



Airtec Seven blocks are scored at one end with a vertical line to help identification

## TECHNICAL PROPERTIES

Property	Value
Face Size (BS EN 771-4):	620mm x 215mm
Dimensional Tolerance (BS EN 772-16):	TLMB
Gross Dry Density (BS EN 772-13):	730 kg/m <sup>3</sup>
Mean Compressive Strength (BS EN 772-1):	7.3 N/mm <sup>2</sup>
Manufacturing Category (BS EN 771-4):	Category I
Thermal Conductivity (BS EN 1745):	0.17 W/mK [inner leaf] 0.19 W/mK [outer leaf]
Moisture Movement (BS EN 771-4):	0.40 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

## 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 Rw, dB See Note 2	Block Weight kg See Note 3	Fire Resistance Hours See Note 4
100	0.59	82	44	10.0	4
140	0.82	115	47	14.0	4
190	1.12	155	51	19.0	4
215	1.26	176	52	21.5	4

- Walled weight is for a single-leaf wall, plastered on both sides.
- Sound Reduction Rw values are based on wall mass and assumes a plastered finish on both sides.
- The block weights quoted above are approximate and include the typical additional weight from the equilibrium (3%) moisture content of the block. Received block weights will be significantly higher and are variable due to moisture content.
- Fire resistance periods to BS EN 1996-1-2 for a single-leaf, non-loadbearing plastered wall.

# AIRTEC SEVEN

## 7.3N Aerated Concrete Blocks

Airtec Seven 7.3N aerated concrete block combine excellent thermal insulation properties with a compressive strength suitable for use in multi-storey construction. Weighing as little as 10.0kg for a 620mm long block and with the best possible dimensional category of 'TLMB', they offer unrivalled physical and technical properties.

All Airtec blocks are manufactured from high quality materials, consisting of up to 80% recycled raw material and are suitable for use above and below damp-proof course.

Airtec blocks are manufactured to BS EN 771-4 category I manufacturing, BBA certified and are ISO 9001 Quality Assured, ISO 14001 Environmentally Certified and hold BES 6001 Responsible Sourcing.



## APPLICATIONS

- Inner & outer leaf of external cavity walls.
- Internal partition walls.
- Part E and Robust Standard Detail Party Walls
- Block & Beam floor infill.
- Standard texture finish provides an excellent surface for mortars, renders and plasters.
- Suitable for use below dpc up to DS3 and MX2.2
- Low weight and 620mm long meaning faster, safer block laying.
- Suitable for both conventional 10mm and Thin-Joint mortar construction.

## PACK DETAILS

Block Size mm	Blocks per pack	m <sup>2</sup> per pack	Weight per Pack kg	Blocks per m <sup>2</sup>
100	56	7.94	686	7.05
140	40	5.67	686	7.05
190	32	4.54	746	7.05
215	28	3.97	738	7.05

The m<sup>2</sup> per pack shown above includes the 10mm conventional mortar joint. Figures will be less if using thin-joint mortar by approximately 4.8%.

Some block sizes and strengths are made to order. Please check with our sales office on block availability as far in advance as possible before the blocks are required.

Thermal

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

U Value W/m²K	Partially Filled Cavity Brick outer leaf   50mm clear cavity   plasterboard on dabs	Fully Filled Cavity Brick outer leaf   Fully filled cavity   plasterboard on dabs
0.25	45mm PIR/PU @ 0.018 55mm PIR/PU @ 0.022	100mm batt @ 0.032
0.22	55mm PIR/PU @ 0.018 65mm PIR/PU @ 0.022	125mm batt @ 0.034
0.20	60mm PIR/PU @ 0.018 75mm PIR/PU @ 0.022	125mm batt @ 0.030
0.18	70mm PIR/PU @ 0.018 85mm PIR/PU @ 0.022	100mm batt @ 0.021
0.15	90mm PIR/PU @ 0.018 110mm PIR/PU @ 0.022	100mm batt @ 0.021 + 25mm insulated drylining

Note: Insulation thicknesses shown are the minimum required to meet the target u-value. These sizes may not be available, therefore the next size up should be used.

