92kN/m²	2.340kN/m²	2.74kN/m²	
D 415	2.26kN/m²	2.613kN/m²	2.95kN/m²	
T 760	2.04kN/m²	2.428kN/m²	2.80kN/m²	
T 647	2.28kN/m²	2.621kN/m²	2.95kN/m²	
T 535	2.62kN/m²	2.892kN/m²	3.15kN/m²	

INFILL BLOCK	440 x 215 x 100 (650kg/m³)			440 x 215 x 100 (1350kg/m³)			440 x 215 x 100 (2000kg/m³)	
LIVE LOAD	1.5kN/m² Domestic			1.5kN/m² Domestic			2.5kN/m²	4.0kN/m²
	Figures below are MAXIMUM permissible CLEAR SPANS in millimetres (i.e. between supports)							
	Floating Floor	65mm Screed	75mm Screed	Floating Floor	65mm Screed	75mm Screed	65mm Screed	65mm Screed
CASE 1	NO PARTITIONS							
520	5800	5150	4950	5800	4750	4600	4250	3400
407	5800	5700	5550	5800	5300	5150	4800	4150
295	5800	5800	5800	5800	5800	5800	5550	4800
640	5800	5800	5800	5800	5800	5800	5300	4600
527	5800	5800	5800	5800	5800	5800	5800	5000
415	5800	5800	5800	5800	5800	5800	5800	5650
760	5800	5800	5800	5800	5800	5800	5800	5100
647	5800	5800	5800	5800	5800	5800	5800	5450
535	5800	5800	5800	5800	5800	5800	5800	5800
CASE 2	STUDWORK PARTITIONS @ 1.0kN/m²							
520	5350	4550	4450	4950	4250	4150	3800	3150
407	5800	5100	4900	5500	4700	4600	4300	3750
295	5800	5700	5550	5800	5400	5300	5050	4500
640	5800	5600	5500	5800	5300	5050	4850	4300
527	5800	5800	5800	5800	5800	5500	5300	4700
415	5800	5800	5800	5800	5800	5800	5800	5200
760	5800	5800	5800	5800	5800	5800	5350	4750
647	5800	5800	5800	5800	5800	5800	5800	5100
535	5800	5800	5800	5800	5800	5800	5800	5550
CASE 3	3.0kN/m RUN LIGHTWEIGHT BLOCK PARTITION AT 90 DEG TO SPAN, MID BEAM SPAN							
520	5250	4350	4250	4800	4050	3950	3500	2800
407	5800	4750	4600	5400	4550	4450	4100	3600
295	5800	5650	5500	5800	5350	5200	4950	4350
640	5800	5450	5300	5800	5100	5050	4750	4150
527	5800	5800	5650	5800	5550	5550	5200	4600
415	5800	5800	5800	5800	5800	5800	5800	5150
760	5800	5800	5800	5800	5800	5800	5300	4650
647	5800	5800	5800	5800	5800	5800	5800	5050
535	5800	5800	5800	5800	5800	5800	5800	5500
CASE 4	3.0kN/m RUN LIGHTWEIGHT BLOCK PARTITION PARALLEL TO SPAN, FULL SPAN							
520	3250	2850	2800	3000	2700	2650	2350	2050
407	3450	3100	3000	3150	2950	2900	2650	2350
295	3550	3400	3200	3400	3150	3100	3000	2750
640	4550	4400	4100	4300	4000	3900	3700	3450
527	4650	4550	4200	4450	4100	4050	4000	3700
415	4750	4650	4400	4550	4250	4200	4150	3900
760	5200	4900	4650	5100	4600	4500	4400	4050
647	5350	5100	5000	5200	4700	4650	4550	4250
535	5550	5300	5150	5300	4850	4800	4800	4450
CASE 5	DOMESTIC GARAGE IMPOSED LOAD 2.5kN/m² OR 10kN CONCENTRATED LOAD							
	650kg/m³	1350kg/m³	2000kg/m³	The table to the left gives maximum clear spans for garage load case applying a 75mm thick reinforced screed with differing density infill blocks shown. The reinforced screed must be directly bonded to the beams and infill blocks.			Where clear spans for floating floors are shown, no allowance for the weight of any screed has been incorporated. The clear spans shown for the domestic garage loading conditions rely on a light mesh reinforced screed which should have a minimum compressive strength of 21N/mm².	
520	4300	4050	3650					
407	4600	4350	4150					
295	5000	4800	4600					
640	5200	4950	4750					
527	5600	5250	5050					
415	5800	5800	5450					
760	5800	5800	5650					
647	5800	5800	5800					
535	5800	5800	5800					

Wide beam load/span tables

FLOOR SELF-WEIGHTS		
CENTRES	BLOCKS @ 650KG/M³	BLOCKS @ 1350KG/M³
S 570	1.92kN/m²	2.41kN/m²
S 458	2.06kN/m²	2.52kN/m²
S 345	2.30kN/m²	2.70kN/m²
D 740	2.33kN/m²	2.71kN/m²
D 628	2.52kN/m²	2.85kN/m²
D 515	2.78kN/m²	3.04kN/m²
T 910	2.60kN/m²	2.90kN/m²
T 798	2.78kN/m²	3.04kN/m²
T 685	3.02kN/m²	3.22kN/m²



INFILL BLOCK	440 x 215 x 100 (1350kg/m³)		440 x 215 x 100 (2000kg/m³)	440 x 215 x 100 (2000kg/m³)
LIVE LOAD	1.5kN/m² Domestic		2.5kN/m²	4.0kN/m²
	Figures below are MAXIMUM permissible CLEAR SPANS in millimetres (i.e. between supports)			
	75mm Screed		75mm Screed	75mm Screed
CASE 1				
570	6250		5600	4850
458	6550		6150	5350
345	6550		6550	6050
740	6550		6550	5850
628	6550		6550	6250
515	6550		6550	6550
910	6550		6550	6550
798	6550		6550	6550
685	6550		6550	6550
CASE 2	STUDWORK PARTITIONS @ 1.0kN/m²		STUDWORK PARTITIONS @ 1.0kN/m²	STUDWORK PARTITIONS @ 1.0kN/m²
570	5600		5100	4500
458	6100		5600	4950
345	6550		6350	5650
740	6550		6150	5450
628	6550		6550	5850
515	6550		6550	6400
910	6550		6550	5950
798	6550		6550	6550
685	6550		6550	6550
CASE 3	DOMESTIC GARAGE IMPOSED LOAD 2.5kN/m² OR 10kN CONCENTRATED LOAD			
	650kg/m³ (75mm Screed)			
570	5350	–	–	–
458	5850	–	–	–
345	6350	–	–	–
740	6350	–	–	–
628	6550	–	–	–
515	6550	–	–	–
910	6550	–	–	–
798	6550	–	–	–
685	6550	–	–	–

- In our design process the wider beam can be fully interchangeable with the standard beam in the same floor.
- The wider beam provides a superior design for larger span floors replacing the need for double or triple beams.
- Wider beams mean faster installation due to; fewer units to lift, simpler layouts and less grouting required

ONLY ONE FORMULA TO REMEMBER:

WIDER BEAMS EQUALS

BETTER VALUE FLOORS

#### HEAD OFFICE

Kiveton Park, Kiveton Park Station, Sheffield S26 6NP

T: 0333 999 2220

E: [supreme.sales@ibstock.co.uk](mailto:supreme.sales@ibstock.co.uk)

[www.supremeconcrete.co.uk](http://www.supremeconcrete.co.uk)



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- Policies and certificates

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Supreme is an Ibstock Plc company.

