

- Manufactured to BS EN 771-4
- ISO 9001 Quality Assured
- ISO 14001 Environmentally Certified
- BBA Certified, Category I Manufactured



Airtec blocks possess unrivalled technical properties and physical characteristics. They have the lowest available thermal conductivity values of any UK manufactured block and meet the tightest possible dimensional tolerance designation TLMB (Thin Layer Mortar B).



All Airtec blocks are BBA certified, manufactured to Category I standard, ISO 9001 Quality assured and ISO 14001 Environmentally accredited.



TECHNICAL PROPERTIES

| | Airtec XL | Airtec Standard | Airtec Party Wall | Airtec Seven | Airtec Ten |
|--|-----------|-----------------|-------------------|--------------|------------|
| Gross Dry Density, kg/m ³ | 460 | 530 | 600 | 730 | 790 |
| Mean Compressive Strength, N/mm ² | 2.9 | 3.6 | 3.6 | 7.3 | 8.7 |
| Thermal Conductivity Protected Inner Leaf W/mK | 0.09 | 0.11 | 0.13 | 0.17 | 0.19 |
| Available Thicknesses, mm | 100 - 215 | 100 - 215 | 100 | 100 - 215 | 100 - 140 |
| Suitable for block & beam floor infill | | | | ● | ● |
| Large Format blocks available | | ● | | ● | |
| Solid Foundation blocks available | | ● | | ● | ● |

BLOCK DIMENSIONS (L x H x W)

Wall Blocks:

620mm x 215mm x (100, 115, 125, 140, 190, 215)

Large Format Block

620mm x 430mm x 100mm

140 Foundation Blocks

620mm x 140mm x (275, 300, 350)

215 Foundation Blocks

620mm x 215mm x (260, 275, 300)

Brickettes

215mm x 65mm x (100, 115, 125, 140)

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.

PHYSICAL PROPERTIES (selected wall blocks; please refer to our online Airtec Brochure for full details)

| Block Type | Block Thickness mm | 'R' Value m ² K/W | Walled Weight kg/m ² See Note 1 | Sound Reduction Rw, Db See Note 2 | Block Weight kg See Note 3 | Fire Resistance Hours See Note 4 | Blocks per pack | m ² per pack See Note 5 |
|-------------------------|--------------------|------------------------------|--|-----------------------------------|----------------------------|----------------------------------|-----------------|------------------------------------|
| Airtec XL 2.9N | 100 | 1.11 | 54 | 39 | 6.3 | 4 | 56 | 7.94 |
| | 140 | 1.56 | 76 | 41 | 8.8 | 4 | 40 | 5.67 |
| Airtec Standard 3.6N | 100 | 0.91 | 61 | 40 | 7.3 | 4 | 56 | 7.94 |
| | 140 | 1.27 | 85 | 42 | 10.2 | 4 | 40 | 5.67 |
| Airtec Seven 7.3N | 100 | 0.59 | 79 | 42 | 10.0 | 4 | 56 | 7.94 |
| | 140 | 0.82 | 111 | 44 | 14.0 | 4 | 40 | 5.67 |
| Airtec Ten 8.7N | 100 | 0.53 | 85 | 42 | 11.0 | 4 | 56 | 7.94 |
| | 140 | 0.74 | 119 | 45 | 15.4 | 4 | 40 | 5.67 |
| Airtec Party Wall Block | 100 | 0.77 | 67 | 40 | 8.2 | 4 | 56 | 7.94 |
| Large Format 3.6N Block | 100 | 0.91 | 59 | 39 | 16.5 | 4 | 28 | 7.47 |

FOUNDATION BLOCKS

| Foundation Block Size | Blocks per pack | m ² per pack See Note 5 |
|-----------------------|-----------------|------------------------------------|
| Airtec 3.6N 275 x 140 | 30 | 2.84 |
| Airtec 3.6N 300 x 140 | 30 | 2.84 |
| Airtec 3.6N 350 x 140 | 24 | 2.27 |
| Airtec 7.3N 275 x 140 | 30 | 2.84 |
| Airtec 7.3N 300 x 140 | 30 | 2.84 |
| Airtec 7.3N 350 x 140 | 24 | 2.27 |
| Airtec 3.6N 275 x 215 | 20 | 2.84 |
| Airtec 3.6N 300 x 215 | 20 | 2.84 |
| Airtec 7.3N 275 x 215 | 20 | 2.84 |
| Airtec 7.3N 300 x 215 | 20 | 2.84 |

