

Medium density, loadbearing units, suitable for general purpose walling applications. Ash GP combines good all round technical performance with a high content of recycled material.

General Properties - Table 1

Face Size	440mm x 215mm
Dimensional Tolerances	Category: D1
Mean Unit Strength	3.6, 7.3, 10.4N/mm ²
Net Dry Density	1450 kg/m ³
Thermal Conductivity (W/mK)	0.47 at 3% moisture content (Internal use) 0.51 at 5% moisture content (External use)
Moisture Movement	<0.5mm/m
Reaction to Fire	Class A1
Configuration	Solid Blocks: Group 1
Specific Heat Capacity	1000J/kg/K
Water Vapour Diffusion Coefficient	$\mu = 5/15$ (Tabulated value from BS EN 1745)



- Suitable for various applications above and below ground
- Good surface key for the direct application of plasters and renders
- Provides a strong background for all types of fixings

Ash GP is a medium density concrete block which is robust, durable and suitable for a range of walling applications. Typical uses include the inner leaf of cavity walls when used with cavity insulation, separating or partition walls, and infill blocks in beam and block flooring systems. Ash GP can also be used externally where rendering or cladding is to be applied to the wall. Ash GP blocks provide a strong background for holding fixings.

Appearance

Ash GP blocks are manufactured with a scratched surface to aid the key of plaster and render finishes. They have a face size of 440mm x 215mm and are available in 100mm and 140mm widths in solid form only.



Standards

Ash GP 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

Ash GP blocks can be considered for use in the following locations:

- 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 (7.3N/mm² strength blocks should be used to walls exposed to the external ground)
- Infill units to beam and block flooring



"Co-ordinating coursing block available"



Sustainability

Responsible sourcing - Lignacite Ltd operates its manufacturing plants to a BSI certified Environmental Management System (EMS) complying with ISO 14001. 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.

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

Unit and laid weight

Typical units and laid weight for Ash GP are shown in Table 2.

Block Weights - Table 2

Width (mm)	Form	Unit Weight (kg)	Laid Weight (kg/m ²)
100	Solid	14.0	150
140	Solid	19.6	210

Note: Weights are based on 3% moisture content by weight.

Thermal Resistance

The thermal resistance values (m²K/W) for Ash GP are shown in Table 3. The values are derived by dividing the block thickness by its thermal conductivity (W/mK).

Thermal Resistances - Table 3

Width (mm)	Form	Thermal Resistance (m ² K/W)	
		3% m/c	5% m/c
100	Solid	0.212	0.196
140	Solid	0.298	0.274

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 Insulation

Ash GP blockwork provides excellent levels of sound insulation between buildings and adjoining rooms. It can be used in party wall constructions, based on lightweight blockwork specifications, detailed in 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-2, 4, 8, 11, 14, 17, 20, 21, 22, 27, 28 and 33.

Sound insulation values for Ash GP blockwork are shown in Table 4.

Sound Reduction - Table 4

Width (mm)	Form	Sound Reduction Index Rw (dB)	
		L/tweight Plaster	12.5mm Plasterboard
100	Solid	45	44
140	Solid	52	51

Notes: The above values are based on technical assessments and tests to BSEN ISO 140-3

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

Fire Resistance

The fire resistance periods of Ash GP loadbearing and non-loadbearing walls are shown in Table 5.

This data is only valid for walls complying with BS EN 1996 Part 1-1, Part 2 and Part 3. For walls designed in accordance with BS 5628, fire resistance values can be confirmed with our Technical Department.

The thicknesses given in Tables 5 are for masonry alone, excluding finishes. For the fire resistance of walls with finishes, refer to the Lignacite Design Guide – Fire Resistance.

Fire resistance of Ash GP blocks - Table 5

Solid blocks (Group 1 units) - no finish	Non-loadbearing wall (criteria E1)	Loadbearing wall (criteria RE1)	
		a ≤ 1.0	a ≤ 0.6
100mm	3 hour	2 hours	3 hours
140mm	4 hours	3 hours	4 hours

Note:

1. These Tables are only valid for walls complying with BS EN 1996 Part 1-1, Part 2 and Part 3. For walls designed in accordance with BS 5628, fire resistance values from that Standard are available on request.
2. Criteria E1 refers to walls with a separating function. Criteria RE1 refers to walls with a separating and loadbearing function.
3. This Table is derived on data from the National Annex to BS EN 1996-1-2. References to a ≤ 1.0 and a ≤ 0.6 refer to the proportion of load on a wall. If unknown, we suggest the values for a ≤ 1.0 are used as these are 'worst case' values.

