THOMAS ARMSTRONG (CONCRETE BLOCKS) LTD



INSULITE PREMIER

Medium Density Paint-Grade Blocks

Insulite Premier is a close-textured block whose smooth finish offers an ideal paint-grade finish. For unfinished, internal facing applications where texture and colour are critical, we recommend the use of our Dense Paint Grade Blocks.

Insulite blocks are manufactured to BS EN 771-3 and are ISO 9001 Quality Assured, ISO 14001 Environmentally Certified and hold BES 6001 Responsible Sourcing certification.

TECHNICAL PROPERTIES

Property	Value
Face Size (BS EN 771-3):	440mm x 215mm
Dimensional Tolerance (BS EN 772-16):	Category D1
Gross Dry Density (BS EN 772-13):	1450 - 1550 kg/m³
Mean Compressive Strength (BS EN 772-1):	7.3N & 10.4 N/mm²
Manufacturing Category (BS EN 771-3):	Category II
Thermal Conductivity (BS EN 1745):	0.49 W/mK [inner leaf] 0.54 W/mK [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:	Premier paint-grade

bsi. ISO 9001 Quality Management FS 665648 · ISO 14001 Environmental Management EMS 665649 · BES 6001 Responsible Sourcing of Construction Products BES 665651 BES 665634

APPLICATIONS

- Manufactured to BS EN 771-3.
- Inner leaf of external cavity walls.
- Internal partition walls.
- Acoustic separating party walls to Part E of the Building Regulations and Robust Details.
- Close-textured finish for internal painted applications; not suitable for unfinished fair-faced or external applications.
- Robust, accepts most standard fixings.

PHYSICAL PROPERTIES

Block Size mm	'R' Value m²k/W	Walled Weight kg/m² See Note 1	Sound Reduction Rw, dB See Note 2	Block Weight kg See Note 3	Fire Resistance Hours See Note 4
75	0.15	117	44	11.0	2
100	0.20	157	46	14.6	4
140	0.29	219	49	20.5	4

PACK DETAILS

Block Size mm	Blocks per pack	m² per pack
75	96	9.6
100 (Void Pack)	72 or 90 (84 or 86)	7.2 or 9.0 (8.4 or 8.6)
140 (Void Pack)	60 (56)	6.0 (5.6)

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 equilibrium (3%) moisture content of the block. Received block weights will be significantly higher and are variable due to moisture content.
4. Fire resistance periods to BS EN 1996-1-2 for a single-leaf, non-loadbearing plastered wall.

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

INSULITE PREMIER Medium Density Paint-Grade Blocks

Thermal

The table below shows examples of how cavity walls built with an Insulite Premier 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	50mm PIR/PU @ 0.018 60mm PIR/PU @ 0.022	100mm batt @ 0.030 125mm batt @ 0.037
0.22	60mm PIR/PU @ 0.018 70mm PIR/PU @ 0.022	125mm batt @ 0.032
0.20	65mm PIR/PU @ 0.018 80mm PIR/PU @ 0.022	100mm batt @ 0.021
0.18	75mm PIR/PU @ 0.018 95mm PIR/PU @ 0.022	150mm batt @ 0.030
0.15	95mm PIR/PU @ 0.018 115mm PIR/PU @ 0.022	100mm batt @ 0.021 + 30mm 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

Insulite Premier 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. They 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 Thickness mm	Walled Weight kg/m²	Predicted Sound Reduction, Rw		
		Unfinished	Plastered	Dry Lined
100	157	45	46	46
140	219	48	49	49
215 (note)	340	52	53	53

Note: 100mm blocks laid flat to form a 215mm thick wall.

Painting

Insulite Premier blocks can be painted with water or solvent-based paints. Our recommendation for the most durable finish is a solvent-based masonry paint.

Newly built walls will be damp and should be left to dry out thoroughly before applying paint. Surfaces should be free of dust and debris, and the paint applied in two coats; the first coat being thinner and left to dry before the second coat is applied. Watered-down mist coats are not recommended.

Fire Resistance

Insulite Premier 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 pearlite plaster 13mm thick applied to both faces of single leaf walls.

Mortars

Insulite Premier blocks offer a good 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.

	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

External Rendering

Insulite standard texture blocks are the preferred Insulite grade for rendering. For rendering Insulite Premier blocks the mortar joints should be raked back and a spatterdash or stipple coat of cement:sand slurry should be applied and left to cure before rendering. This increases the mechanical surface key for adhesion of the render. Please refer to our website for further details.

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 masonry panels, the typical recommended spacing between vertical movement joints for Insulite blocks is 6m for internal and external 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**

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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.

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