1. Walled weight is for a single-leaf wall, plastered on both sides.
2. Sound Reduction Rw values are based on wall mass and assumes a plastered finish on both sides.
3. The block weights quoted above are approximate and include the typical additional weight from the natural moisture content of the block, although this can vary slightly.
4. Fire resistance periods to BS 5628-3 for a single-leaf, non-loadbearing plastered wall.
5. Based on the inclusion of conventional 10mm mortar joints except for the Airtec Large Format block.

NBS Clauses for our concrete block products can be found on www.ribaproductselector.com



Thermal

The table below shows examples of how cavity walls built with an Airtec XL 2.9N block inner leaf can meet a range of u-value targets. For specific calculations, please contact our technical department.

| 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 | 35mm Kingspan / Celotex | 90mm Blown Rockwool |
| 0.25 | 45mm Kingspan / Celotex | 100mm Dritherm 37 |
| 0.22 | 55mm Kingspan / Celotex 50mm Kingspan K8 | 125mm Dritherm 37 or 100mm Springvale Platinum / Plustherm |
| 0.20 | 65mm Kingspan / Celotex 60mm Kingspan K8 | 125mm Dritherm 34 |
| 0.18 | 80mm Kingspan / Celotex 70mm Kingspan K8 | 125mm Dritherm 32 or 100mm Xtratherm Cavitytherm |
| 0.15 | 100mm Kingspan / Celotex 95mm Kingspan K8 | 100mm Xtratherm Cavitytherm + 20mm Thermaline Super drylining |

Acoustic

Airtec blocks are suitable for use in acoustic separating party walls and for internal partitions in accordance with Part E of the Building Regulations. Airtec Party Wall, Airtec Seven 7.3N and Airtec Ten 8.7N blocks are also suitable for a range of Robust Standard Detail party walls. The figures below are predicted sound reduction ratings based on wall mass:

| Block Type All 100mm | Walled Weight kg/m ² | Predicted Sound Reduction, Rw | | |
|-------------------------|------------------------------------|-------------------------------|-----------|-----------|
| | | Unfinished | Plastered | Dry Lined |
| 2.9N | 54 | 38 | 39 | 39 |
| 3.6N | 61 | 37 | 40 | 39 |
| Party Wall Block | 67 | 38 | 40 | 40 |
| 7.3N | 79 | 40 | 42 | 41 |

Below Ground

With the exception of Airtec XL 2.9N block, all of our Airtec 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.

Suspended Block & Beam Floors

Airtec Large Format, Airtec Seven and Airtec Ten are suitable to use as infill blocks in block and beam suspended floors and can be laid either 620mm wide or 215mm wide or 430mm wide in the case of Large Format blocks.

Fire Resistance

Airtec 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 for all Airtec grades are:

| Block mm | Loadbearing Wall | | Non-loadbearing Wall | |
|----------|------------------|------------|----------------------|------------|
| | No Finish | VG Plaster | No Finish | VG Plaster |
| 100 | 2 hours | 3 hours | 4 hours | 4 hours |
| 140 | 3 hours | 3 hours | 4 hours | 4 hours |
| 215 | 6 hours | 6 hours | 6 hours | 6 hours |

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

Mortars

Airtec block surfaces offer a good surface for accepting mortars. On dry blocks, rather than wetting the blocks we recommend adjusting 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 |
| Below dpc | A stronger mix is preferred | 1 : ½ : 4 to 4½ 1 : 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 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 |

In areas of severe exposure, metal lathing with a 3rd coat should be used to reinforce the render. Avoid cement-rich renders as they are prone to increased drying shrinkage.

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.

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, Ninelands Lane, Garforth, Leeds, West Yorks. LS25 1NT :
 William Rainford Holdings Ltd, Heysham Road, Aintree, Merseyside. L30 6UF :
 Barnetts of Buglawton Ltd, Brook Street, Congleton, Cheshire. CW12 1RH :

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