Super 15

Besblock

It's not what we put in.

It's what we take out!

Only 18kg*
Lighter than traditional solid alternatives

Easy to handle

Superior fixing to that of solid block

Super 15

It's not what we put in. It's what we take out!

The new 140mm Super 15 building block from Besblock has been designed and manufactured with superior fixing, structural stability and easy handling features built-in, and at 18kg* it comes in lighter than it's solid counterparts.

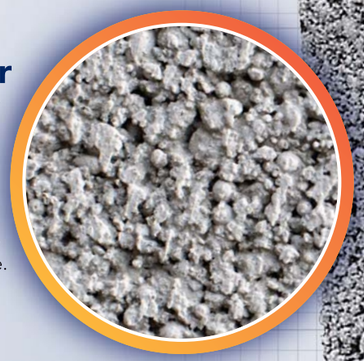
Besblock

Increased Payload

15% more payload reduces environmental impact.

Superior Fixing & Stability

For superior fixing quality, and longer lasting stability the Super 15 is equally strong as it's solid equivalent.



Greater Sustainability

Using 15% less material than it's solid equivalent, these blocks gain environmental credentials through reduced energy and water usage during manufacture.

Lighter at 18kg*

The block is easier to handle and **at just 18kg* it's lighter** than it's solid counterparts.

Structural Stability

At 3.6N/mm² 5.2N/mm² 7.3N/mm² 10.4N/mm² our rigorous testing dispels common industry misconceptions.

The cellular Super 15 has been proven to equal the structural stability of the solid block.

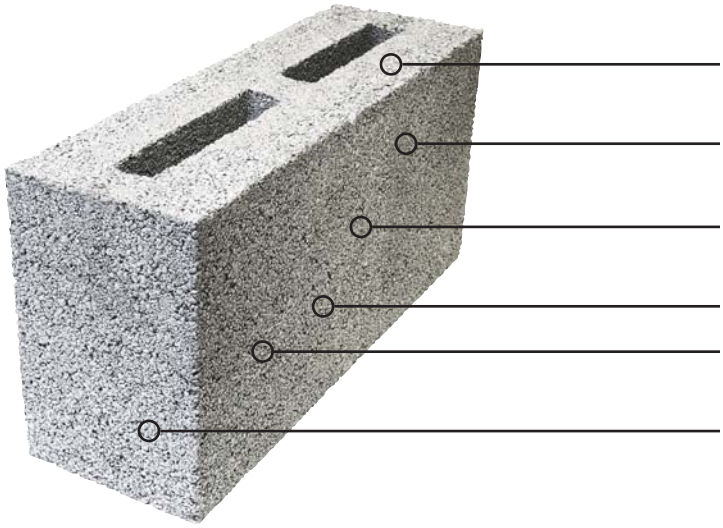
Colour

Super 15 comes in a very soft, light grey that adds pleasing aesthetics to it's list of qualities.

For more information contact
Besblock Technical Services on **01952 685000**

* 18kg is an approximate weight. All information is correct at the time of publishing November 2011.

Technical Specification



Plaster Direct. No special precautions or surface preparations required

Still air trapped in voids dramatically improves thermal and acoustic performance

Wall thickness of 55mm makes for excellent fixing characteristics

Lightweight – sub 20kgs

Solid mortar bed. Blocks should be laid voids down

Available in standard and paint grade textures

Specification

Unit weight at 3% moisture (approx)	18.1 Kg
Weight / m^2 laid (approx)	188 Kg/m^2
Net density of unit (approx)	1367 Kg/m^3
Concrete density (approx)	1550 Kg/m^3
Effective Lambda value	0.369 W/mK
Thermal resistance	0.379 m^2K/W
Compressive strength*	3.6N/mm^2 : 7.3N/mm^2 : 10.4N/mm^2 Category 1
Void percentage	15.4%
Moisture movement	0.8 mm/m
Number per pack	6 m^2
Thickness of shell	55 mm
Manufacturing category	BS EN 771-3:2003 Category 1
Finishes available	Standard & paint grade
Sound Insulation weighted sound reduction index single skin wall	
Blocks laid fair faced both sides	Rw = 49 dB
Blocks 12.5mm plasterboard on dabs on both sides of the wall	Rw = 52 dB
Blocks 13mm 2 coat lightweight plaster on both sides of the wall	Rw = 50 dB
Weighted Sound Absorption Coefficient	0.3 αW

Recorded Air Leakage

AIR LEAKAGE AT 50 PASCALS	
Block type 140mm "15"	**$m^3.h^{-1}.m^{-2}$**
Bare block	3.17
Painted block	0.072

* Note: The compression test is taken over the whole bed area of the block, including the voids, as if the block were solid.

