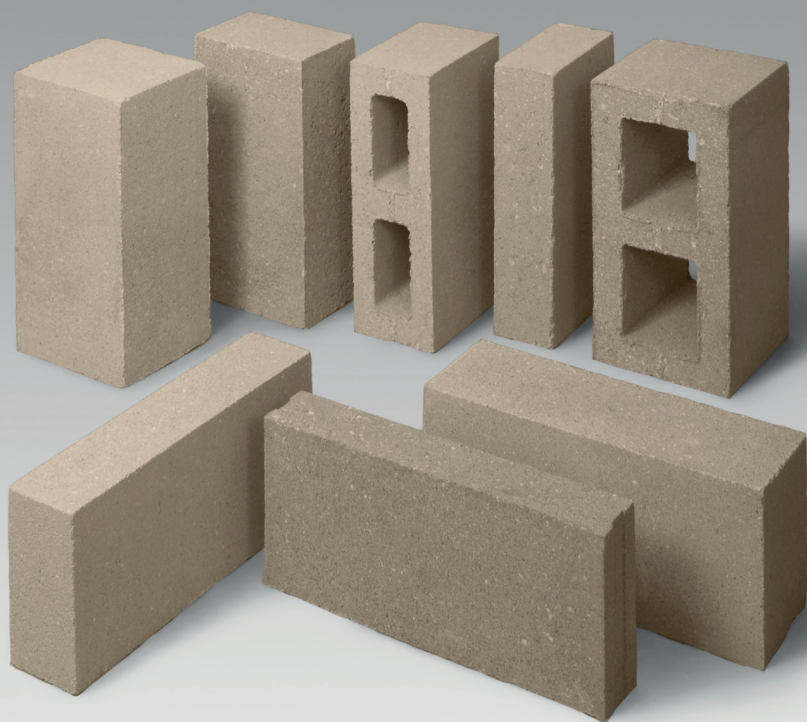


Thakeham Building Blocks

All-Purpose Dense and Medium Dense Aggregate Concrete Blocks



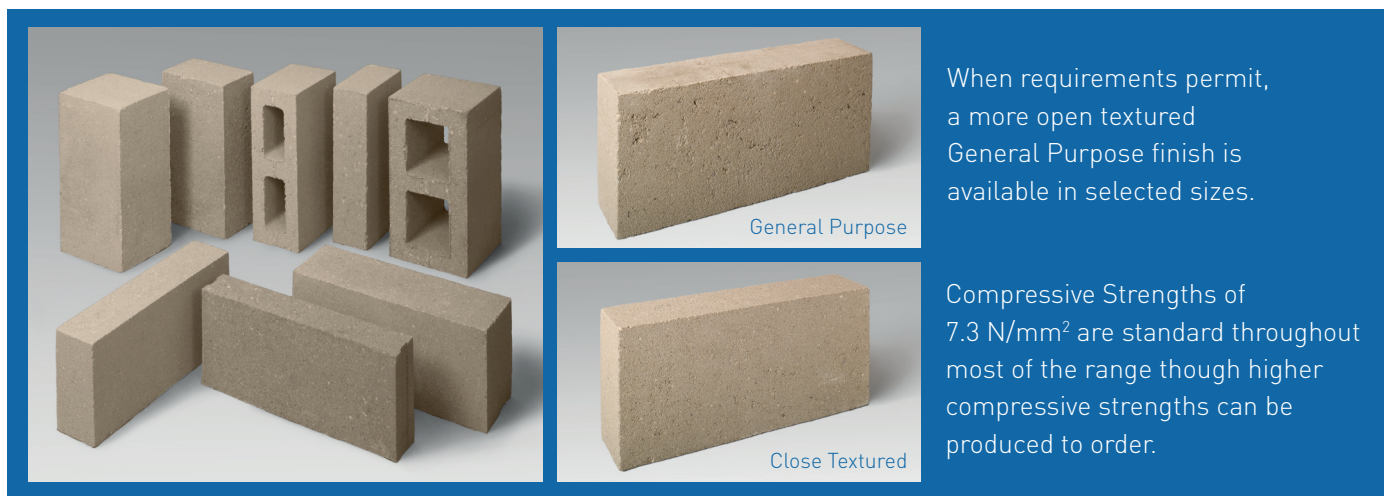
Thakeham Calxite

Dense Aggregate Concrete Blocks Manufactured to BS EN 771-3

Built to Last. Unrivalled Versatility.

