

# ULTRALITE

Low Density Lightweight Aggregate Blocks

- ISO 9001 Quality Assured
- ISO 14001 Environmentally Certified
- Manufactured to BS EN 771-3



Ultralite blocks offer the builder a low weight, loadbearing block with enhanced thermal properties suitable for a wide range of applications.

Ultralite blocks are manufactured from expanded clay aggregates and all sizes weigh less than 20kg.



## TECHNICAL PROPERTIES

Property	Value
Face Size (BS EN 771-3):	440 x 215mm
Dimensional Tolerance (BS EN 772-16):	Category D1
Gross Dry Density (BS EN 772-13):	950 - 1050 kg/m <sup>3</sup>
Mean Compressive Strength (BS EN 772-1):	3.6, 7.3 N/mm <sup>2</sup>
Manufacturing Category (BS EN 771-3):	Category II
Thermal Conductivity (BS EN 1745):	0.32 W/mK (protected inner leaf) 0.34 W/mK (exposed outer leaf)
Moisture Movement (BS EN 772-14):	< 0.6 mm/m
Fire Resistance (BS EN 13501-1):	Class A1 reaction to fire
Configuration (BS EN 1996-1-1):	Solid - Group 1
Available Texture, Finish:	Standard texture only

## PHYSICAL PROPERTIES

Block Size mm	'R' Value m <sup>2</sup> k/W	Walled Weight kg/m <sup>2</sup> See Note 1	Sound Reduction R <sub>w</sub> , dB See Note 2	Block Weight kg See Note 3	Fire Resistance Hours See Note 4
90	0.36	86	42	9.8	4
100	0.40	96	43	10.7	6
140	0.56	134	46	14.6	6

1. Walled weight is for a single-leaf wall, plastered both sides.
2. Sound reduction R<sub>w</sub> values are based on wall assuming a plastered finish both sides.
3. Block weights quoted above are approximate and include the typical additional weight from the natural moisture content although this can vary slightly.
4. Fire resistance periods to BS 5628-3 for a single-leaf, non-loadbearing plastered wall.

## APPLICATIONS

- Inner & outer leaf of external cavity walls up to 3 storeys (7.3N strength only).
- Internal partition walls.
- Acoustic separating party walls to Part E of the Building Regulations.
- Standard texture finish provides an excellent surface for mortars, renders and plasters.
- Low weight, safer handling, easy to cut, accepts most standard fixings.
- BRE Green Guide A+ rated walls.

## PACK DETAILS

Block Size mm	Blocks per pack	m <sup>2</sup> per pack
90	80	8.0
100	72	7.2
140	48	4.8

Pack details may vary slightly between manufacturing locations. Always check details with your nearest sales office.

NBS Clauses for our concrete block products can be found on [www.ribaproductselector.com](http://www.ribaproductselector.com)

NBSPlus

## Thermal

The table below shows examples of how cavity walls built with an Ultralite block inner leaf can meet a range of u-value targets. For specific calculations, please contact our technical department.

U Value W/m <sup>2</sup> K	Partially Filled Cavity Brick outer leaf   50mm clear cavity   plasterboard on dabs	Fully Filled Cavity Brick outer leaf   Fully filled cavity   plasterboard on dabs
0.28	50mm Kingspan / Celotex	100mm Dritherm 37
0.25	60mm Kingspan / Celotex	100mm Dritherm 32
0.22	70mm Kingspan / Celotex 65mm Kingspan K8	125mm Dritherm 34
0.20	80mm Kingspan / Celotex 70mm Kingspan K8	125mm Springvale Platinum or Plustherm
0.18	90mm Kingspan / Celotex 85mm Kingspan K8	100mm Xtratherm Cavitytherm
0.15	115mm Kingspan / Celotex 105mm Kingspan K8	100mm Xtratherm Cavitytherm + 25mm Thermaline Super drylining

## Acoustic

Ultralite blocks are suitable for use in acoustic separating party walls between dwellings and for internal partitions in accordance with Part E of the Building Regulations. The figures below are predicted sound reduction ratings based on wall mass:

Block Thickness mm	Walled Weight kg/m <sup>2</sup>	Predicted Sound Reduction, R <sub>w</sub>		
		Unfinished	Plastered	Dry Lined
90	86	41	42	42
100	96	42	43	43
140	134	45	46	46

## Below Ground

All of our aggregate and dense concrete blocks are durable products which are suitable for use in soil conditions up to Design Sulphate class DS-3 as defined in BRE Digest Special Digest 1. Ultralite blocks of 7.3N/mm<sup>2</sup> strength must be used below dpc. Lower strength blocks are not suitable for this application.

## Suspended Block & Beam Floors

Ultralite blocks are not recommended for use as infill blocks in block and beam floors. We recommend using Insulite or solid Dense concrete blocks for these applications.

