LIGNACRETE
PAINT GRADE CLOSE TEXTURED DENSE BLOCK

Product data updated: 14th Sep 2026

Lignacrete Paint Grade are close textured concrete blocks, which are ideal for walls that require direct decoration. Manufactured to BS EN 771- 3, these concrete blocks are tough, durable and suitable for all types of buildings.

Conventional size solid blocks are available in 100mm and 140mm thicknesses. Also available are 140mm Midi format blocks, 290mm x 215mm face size, which have been developed for ease of handling while maintaining all of the technical performance associated with conventional size solid units.

Hollow blocks are available upon request.



Specification & Application

Standards

Lignacrete Paint Grade concrete blocks are BSI Kitemarked and certified to BS EN 771-3. They are also Category 1 masonry units manufactured under a BSI certified Quality Management System, which is BS EN 9001 compliant.

Appearance

Lignacrete Paint Grade are medium grey to buff in colour. These blocks are not fair-faced and thus colour consistency is not guaranteed.

Application

For use in walls where a direct decoration finish is required e.g., emulsion paint. Walls of 210-215mm thickness are recommended to be constructed using two leaves of 100mm blocks laid back-to-back and suitably tied. This construction is known as a collar-jointed wall.

Typical locations include:

- The inner leaves of external cavity walls
- Internal walls, including fire break walls
- Separating walls

Specification

Face Size	440mm x 215mm. 290mm x 215mm (Midi blocks).
Thickness	100mm, 140mm, 215mm (hollow only)
Mean Unit Strength	7.3N/mm^2, 10.4N/mm^2
Configuration	Group 1, solid blocks. Group 2, hollow blocks.
Dimensional Tolerances	Category D1
Net Dry Density	2000 kg/m^3
Thermal Conductivity	1.33 W/mK at 3% moisture content (internal use)
Airtightness (m^3/hr/m^2) No finish	100mm solid blocks: 2.73. 140mm solid blocks: 3.36.
Airtightness (m^3/hr/m^2) Paint one side	100mm solid blocks: 0.88. 140mm solid blocks: 1.72.
Reaction to Fire	Class A1
Moisture Movement	<0.6mm/m

Durability Against Freezing/Thawing	Frost resistance in accordance with PD 6697, Table 15.

Table Note:
(1) Airtightness results for painted walls are based on the use of Paint Grade blocks and standard emulsion paint.

Weights & Pack Sizes

All weights are approximate and subject to normal variations in raw materials.

Table 1 – Block Weights and Pack Sizes

Face size (mm)	Thickness & block type	Unit weight (kg)	Laid weight inc. mortar (kg/m²)	No. of blocks per pack
440 x 215	100mm solid	18.9	198	64
440 x 215	140mm solid	26.5	278	48
440 x 215	140mm hollow	19.0	204	48
440 x 215	215mm hollow	25.1	274	32
290 x 215 (Midi)	140mm solid	17.7	281	72

Table 1 Notes:
(1) Unit weights are approximate and based on 3% moisture content by volume.
(2) Hollow blocks are manufactured to order only.

Sound Properties

Lignacrete concrete blockwork provides excellent levels of sound insulation between buildings and adjoining rooms. The Weighted Sound Reduction Index (Rw) values of various Lignacrete wall constructions are shown in Table 2.

Table 2 – Sound Reduction Values

Weighted Sound Reduction Index: Rw, (dB):

	No finish	Paint finish
100mm solid	46	48
140mm solid	52	53
140mm hollow	47	48
215mm hollow	53	53

Table 2 Notes:
(1) Sound insulation values are based on technical assessments and tests to BS EN ISO 140-3.
(2) Paint finish is based on emulsion paint and applied to both wall faces.

Fire Resistance

Lignacrete Paint Grade blocks are rated as Class A1 in accordance with BS EN 13501-1:2007+A1:2009. A1 materials are completely non-combustible and make no contribution to fire.