Acoustic

Airtec Seven blocks are suitable for Part E and Robust Standard Details party walls and internal partition walls. The figures below are predicted sound reduction ratings based on wall mass:

Block Type All 100mm	Walled Weight kg/m²	Predicted Sound Reduction, Rw		
		Unfinished	Plastered	Dry Lined
100mm	82	41	44	44

Exposure and Below Ground

Airtec Seven blocks are suitable for use below dpc in soil conditions DS1, DS2 and DS3 as defined in BRE Special Digest 1 and condition MX2.2 as defined in BS EN 1996-2 : 2006.

Suspended Block & Beam Floors

Airtec Seven wall blocks are suitable for use as infill blocks in block and beam suspended floors. Either wall blocks or Airtec Large Format blocks can be used offering multiple width options.

Fire Resistance

Airtec blocks are non-combustible with zero spread of flame and are classed as Class ‘A1’ in accordance with BS EN 13501-1. Notional fire resistance periods based on BS EN 1996-1-2 are:

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

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

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.
- In the absence of a revised version of the HSE guidance given in their withdrawn Construction Sheet 37 ' Handling Building Blocks' the following principles should be followed: There is a risk of injury in the repetitive handling of blocks heavier than 20kg. Repetitive manual handling of blocks over 20kg should be subject to a risk assessment and a safe system of work should be established before block-laying commences.
- 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.

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

Mortars

Airtec blocks offer a good surface for accepting mortars. On dry blocks, surfaces can be brushed with clean water immediately before applying mortar to overcome the suction. The preferred approach is to adjust the consistency of the mortar to suit the suction of the block. The weakest mortar mixture appropriate to the structural requirements should be selected as per BS 5628-3. A weaker mix should always be used with Airtec blocks.

	Mortar Class BS EN 1996-1-1	Recommended mix proportions of materials by volume (as per BS EN 998-2)	
Above dpc	(iii) M4	1 : 1 : 5½ to 6 1 : 5½ to 6 1 : 4½ to 5	Cement : Lime : Sand Cement : Sand (with plasticiser) Masonry Cement : Sand
Below dpc	(ii) M6	1 : ½ : 4 to 4½ 1 : 3½ to 4	Cement : Lime : Sand Cement : Sand

Airtec is suitable for Thin Joint mortar construction using mortar supplied in the form of 25kg bags of dry, pre-mixed powder. Mixing is simply done by adding water to the powder in accordance with the manufacturer’s instructions. Please visit our website for further details.

External Rendering

Airtec blocks have moderate-high suction and brushing dry blocks with water immediately prior to adhesion is recommended. For even greater adhesion, a spatterdash or stipple undercoat may be used - please refer to our website for further details. Pretreatments such as RendAid may be used and metal lathing plus an additional coat should be used to reinforce the render where movement control has not been incorporated into the wall.

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.

Cement : Lime : Sand Sheltered to Moderate Conditions	Cement : Lime : Sand Moderate to Severe conditions	Cement : Sand with plasticizer Sheltered to Moderate Conditions	Masonry Cement : Sand Moderate to Severe conditions
1 : 2 : 9	1 : 1 : 6	1 : 6	1 : 5

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 m²
Less than 90mm	50 - 75	450	450	4.9
Over 90mm	50 - 150	900	450	2.5

For unreinforced Airtec masonry panels, movement joints should be placed at intervals of no greater than 6m and within 3m of a corner. Additional wall ties should be placed around openings and each side of movement joints at each course. In wall areas of higher stress such as around openings, joists or lintels, bed-joint reinforcement must be placed in the two courses immediately above and below the area to accommodate movement and stresses and to avoid the appearance of hairline cracks.

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