

Product Data

Lignacrete dense range

Description

Lignacrete dense concrete blocks are durable and robust and can provide high loadbearing strength combined with high levels of fire resistance and sound insulation. Their use also provides a strong background to hold fixings, as well as for the application of finishes such as render. Lignacrete blocks generally have a face size of 440mm x 215mm but certain products are produced in an alternative size.

Lignacrete is available in **Standard, Paint Grade** and **Fair Faced** block types. Fair Faced products are natural in colour and made to order.

Lignacrete Midi and **Low Height** blocks are solid 140mm width units with a face size of 290mm x 215mm and 440mm x 140mm respectively. These products have been developed for ease of handling whilst providing all the performance associated with conventional size solid blocks. Their use will assist in meeting the requirements of the Construction Design and Management Regulations.

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. They are available in cellular, hollow or solid form and in a range of block widths.

Standards

Lignacrete blocks are BSI Kitemarked conforming to BS EN 771-3.

They are Category 1 masonry units and are manufactured under a BSI certified Quality System complying with BS EN 9001.

Design

The design of walls incorporating Lignacrete blocks should be in accordance with BS 5628-Parts 1, 2 and 3, or relevant European design standards, and the requirements of the Building Regulations.

Uses

Lignacrete blocks are suitable for use in commercial and housing projects including extensions. As a guide they can be used to 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
- External and internal walls below ground
- Infill units to beam and block flooring.
- Hollow blocks to construct reinforced retaining walls

Sound Insulation

Lignacrete blocks, when used to the inner leaf, are suitable to meet the flanking sound requirements of Building Regulations and a number of Robust Detail specifications. Lignacrete can also be used to construct internal walls between rooms in dwellings that are required to meet a minimum sound reduction, R_w , of 40 dB. This can be met using minimum width 75mm blocks with any type of surface finish.



Sustainability

Responsible sourcing

Lignacite Ltd. operates its manufacturing plants to a BSI certified Environmental Management System (EMS) complying with ISO14001. An EMS is also held by our key supply chain processes, as specified in the *Responsible sourcing* assessment criteria of BREEAM and the Code for Sustainable Homes. This level of responsible sourcing assurance can contribute towards the required BREEAM rating or Code assessment.

Environmental ratings

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

Technical Properties

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 (W/mK)	Blocks <20.0N/mm ² : Internal 1.33 External 1.43 Blocks >20.0N/mm ² : Internal 1.46 External 1.56
Moisture Movement	<0.8mm/m
Reaction to Fire	Class A1

Notes:

⁽¹⁾ Lignacrete Midi block have a face size of 290mm x 215mm. Lignacrete Low Height blocks have a face size of 440mm x 140mm. These products are available in 140mm width and have a unit weight of only 17.5kg.

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

Technical Performance

Block weights - Table 1 <20N/mm²

Width (mm)	Form	Unit weight (kg)	Laid weight (kg/m ²)
75	Solid	14.4	149
90	Solid	17.0	179
100	Solid	18.9	198
100	Cellular	15.5	165
140	Solid	26.5	278
140	Midi	17.5	278
140	C/H	20.0	214
150	Solid	28.4	298
190	Solid	35.9	377
190	Hollow	25.0	269
200	Solid	37.8	397
215	Solid	40.7	427
215	Hollow	27.5	297
195 PW	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 2

Width (mm)	Form	Thermal Resistance (m ² K/W)	
		3%	5%
90	Solid	0.068	0.063
100	Solid	0.075	0.070
100	Cellular	0.126	0.120
140	Solid	0.105	0.098
140	Solid Midi	0.105	0.098
150	Solid	0.113	0.105
190	Solid	0.143	0.133
190	Hollow	0.195	0.187
200	Solid	0.150	0.140
215	Solid	0.162	0.150
215	Hollow	0.207	0.199
195 PW	Solid	0.134	0.125

Note. 3% moisture 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 3

Width (mm)	Form	Sound Reduction Index, R _w (dB)		
		L/weight plaster	Dry lined	Fair faced
75	Solid	48	46	30
90	Solid	50	48	34
100	Solid	51	49	37
100	Cellular	50	48	36
140	Solid	55	53	47
140	Solid Midi	55	53	47
140	C/H	49	49	47
150	Solid	56	53	49
190	Solid	57	56	55
190	Hollow	55	54	52
200	Solid	57	56	56
215	Solid	58	57	57
215	Hollow	55	54	53
195 PW	Solid	57	56	55

Note. The above values are for single leaf walls and any surface finishes are applied to both wall faces.

Fire Resistances - Table 4

Width (mm)	Form	Fire Resistance (hours)	
		Loadbearing	Non Loadbearing
90	Solid	1	1.5
100	Solid	2	2
100	Cellular	-	0.5
140	Solid	2	3
140	Solid Midi	2	3
140	C/H	-	3
150	Solid	2	4
190	Solid	2	4
190	Hollow	-	4
200	Solid	2	6
215	Solid	2	6
215	Hollow	-	6
195 PW	Solid	2	4

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

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.

Movement Control

Movement joints should be considered in accordance with BS 5628-3 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 BS 5628-3.

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