## Fire Resistance

Ultralite blocks are non-combustible with zero spread of flame and are classed as category 'A1' in accordance with BS EN 13501-1. Notional fire resistance periods are:

Block mm	Loadbearing Wall		Non-loadbearing Wall	
	No Finish	VG Plaster	No Finish	VG Plaster
90	1 hour	2 hours	2 hours	4 hours
100	2 hours	4 hours	2 hours	6 hours
140	3 hours	4 hours	4 hours	6 hours

"VG" = vermiculite / gypsum plaster or perlite plaster 13mm thick applied to both faces of single leaf walls.

## Mortars

Ultralite block surfaces offer an excellent surface for accepting mortars and no pre-treatment is required other than ensuring that all dirt and debris is removed. Generally, in order to avoid unsightly cracking, the weakest mortar mixture appropriate to the structural requirements should be selected as per BS 5628-3. For most applications, we recommend that grade iii mortar is used.

		BS 5628-3 Mortar Class	Recommended mix proportions of materials by volume (as per BS 5628-3)
Above dpc	iii	1 : 1 : 5 to 6 1 : 5 to 6 1 : 4 to 5 1 : 3½ to 4	Cement : Lime : Sand Cement : Sand Masonry Cement : Sand (with non-lime filler) Masonry Cement : Sand (with lime filler)
		<i>A stronger (class ii) mix is preferred - see below</i>	
Below dpc	ii	1 : ½ : 4 to 4½ 1 : 3 to 4 1 : 2½ to 3½ 1 : 3½ to 4	Cement : Lime : Sand Cement : Sand Masonry Cement : Sand (with non-lime filler) Masonry Cement : Sand (with lime filler)

## External Rendering

Ultralite blocks have an open, standard texture which provides an excellent key for adhesion. These blocks have moderate suction and no special pre-treatment of the wall is required other than ensuring that all dirt and debris is removed from the surface.

Traditional renders should be applied in 2 coats. The first coat should not exceed 15mm and the second coat should be 5 - 7mm. The first coat should be slightly stronger than the second coat. Render designation iii/M4 should be used, recommended proportions:

Cement : Lime : Sand With or without air entrainment	Cement : Sand With or without air entrainment	Masonry Cement : Sand With non-lime filler	Masonry Cement : Sand With lime filler
1 : 1 : 5 or 6	1 : 5 or 6	1 : 4 or 5	1 : 3½ to 4

## Wall Ties & Movement Joints

Generally under normal conditions, wall ties should be embedded 50mm into the mortar on each leaf, staggered in alternate courses and spaced in accordance with the following:

Leaf Thickness mm	Cavity Width mm	Horizontal Spacing mm	Vertical Spacing mm	Ties per m <sup>2</sup>
Less than 90mm	50 - 75	450	450	4.9
Over 90mm	50 - 150	900	450	2.5

For unreinforced masonry panels, the typical recommended spacing between vertical movement joints is as follows:

Internal Walls: 8m – 12m      External Walls: 6m – 9m

## Good Site Practice & Safe Handling

- Packs should be stored on firm, level ground no more than 2 packs high and protected from severe weather to preserve their quality. Care must be taken when removing the plastic bands as individual blocks may fall out. Never un-band packs above shoulder height.
- For blocks above 20kg, manual handling precautions must be taken on site. See HSE Construction Information Sheet 37 (CIS 37).
- Blocks should not be laid if the temperature is at or below 3°C and falling.
- Blocks should always be laid on a full bed of mortar and vertical joints filled.
- Do not wet the blocks before laying. Where necessary, adjust the consistency of the mortar to suit the suction of the block.



Product details and availability may vary between manufacturing locations. Please contact your nearest regional sales office for sales, product and technical advice.

Whinfield Road, Rowlands Gill, Newcastle upon Tyne. NE39 1EH :  
 Pickhill, Thirsk, North Yorkshire. YO7 4JQ :  
 Blackdyke, Silloth, Cumbria. CA7 4PD :  
 Bridge Road, Brompton on Swale, Richmond, North Yorkshire. DL10 7HW :  
 Unit G1, Park Road, Blackhill, Consett, Co Durham. DH8 5SP :  
 Stocks Blocks Ltd, Knowsthorpe Gate, Cross Green, Leeds. LS9 0NP :  
 William Rainford Holdings Ltd, Heysham Road, Aintree, Merseyside. L30 6UF :  
 Barnetts of Buglawton Ltd, Brook Street, Congleton, Cheshire. CW12 1RH :  
 Lakeland Pavers, Ltd, North Lakes Business Park, Flusco, Penrith. CA151 0JB :

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 Tel: 01900 68114  
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