

A range of high density, robust, loadbearing units, suitable for internal and external walls. For total design flexibility select from a range of sizes, strengths and finishes.

General Properties - Table 1

Face Size	440mm x 215mm ⁽¹⁾	
Dimensional Tolerances	Category: D1	
Mean Unit Strength ⁽²⁾	7.3, 10.4, 17.5, 22.5, 30N/mm ²	
Net Dry Density	Blocks <20.0N/mm ² : 2000 kg/m ³ Blocks >20.0N/mm ² : 2100 kg/m ³	
Thermal Conductivity	Internal: 1.33 W/mK	External: 1.43 W/mK
Moisture Movement	<0.8mm/m	
Reaction to Fire	Class A1	
Air Tightness	100mm solid blocks ⁽³⁾ - 0.48 m ³ /hr/m ²	140mm solid blocks ⁽³⁾ - 0.97 m ³ /hr/m ²
Configuration	Solid Blocks: Group 1, Cellular & Hollow Blocks: Group 2	



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Note:

⁽¹⁾ Some products have an alternative face size as described in this Data Sheet

⁽²⁾ Cellular and hollow blocks are produced in 7.3 and 10.4N/mm² strengths

⁽³⁾ Based on solid blocks with emulsion paint to both faces

- High strength blocks from 7.3 to 30N/mm²
- Standard, Paint Grade and Fair Faced finishes
- For use internally and externally above and below ground
- High levels of air tightness, sound insulation and fire resistance.

Lignacrete dense blocks are suitable for a wide range of applications. They have excellent levels of sound insulation and high strength capability, making them especially suitable for use in separating and partition walls. They can also be used as infill blocks in beam and block flooring systems.

Lignacrete dense blocks generally have a face size of 440mm x 215mm. Certain products are produced in an alternative size. For example, Midi blocks are solid 140mm units with a face size of 290mm x 215mm and have been developed for ease of handling whilst providing all the performance associated with conventional size solid blocks. Lignacrete PW blocks have a thickness of 195mm, and a face size of 440mm x 65mm.

Appearance

Lignacrete blocks are medium grey to buff in colour with a texture, depending on grade suitable for plastering, rendering, directly painted or fair face. Fair Faced products are natural in colour and made to order. Blocks are available in cellular, hollow or solid form.

Standards

Lignacrete blocks are BSI Kitemarked approved to BS EN 771-3. They are Category 1 masonry units manufactured under a BSI certified Quality System complying with BS EN 9001.

Applications

Lignacrete can be considered for use in the following locations:

- The inner and outer leaves of external cavity walls,
- Internal walls including fire break walls
- Separating walls including those conforming to Robust Detail specifications
- High strength, loadbearing walls - blocks up to 30N/mm² available
- External and internal walls below ground
- Infill units to beam and block flooring
- Hollow blocks to construct reinforced retaining walls

Sound Insulation

Lignacrete blockwork provides excellent levels of sound insulation between buildings and adjoining rooms. It can be used in cavity and solid party wall constructions in dwellings, satisfying the specifications for dense blockwork in accordance with Approved Document E to the Building Regulations. It can also be used to construct party walls meeting Robust Detail specifications eg. Robust Details E-WM-1, 3, 16, 18 and 19.



Sustainability

Responsible sourcing - Lignacite Ltd operates its manufacturing plants to a BSI certified Environmental Management System (EMS) complying with ISO14001. Lignacite Ltd. complies with the requirements of BES 6001 – Framework Standard for the Responsible Sourcing of Construction Products, Certificate No: BES 580823. This independently confirmed Responsible Sourcing Certification provides re-assurance to our customers that they are procuring products responsibly and sustainably. Credits can also be gained under environment assessment schemes such as BREEAM and the Code for Sustainable Homes.

Environmental ratings - Summary green guide ratings applicable to Lignacite blocks can be obtained from the BRE Green Guide to Specification.

Design

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

Surface Finish Recommendations

Drylining - Application to be as manufacturer's recommendations.