The fire resistance periods of Lignacrete loadbearing and non-loadbearing walls are shown in Table 3, derived from the National Annex to BS EN 1996-1-2. This is applicable to all strengths of Lignacrete. The fire resistance of loadbearing walls is influenced by the proportion of the load on a wall, which is annotated in the National Annex as a ≤1.0 or a ≤ 0.6. The fire values presented are based on the worst loading case (≤1.0) and can therefore be safely used for all loading conditions.

The thicknesses shown are for masonry alone, excluding finishes. For the fire resistance of walls with finishes, refer to the Lignacite Design Guide – Fire Resistance.

Table 3 – Fire Resistance

Thickness/ Block type (Group 2 units) No finish	Non-loadbearing wall (criteria EI)	Loadbearing wall (criteria REI)
100mm solid	3 hours	2 hours
140mm solid	4 hours	3 hours
140mm Hollow	3 hours	3 hours
215mm Hollow	4 hours	4 hours

Table 3 Notes:
(1) Solid blocks are Group 1 units as defined in EN 1996-1-1
(2) Hollow blocks are Group 2 units as defined in EN 1996-1-1

Thermal Properties

The thermal resistance values (m^2 K/W) for Lignacrete Paint Grade blocks are shown in Table 4. For solid blocks, the values are calculated by dividing the block thickness by its thermal conductivity (W/mK).

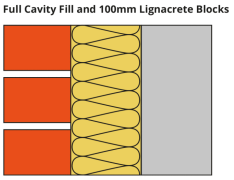
Table 4 – Thermal Resistance Values

	Thermal Resistance (m^2 K/W): 3% m/c
100mm solid	0.075
140mm solid	0.105
140mm hollow	0.162
215mm hollow	0.207

Table 4 Notes:
(1) 3% moisture content (m/c) should be used for protected locations, such as the inner leaf of external cavity walls.

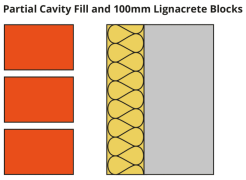
Presented in the tables are the U-values for a range of wall constructions based on 100mm Lignacrete blocks with full and partial cavity insulation. The outer leaf is facing brick, but a rendered block outer leaf will usually achieve at least the same U-value. No finish, other than paint, is assumed to the blockwork.

Full Cavity Fill and 100mm Lignacrete Blocks



Cavity fill type	No finish U-values (W/m^2 K)
100mm DriTherm Cavity Slab 32 Ultimate	0.29
125mm DriTherm Cavity Slab 32 Ultimate	0.23
150mm DriTherm Cavity Slab 32 Ultimate	0.20
100mm Isover CWS 32	0.29
125mm Isover CWS 32	0.23
150mm Isover CWS 32	0.20
90mm Kingspan Kooltherm K106 (plus a 10mm cavity)	0.19
115mm Kingspan Kooltherm K106 (plus a 10mm cavity)	0.15
140mm Kingspan Kooltherm K106 (plus a 10mm cavity)	0.14
90mm Eurowall + (plus a 10mm cavity)	0.21
115mm Eurowall + (plus a 10mm cavity)	0.17
140mm Eurowall + (plus a 10mm cavity)	0.14
100mm Xtratherm Cavity Therm	0.20
125mm Xtratherm Cavity Therm	0.16
150mm Xtratherm Cavity Therm	0.14

Partial Cavity Fill and 100mm Lignacrete Blocks



Cavity fill type	No finish U-values (W/m² K)
60mm Celotex CW4000	0.27
75mm Celotex CW4000	0.23
100mm Celotex CW4000	0.18
60mm Kingspan Kooltherm K108	0.24
75mm Kingspan Kooltherm K108	0.20
100mm Kingspan Kooltherm K108	0.16
60mm Eurowall Cavity	0.27
75mm Eurowall Cavity	0.23
100mm Eurowall Cavity	0.18
100mm Rockwool Partial Fill	0.29
150mm Rockwool Partial Fill	0.20
170mm Rockwool Partial Fill	0.18
100mm Isover CWS 32	0.27
125mm Isover CWS 32	0.22
150mm Isover CWS 32	0.19