Thermal insulation

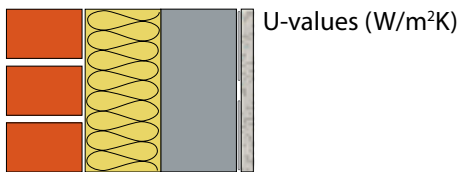
Ash GP blocks can be used to satisfy the requirements of Part L of the Building Regulations. This includes changes driven by the Future Home Standard which seek to significantly improve the energy performance of new homes, with all homes to be highly energy efficient, with low carbon heating and be zero carbon ready by 2025.



Presented are the U-values for a range of wall constructions based on 100mm Ash GP blocks in conjunction 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.

For constructions not shown please contact our Technical Department (tel 01842 810678) who will be pleased to provide confirmation of performance.

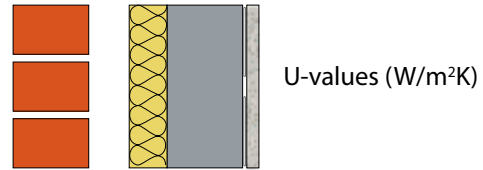
Full Cavity Fill and 100mm Ash GP blocks



Cavity fill type	Internal Finish	
	12.5mm plaster-board on dabs	13mm lightweight plaster

100mm DriTherm Cavity Slab 32 Ultimate	0.26	0.27
125mm DriTherm Cavity Slab 32 Ultimate	0.22	0.22
150mm DriTherm Cavity Slab 32 Ultimate	0.19	0.19
100mm Isover CWS 32	0.26	0.27
100mm Isover CWS 32	0.22	0.22
100mm Isover CWS 32	0.19	0.19
90mm Kingspan Kooltherm K106 (Plus a 10mm cavity)	0.17	0.18
115mm Kingspan Kooltherm K106 (Plus a 10mm cavity)	0.14	0.14
90mm Eurowall + (Plus a 10mm cavity)	0.20	0.20
115mm Eurowall + (Plus a 10mm cavity)	0.16	0.16
140mm Eurowall + (Plus a 10mm cavity)	0.14	0.14
100mm Xtrathem Cavity Therm	0.19	0.15
100mm Xtrathem Cavity Therm	0.15	0.16
100mm Xtrathem Cavity Therm	0.13	0.13

Partial Cavity Fill and 100mm Ash GP blocks



Cavity fill type	Internal Finish	
	12.5mm plaster-board on dabs	13mm lightweight plaster
60mm Celotex CW4000	0.25	0.25
75mm Celotex CW4000	0.21	0.22
100mm Celotex CW4000	0.17	0.17
60mm Kingspan Kooltherm K108	0.21	0.22
75mm Kingspan Kooltherm K108	0.18	0.19
100mm Kingspan Kooltherm K108	0.15	0.15
60mm Eurowall Cavity	0.21	0.22
75mm Eurowall Cavity	0.18	0.19
100mm Eurowall Cavity	0.17	0.17
100mm Rockwool Partial Fill	0.26	0.27
150mm Rockwool Partial Fill	0.19	0.19
170mm Rockwool Partial Fill	0.17	0.17
100mm Isover CWS32	0.25	0.26
125mm Isover CWS32	0.21	0.22
150mm Isover CWS32	0.18	0.18

Notes to tables:

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 (m^2K/W).
2. Wall ties are assumed to be stainless steel with a cross-sectional area of no more than $12.5mm^2$ 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, or as recommended by the manufacturer.

Thermal Bridging

A significant factor in thermal assessments is the heat loss through thermal bridges (known as non-repeating or linear thermal bridges).

These occur at junctions between elements or where the continuity of the external fabric insulation is interrupted (e.g. at junctions with external walls, floors and roof). Assessors will need to apply a PSI (y) value to the particular junction being measured.

The Concrete Block Association (CBA) have developed a comprehensive set of junctions that have been independently assessed. The results clearly demonstrate that constructions using Ash GP aggregate blocks can be assigned improved performance when compared to the Government's Accredited Construction Details and Default values shown in Appendix K of SAP 2012.

We recommend the use of these enhanced bridging details. This information will be of interest to designers and SAP assessors as well as builders who will have the responsibility for correctly constructing the various junctions.

Junction details and PSI (y) values can be accessed at www.cba-blocks.org.uk

Design

The design of walls incorporating Ash GP 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 1:4½ Masonry cement:sand or 1:5½ 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. Ensure the first coat of render is applied to a greater thickness than successive coats. Builders considering the use of proprietary render systems must exercise caution to accurately adhere to the render manufacturers' design and specification instructions. Detailed guidance is also published in the NHBC Standards, Chapter 6.11- Render.

Strictly adhere to the specific application instructions, paying particular attention to prevailing weather conditions and the minimum recommended thickness of single coat renders.

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.



Rendered Ash GP blockwork

Accreditations