Dense Plaster - Apply either 1:1:6 cement:lime:sand or 1:4 ½ Masonry cement:sand or 1:5 ½ cement; sand and plasticiser.

Alternatively: Thistle Bonding or Thistle Hardwall or Knauf Ultimate backing plaster.

Finishing Coats - Thistle plaster finish or Thistle multi-finish or Knauf Multi cover.

External Rendering - Rendering to be in accordance with BS EN 13914-1. Avoid over strong mixes. Ensure the first coat of render is applied to a greater thickness than successive coats. An initial spatterdash coat is advisable, consisting of 1 part cement, 1 part sand, gauged with a proprietary bonding agent (SBR). Builders considering the use of proprietary single coat render systems must exercise caution to accurately adhere to the render manufacturers' design and specification guides. Furthermore, during application, strictly adhere to the specific and expansive application instructions, paying particular attention to prevailing weather conditions applied thereto. **PLEASE NOTE** that traditional rendering applications are not so seasonally and conditionally demanding.

Movement Control

Movement joints should be considered in accordance with PD 6697 at approximately 6.0 metre spacings. In areas of concentrated stress, such as those above and below openings, consideration should be given to the use of bed joint masonry reinforcement.

Mortar

The mortar type for work above ground level should be designation (iii) / Compressive Class M4. Stronger mixes may be used only with the permission of the designer. Stronger mixes may also be required for work below ground in accordance with PD 6697.

Block Weights - Table 2

Width (mm)	Form	Unit Weight (kg)	Laid Weight (kg/m ²)
75	Solid	14.4	149
90	Solid	17.0	17.9
100	Solid	18.9	198
140	Solid	26.5	278
140	Solid Midi	17.5	279
140	C/H	20.0	214
190	Solid	35.9	377
190	Hollow	25.0	269
215	Solid	40.7	427
215	Hollow	27.5	297
195PW	Solid	11.7	400

Note: For blocks above 20N/mm², the unit and laid weights will be approximately 5% greater than those indicated. Weights are based on 3% moisture content by weight.

Thermal Resistances - Table 3

Width (mm)	Form	Thermal Resistance (m ² K/W)	
		3% m/c	5% m/c
90	Solid	0.068	0.063
100	Solid	0.075	0.070
140	Solid	0.105	0.098
140	Solid Midi	0.105	0.098
140	C/H	0.162	0.155
190	Solid	0.143	0.133
190	Hollow	0.195	0.187
215	Solid	0.162	0.150
215	Hollow	0.207	0.199
195PW	Solid	0.134	0.125

Note: 3% moisture content (m/c) should be used for protected locations such as the inner leaf, and 5% for exposed locations such as the outer leaf when rendered.

Sound Reduction - Table 4

Width (mm)	Form	Sound Reduction Index Rw (dB)			
		L/weight Plaster	Dry Lined	Paint Finish	Fair Faced
75	Solid	48	46	41	40
90	Solid	50	48	43	42
100	Solid	51	49	44	43
140	Solid	55	53	53	52
140	Solid Midi	55	53	53	52
140	C/H	52	50	48	47
190	Solid	57	56	56	55
190	Hollow	55	55	53	52
215	Solid	58	57	58	57
200-215	2x100m leaves ⁽¹⁾	56	55	53-55	52-54
215	Hollow	55	54	53	53
195PW	Solid	57	56	56	55

⁽¹⁾ 2 leaves of 100mm solid blocks laid back to back and tied together.

Note: 1. The above values are based on technical assessments and tests to BS EN ISO 140-3.

2. Surface finishes are assumed to be applied to both wall faces.

Fire Resistances - Table 5

Width (mm)	Form	Fire Resistance (hours)	
		Loadbearing	Non Loadbearing
75	Solid	-	1
90	Solid	1	1.5
100	Solid	2	2
140	Solid	2	3
140	Solid Midi	2	3
140	C/H	-	3
190	Solid	2	4
190	Hollow	-	4
215	Solid	2	6
215	Hollow	-	6
195PW	Solid	2	4

Note: The above values are for single leaf walls with no finish.

Accreditations