Dense aggregate blocks create durable and long-lasting constructions and are the most widely used and versatile building block available today. They offer a cost-effective and proven building method, allow effective control of noise and heat, and permit the range of strengths required for most designs and applications.

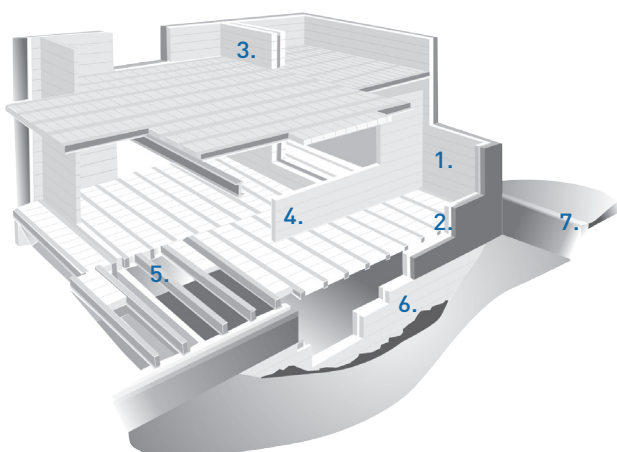
Thakeham's Calxite range of dense aggregate blocks is Close Textured as standard and is available in a number of sizes and configurations. These smooth faced blocks are eminently suitable to receive direct decoration as well as being able to accept different types of finishing e.g. render, cladding, plaster or dry lining.



Advantages of Calxite:

- Close Textured as standard
- High compressive strengths
- Excellent sound insulation
- High thermal mass and insulation performance
- Cost-effective and proven building method
- Fire resistant
- Solid background for fixings
- 100% recyclable.

Calxite's proven versatility enables simplification of the construction process by allowing a common block to be used universally throughout the project in a variety of applications:



1. Facing walls, where a smooth faced finish is required e.g. sports halls, warehousing, industrial and agricultural units

2. External walls, where good thermal performance is required to meet thermal insulation requirements for either single leaf or cavity walls

3. Separating/Party walls, between dwellings or industrial units to satisfy sound and/or fire resistance specifications

4. Partition and internal walls, where a cost effective and robust solution is required which offers a secure background for fixings

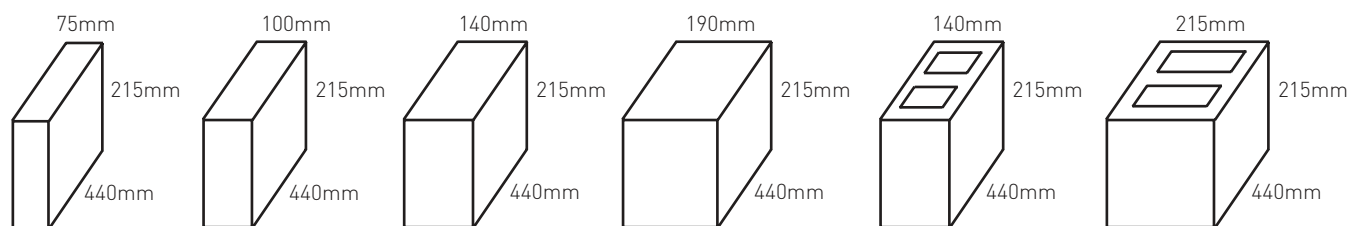
5. Beam and block flooring, where blocks are used, in accordance with beam manufacturers' instructions, as infill units to provide excellent thermal, acoustic and fire resistant performance

6. Below damp proof course, to provide a durable, efficient and highly economical method of foundation construction, except in soils with high sulphate levels

7. Retaining walls, where a strong and cost effective solution is required.

Calxite Standard Stock and Technical Details

Blocks are manufactured to European Standard BS EN 771-3 (superseding British Standard BS 6073-1)