Cavity Fill Table's Notes:
(1) The U-values shown are based on the use of various proprietary insulation products. Alternative products can be used, provided they can achieve an equivalent thermal resistance (m² K/W).
(2) Wall ties are assumed to be stainless steel with a cross-sectional area of no more than 12.5mm² for structural cavities up to 125mm wide.
(3) The suitability of full fill cavity insulation materials will depend on exposure conditions and should be confirmed by the designer. For partial cavity fill, a 50mm residual should be maintained (always check the manufacturer's guidance because this may vary).

Sustainability

Environmental Performance Declaration (EPD)

Key environmental performance data (in accordance with EN 15804+A2 and ISO 14025/ ISO 1930) can be found in the EPD for Lignacrete blocks.

Environmental Data Summary

Declared unit	1m²
Declared unit mass	189 kg
GWP-fossil, A1-A3 (kgCO2e)	18.2
GWP-total, A1-A3 (kgCO2e)	18.5
Secondary material, inputs (%)	0.00841
Secondary material, outputs (%)	80
Total energy use, A1-A3 (kWh)	40.2
Total water use, A1-A3 (m3e)	1.33E0

Source – This data was taken from the EPD for the 7.3N Lignacrete block. Click here for all EPDs.

The declared unit is based on 1m² of 100mm thickness blocks.

The Life Cycle Stage (A1-A3) refers to the extraction, processing, transportation and manufacture of materials and products up to the point where they leave the factory gate to be taken to site.

The notation 'e' is an abbreviation for tonnes of carbon dioxide equivalent.

Recycled Content

Wherever possible, the use of recycled or reclaimed materials is considered in the manufacture of our blocks.

Lignacrete Paint Grade blocks are available with a recycled content of up to 30%. However, this is not produced as standard at all of our manufacturing sites. Please discuss availability with our Sales Office team.

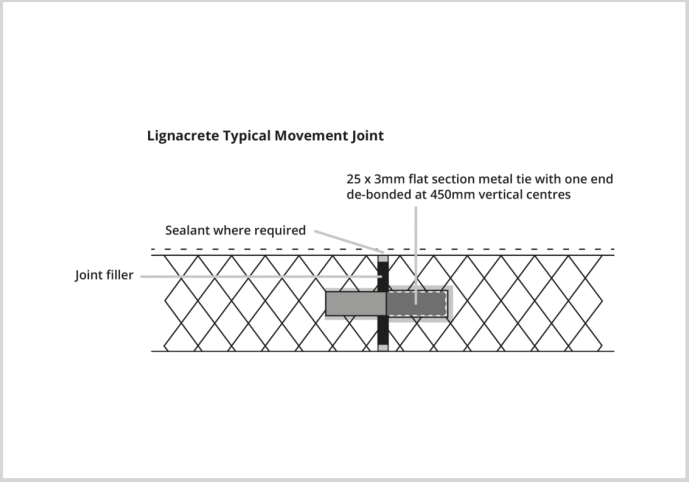
Design

Structural Design

The design of walls using Lignacrete Paint Grade blocks should be in accordance with relevant design standards, including BS 8103: Part 2 and BS EN 1996-1-1 and the requirements of the Building Regulations.

Movement Control

Vertical movement joints should be considered in accordance with masonry design codes and the recommendations of Published Document PD 6697, at 6.0 - 8.0 metre spacings. In areas of raised stress, such as above and below openings in external walls, the blockwork may need to be reinforced to restrain movement.



Service Life

When properly constructed, the durability of walls built using Lignacrete Paint Grade products will match that of walls of traditional masonry and will fulfil their intended function for the life of the building in which they have been installed (typically 100 years).

