



AIRTEC LARGE WALL

Large Format Airtec Aerated Concrete Blocks

Airtec Large wall blocks have a 430mm coursing height to offer a faster build, using fewer mortar joints resulting in improved thermal insulation and increased airtightness when built with thin-joint mortar. Weighing as little as 16.5kg for a 430mm x 620mm 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 90% 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 'Excellent' Responsible Sourcing.

TECHNICAL PROPERTIES

Property	Airtec Standard 3.6N	Airtec Seven 7.3N
Size L x W x H (BS EN 771-4):	620mm x 100mm x 430mm	
Dimensional Tolerance (BS EN 772-16):	TLMB	
Gross Dry Density (BS EN 772-13):	530 (±50) kg/m ³	730 (±50) kg/m ³
Mean Compressive Strength (BS EN 772-1):	3.6 N/mm ²	7.3 N/mm ²
Manufacturing Category (BS EN 771-4):	Category I	
Thermal Conductivity (BS EN 1745):	0.11 W/mK [inner leaf] 0.13 W/mK [outer leaf]	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	



APPLICATIONS

- Inner & outer leaf of external cavity walls. Not suitable for unfinished external applications.
- Internal partition walls.
- Standard texture finish provides an excellent surface for mortars, renders and plasters.
- Low weight 430mm high and 620mm long meaning faster, safer block laying.
- Suitable for 2-3mm Thin-Joint mortar construction.
- Part E and Robust Detail party walls (7.3N strength grade only).
- Use as infill in block & beam floors (refer to Airtec Large Floor datasheet).

PHYSICAL PROPERTIES

Block Type	'R' Value m ² k/W	Walled Weight kg/m ² See Note 1	Sound Reduction R _w , dB See Note 2	Block Weight kg See Note 3	Fire Resistance Hours See Note 4
Standard 3.6N	0.91	61	39	16.5	4
Seven 7.3N	0.59	78	41	21.8	4

1. Walled weight is for a single-leaf wall, plastered both sides.
2. Sound reduction R_w values are based on wall assuming a plastered finish both sides.
3. The block weights quoted above are approximate and include the typical additional weight from the moisture content.
4. Fire resistance periods to BS EN 1996-1-2 for a single-leaf, non-loadbearing plastered wall.

PACK DETAILS

Block Type	Blocks per pack	m ² per pack	Weight per Pack kg	Blocks per m ²
Standard 3.6N	28	7.47 *	564	3.61
Seven 7.3N	28	7.47 *	660	3.61

- * The m² per pack figure DOES NOT include allowance for the mortar joint - this figure is for the block only.

Thermal

The use of Airtec Large Format blocks in conjunction with thin-joint mortar reduces the mortar fraction by 87% when compared to conventional 10mm mortar joints in 215mm coursing walls. The result of this is an improvement in thermal insulation in the wall and improvement in overall wall u-values. Below are examples of u-values using Airtec Standard 3.6N Large blocks. For more example u-values please visit our website.

U Value W/m ² 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	30mm PIR/PU @ 0.018 35mm PIR/PU @ 0.022	85mm blown
0.25	40mm PIR/PU @ 0.018 45mm PIR/PU @ 0.022	100mm batt @ 0.037
0.22	50mm PIR/PU @ 0.018 60mm PIR/PU @ 0.022	100mm batt @ 0.032 125mm batt @ 0.037
0.20	55mm PIR/PU @ 0.018 65mm PIR/PU @ 0.022	125mm batt @ 0.034
0.18	65mm PIR/PU @ 0.018 80mm PIR/PU @ 0.022	100mm batt @ 0.030
0.15	85mm PIR/PU @ 0.018 100mm PIR/PU @ 0.022	100mm batt @ 0.021 + 20mm insulated dryinglin

Acoustic

For Part E and Robust Detail separating and party walls using large-format blocks, only Airtec Large 7.3N blocks are recommended. Standard format 215mm high Airtec Party Wall and Airtec Seven blocks are also suitable for Part E and Robust Detail party walls - see individual datasheets for these products.

Below Ground

Airtec Standard blocks are suitable for use below dpc in soil conditions DS1 & DS2 as defined in BRE Digest Special Digest 1 and condition MX3.2 as defined in BS EN 1996-2 : 2006.

Airtec Seven blocks are suitable for use below dpc in soil conditions DS1, DS2 & DS3 as defined in BRE Digest Special Digest 1 and condition MX3.2 as defined in BS EN 1996-2 : 2006.

Suspended Block & Beam Floors

Airtec Large Standard and Seven blocks are suitable for use as infill blocks in block and beam suspended floors either 430mm or 620mm spacing. Refer to Airtec Large Floor datasheet.

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 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

"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.

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.

	BS 5628-3 Mortar Class	Recommended mix proportions of materials by volume (as per BS 5628-3)	
Above dpc	iii	1 : 1 : 6 1 : 6 1 : 5	Cement : Lime : Sand Cement : Sand (with plasticiser) Masonry 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 m ²
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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Product details and availability may vary between manufacturing locations. Please contact your nearest regional sales office for sales, product and technical advice.

North East Region :

Tel: 01207 544 214

Fax: 01207 541 800

blocks@thomasarmstrong.co.uk

Cumbria, North Lancashire and Borders Region :

Tel: 01900 68114

Fax: 01900 66136

cumbriablocks@thomasarmstrong.co.uk

Yorkshire, Humber and Lincolnshire Region :

Tel: 0113 232 0022

Fax: 0113 287 0839

stocks.sales@thomasarmstrong.co.uk

North West, Cheshire, Saffordshire and West Midlands Region :

Tel: 0151 525 5991

Fax: 0151 530 1676

wrainford@thomasarmstrong.co.uk