Type of block	Solid	Solid	Solid	Solid	Hollow	Hollow	Solid	Solid
Face Size: 440mm x 215mm Block Width	75mm	100mm	140mm	190mm	140mm	215mm	100mm	140mm
Finish	Close Textured	Close Textured	Close Textured	Close Textured	Close Textured	Close Textured	General Purpose	General Purpose
Compressive Strength to BS EN 771-3 (N/mm ²)	3.6	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Equivalent Strength to BS 6073-1 (N/mm ²)	3.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Shear Bond Strength from Annex C of BS EN 998-2 (N/mm ²)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Average Block Weight (Kg)	14.6	19.0	26.0	36.3	19.7	26.5	19.5	26.6
Approximate Gross Dry Density (Kg/m ³)	1850	1850	1850	1850	1850	1850	1950	1950
Approximate Unrendered Wall Weight (Kg/m ²)	154	203	275	388	208	280	209	280
Thermal Conductivity (W/mK @ 3% moisture content)	1.18	1.18	1.18	1.18	1.18	1.18	1.28	1.28
Moisture Movement (mm/m) [shrinkage and expansion]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Water Vapour Permeability tabulated from EN 1745 (μ)	5/15	5/15	5/15	5/15	5/15	5/15	5/15	5/15
Configuration to EN 1996-1-1	Group 1	Group 1	Group 1	Group 1	Group 2	Group 2	Group 1	Group 1

NOTE: Unit weights, which are given for design purposes, are approximate only and based on 3% moisture content. All units are Category II and manufactured to tolerance Category D1.

Fire Resistance

Thakeham Calxite building blocks are manufactured from Class 2 aggregates and are classified as reaction to fire Class A1. Ratings are as follows:

Block thickness	Loadbearing - no finish		Non Loadbearing - no finish	
	Single leaf	Cavity	Single leaf	Cavity
75mm solid	1 1/2 hrs	1 1/2 hrs	1hr	4 hrs
100mm solid	2 hrs	2 hrs	2 hrs	6 hrs
140mm solid	2 hrs	2 hrs	3 hrs	6 hrs
190mm solid	2 hrs	2 hrs	4 hrs	6 hrs
140mm hollow	3 hrs	-	3 hrs	-
215mm hollow	-	-	6 hrs	-

Pack Details

Packs are delivered banded with or without pallets. Additional packing can be supplied on request. Pack sizes and weights are as follows:

Block thickness	Pack Size (metres)	Pack Weight (tonnes)
75mm solid	8.8	1.3
100mm solid	7.2	1.4
140mm solid	4.8	1.3
190mm solid	3.2	1.2
140mm hollow	4.8	1.0
215mm hollow	3.2	1.0

Thakeham Teklite

Medium Dense Aggregate Concrete Blocks Manufactured to BS EN 771-3

Improved Insulation. Easier Handling.

Thakeham Teklite blocks are manufactured using lightweight aggregate which permits the construction of walls with high levels of thermal insulation whilst retaining good sound absorption characteristics. In conjunction with cavity wall insulation, U-Values as low as 0.20W/m²K can be achieved. In addition, being lighter than a dense block, handling is easier enabling increased site productivity. Our Teklite range of blocks is available in a General Purpose finish.

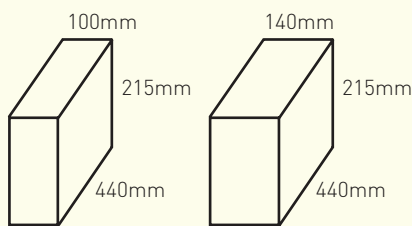
Advantages of Teklite:

- 25% lighter for ease of handling and greater site productivity
- Improved thermal insulation to achieve lower U-Values
- Good levels of strength and sound insulation
- Can be used in similar applications to dense blocks



Teklite Standard Stock and Technical Details

Blocks are manufactured to European Standard BS EN 771-3 (superseding British Standard BS 6073-1)



Fire Resistance

Thakeham Teklite building blocks are manufactured from Class 2 aggregates and are classified as reaction to fire Class A1. Ratings are as follows:

Block thickness	Loadbearing - no finish		Non Loadbearing - no finish	
	Single leaf	Cavity	Single leaf	Cavity
100mm solid	2 hrs	2 hrs	4 hrs	4 hrs
140mm solid	3 hrs	2 hrs	4 hrs	4 hrs