The blocks themselves will require no maintenance. Maintenance for walls will normally include the replacement of sealant in movement joints and at junctions / openings. Repointing for walls that are exposed to the elements may be necessary towards the end of its service life.

Wall Ties

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.

Table 5 – Wall Tie Spacings

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

Mortar

Generally, the mortar type for work above ground level should be designation (iii) / Compressive Class M4. Stronger mixes may be required if blocks are used below ground.

Table 6 – Mortar Mixes

Mortar Designation (as per BS 5628-3)	Compressive Strength Class (as per BS EN 1996)	Recommended mix proportions of materials by volume
(iii)	M4	1:1:5 to 6 - Cement:Lime:Sand. 1:5 to 6 - Cement:Sand with or without air entrainment. 1:4 to 5 - Masonry Cement:Sand (with non-lime filler). 1:3½:4 - Masonry Cement:Sand (with lime filler)
(ii)	M6	1:½:4-4½ - Cement:Lime: Sand. 1:3 to 4 - Cement:Sand with or without air entrainment. 1:2½:3½ - Masonry Cement:Sand (with non-lime filler). 1:3 - Masonry Cement:Sand (with lime filler).

Site Practice

Surface Finish Recommendations

Direct Painting

A mist coat followed by at least two coats of emulsion will provide a good finish. The actual coverage will depend on the quality of the paint and how it is applied e.g., brush, roller or by spray. Always ensure that each coat of paint has fully dried before any further layers are added.

Safe Handling

For detailed advice, refer to Lignacite's Sitework Guide and the Material Safety Data sheet.

- Block packs may be stacked on firm and level surfaces to a maximum height of 2 packs. Consideration of handling equipment's suitability for site terrain and safety limits should also be given. Hand-operated pallet trucks may not be suitable unless pallets specific for this purpose are used and loads do not exceed the limits of the pallet truck or its operator(s). Care should be taken when opening packs that are wrapped or banded to ensure that items do not fall or otherwise endanger persons handling the blocks or those nearby.
- Handling of blocks should be undertaken in accordance with HSE Construction Sheet No. CIS77 'Preventing injury from handling heavy blocks' (Construction Industry Advisory Committee) and in accordance with the Manual Handling Regulations 1992 (as amended). This concludes that there is a high risk of injury to individuals who repetitively manually handle blocks in excess of 20kg. Where practical, mechanical handling equipment should be used to transport block packs to the area of work.
- Blocks should not be installed 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 solidly filled.
- For walls built fair, sample panels are recommended and should be built prior to commencing block laying. This will serve as a benchmark for defining and specifying the quality of work required.
- Please note that for Paint Grade products, colour consistency is not guaranteed. It is advisable to view sample panels at a distance of approximately 3m from the wall in good natural light.

For reinforced hollow blockwork, the concrete infill strength and reinforcement should be specified by the project engineer.

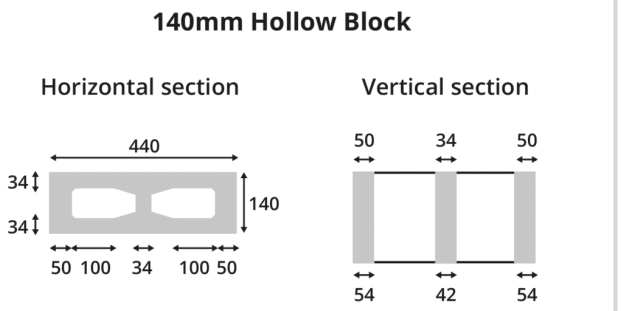
Hollow Blocks

When using hollow blocks, 'splitter' block are included to facilitate the cutting of half-length blocks. The proportion of splitter blocks are:

- 140mm hollow 1 in 6
- 215mm hollow 1 in 4

The core patterns of 140mm and 215mm hollow blocks are shown below.

140mm Hollow Block



215mm Hollow Block