Structural Stability 140mm Super 15

Characteristic compressive strength fk in N/mm²

CONSTRUCTED WITH 140MM "15" BLOCKS				
Mortar strength class/designation	**Comprehensive strength of block N/mm²**			
	3.6	**5.2**	**7.3**	**10.4**
M12 / (i)	2.90	4.17	5.67	7.3
M6 / (ii)	2.90	4.17	5.40	7.0
M4 / (iii)	2.90	4.17	5.6	6.8
M2 / (iv)	2.90	3.67	4.7	5.8

Characteristic flexural strength fkx, N/mm²

FAILURE PARALLEL TO BED JOINT			
Mortar strength class/designation	**M 12 (i)**	**M 6 & M 4 (ii) & (iii)**	**M 2 (iv)**
Comprehensive strength of block (N/mm²)			
3.6	0.22	0.22	0.17
7.3	0.22	0.22	0.17
10.4	0.25	0.25	0.20

FAILURE PERPENDICULAR TO BED JOINT			
Mortar strength class/designation	**M 12 (i)**	**M 6 & M 4 (ii) & (iii)**	**M 2 (iv)**
Comprehensive strength of block (N/mm²)			
3.6	0.39	0.39	0.35
7.3	0.53	0.53	0.45
10.4	0.75	0.75	0.60

All structural information calculated as required by BS 5628-1:2005

Paint Quality

The texture remains consistent throughout the manufacture as a result of the aggregate ingredients being batched by volume rather than by weight. (Whilst texture will be consistent, minor colour shade variations may be present).

Superior Fixing

Besblock

Fixing to cellular & hollow blocks

There is a common misconception within industry that solid blocks will accept and provide a stronger and more rigid fixing than will cellular blocks (blocks containing voids).

As one of the UK's foremost manufacturers of cellular blocks we have always suspected that there is little physical foundation or evidence to support this theory.

Recent comparative tests have been conducted for both Tensile and Shear on 440mm x 215mm x 140mm Besblock Medium Density paint grade blocks in both solid and cellular super 15 formats. M8 Anchor Shield plugs incorporating a projection bolt were used for the tests.

Tensile tests conducted in accordance with the requirements of BS 5080: Part 1: 1993.

Shear tests conducted in accordance with the requirements of BS 5080: Part 2: 1986.

The tests were conducted by CERAM Research Ltd. CERAM is a UKAS accredited laboratory. The face size of the blocks tested was 440mm x 215mm.

M8 Anchor Shield Plug

Shear Test on test specimen

SUMMARY OF RESULTS: TENSILE STRENGTHS (MEAN OF 5)		
Block type	**Max Load (Kn)**	**Max Load (Kg)**
140mm Solid	4.21	429
140mm Cellular "15"	8.50	863

SUMMARY OF TEST RESULTS: SHEAR TESTS (MEAN OF 5)		
Block type	**Max Load (Kn)**	**Max Load (Kg)**
140mm Solid	6.04	615.7
140mm Cellular "15"	6.87	699

As can be seen, 140mm cellular "15" block provides a superior performance in these fields to that it's solid counterpart. The reasons for this are as follows.

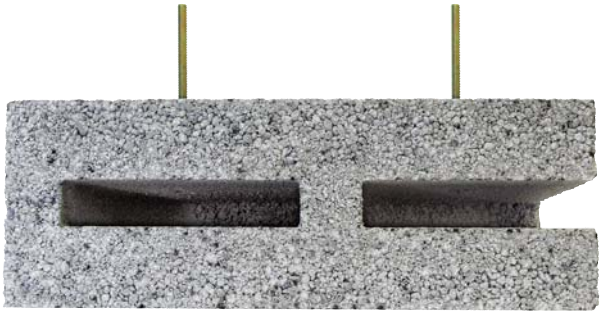
Installation of fixings prior to Tensile Strength Test

The strength of the concrete and it's ability to retain fixings will depend on the concrete mix and it's cement content. Very importantly however, the efficiency of the block machine and how it vibrates and binds the concrete mix together will determine the final strength performance of the concrete product.

At Besblock we employ American Columbia block machines. These are world renowned for their unicontrolled vibration systems.

Where cellular blocks are being manufactured, case hardened steel core bars will be present in the steel mould box. When the vibration is applied, the concrete mix therein will be forced against the outer constraints of the mould box, but also against the core bars within the mould, thereby receiving compaction from 4 sides.

As a result, the concrete contained in the cellular block will have greater density than it's equivalent in solid format thereby providing greater strength.



Test specimen showing M8 Anchor Shield Plug affixed prior to test

Fire Resistance

This product is manufactured from Class 1 fire resistant aggregate as defined By BS 5628 Part 3.

Notional fire resistance Besblock 140mm Super 15.

Single leaf wall resisting fire from one side at a time.

WALL LOAD BEARING		
Finish to wall		
None	SC/SG	VG
2 hrs	2 hrs	2 hrs

WALL NON-LOAD BEARING		
Finish to wall		
None	SC/SG	VG
3 hrs	4 hrs	4-5 hrs

For more information see BS 5628-3 2005 5.8 Fire resistance.

Besblock

For more information on Super 15 or any other blocks in our range contact us at:
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Besblock is BS EN ISO 14001:2004 accredited