

Product Data

Lignacrete dense

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.



- 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 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.

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 |
| Moisture Movement | <0.8mm/m |
| Reaction to Fire | Class A1 |
| Air tightness (m ³ /hr/m ²) | 100mm solid blocks ⁽³⁾ - 0.48 140mm solid blocks ⁽³⁾ - 0.97 |
| Notes: ⁽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/mm ² strengths ⁽³⁾ Based on solid blocks painted to both faces | |

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
- 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 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 e.g. 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 ISO 14001. 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 assured level of responsible sourcing 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 Specific

Design

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

Block weights <math><20\text{N/mm}^2</math> - Table 1

| 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 | Solid 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 |

Notes: 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/wt 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 |
| 100 | Cellular | 50 | 48 | 41 | 40 |
| 140 | Solid | 55 | 53 | 53 | 52 |
| 140 | Solid Midi | 55 | 53 | 53 | 52 |
| 140 | C/H | 52 | 50 | 48 | 47 |
| 150 | Solid | 56 | 53 | 53 | 52 |
| 190 | Solid | 57 | 56 | 56 | 55 |
| 190 | Hollow | 55 | 54 | 53 | 52 |
| 200 | Solid | 57 | 56 | 57 | 56 |
| 215 | Solid | 58 | 57 | 58 | 57 |
| 200 to 215 | 2 x 100mm leaves ⁽¹⁾ | 56 | 55 | 53-55 | 52-54 |
| 215 | Hollow | 55 | 54 | 53 | 53 |
| 195 PW | Solid | 57 | 56 | 56 | 55 |

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

Notes:

- The above values are based on technical assessments and tests to BS EN ISO 140-3.
- Surface finishes are assumed to be 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 with 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.

An initial spatterdash coat is advisable, consisting of 1 part cement, 1 part sand, gauged with a proprietary bonding agent (SBR)

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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