Type of block	Solid	Solid
Face Size: 440mm x 215mm Block Width	100mm	140mm
Finish	General Purpose	General Purpose
Compressive Strength to BS EN 771-3 (N/mm ²)	7.3	7.3
Equivalent Strength to BS 6073-1 (N/mm ²)	7.0	7.0
Shear Bond Strength from Annex C of BS EN 998-2 (N/mm ²)	0.15	0.15
Average Block Weight (Kg)	14.15	19.75
Approximate Gross Dry Density (Kg/m ³)	1425	1425
Approximate Unrendered Wall Weight (Kg/m ²)	151	212
Thermal Conductivity (W/mK @ 3% moisture content)	0.49	0.49
Moisture Movement (mm/m) (shrinkage and expansion)	<0.6	<0.6
Water Vapour Permeability tabulated from EN 1745 (μ)	5/15	5/15
Configuration to EN 1996-1-1	Group 1	Group 1

Pack Details

Packs are delivered banded with or without pallets. Additional packing can be supplied on request. Pack sizes and weights are as follows:

Block thickness	Pack Size (metres)	Pack Weight (tonnes)
100mm solid	9.0	1.3
140mm solid	6.0	1.2

NOTE: Unit weights, which are given for design purposes, are approximate only and based on 3% moisture content. All units are Category II and manufactured to tolerance Category D1.

Key Advantages of using Aggregate Building Blocks (ABB)

	Cost Effective	ABB allow a quick and cost effective method of construction that has been the traditional form of building proven over centuries. The versatility of the product can reduce costs in the simplification of the construction process and on site regulatory compliance.
	Strong	ABB's high strength means they are well suited to be used in potentially high loadbearing applications and are both robust and durable, meaning constructions are both long lasting and secure. The longevity of ABB constructions can help to maximise retention of property value. The nature of ABB mean that they are not susceptible to attack from termites or vermin.
	Efficient Performance	ABB's higher mass enables the latest regulatory standards for thermal conductivity and sound insulation to be achieved with ease. ABB are inorganic giving them the ability to withstand fire and reduce the impact of flooding.
	Safe	ABB are manufactured in easy to handle sizes and where a reduction in weight is a priority are available in medium dense or hollow form. Their constituents are non-toxic and require simple measures to ensure health and safety requirements are met on site.
	Sustainable	ABB are 100% recyclable. The production process is low energy and ABB's long life cycle mitigates its CO ² contribution. The higher thermal mass of ABB constructions reduces the need for heating/cooling systems during summer and winter months increasing energy efficiency and lowering contributions to CO ² levels.
	Future proof	Ever changing regulatory requirements are able to be met by ABB construction. Buildings made of ABB are easily extendable and the residual structural strength of ABB can usually be utilised to increase living space, e.g. lofts.

Thermal and Sound Insulation

View and download the latest guidance to meet current requirements as laid out in Part L (Thermal) and Part E (Sound) of the building regulations from the Design and Advice section of our website at www.thakeham.co.uk

Good Practice

Handling

- Minimise handling by delivering units as close to the place of use as safety considerations permit.
- Move units in packs and by mechanical means wherever possible.
- Load units out to above knee height.
- Use appropriate handling methods as detailed in latest Health and Safety guidance.
- Units of greater than 20Kg should be handled mechanically or using a two person team if they have to be handled repetitively.

There are a number of alternatives to avoid using blocks over 20Kg in weight, though it is essential that the desired performance characteristics are not compromised. These are:

1. Using Calxite 140mm hollow or Teklite 140mm solids
2. Laying solid units flat to achieve the desired thickness and performance
3. Collar jointing two solid blocks back to back to form the thickness and performance required.

Storage, Laying and Decorating

Off-loaded units should be stacked carefully on a prepared, clean, level, and firm area to minimise soiling, chipping and breakage. Stacks should be protected from inclement weather and from soiling from the ground and passing traffic. Whenever possible, air should be allowed to circulate around and through the stacks.

Solid and cellular blocks should be laid on a full bed of mortar and vertical joints substantially filled. Hollow blocks should be shell bedded with the vertical joints filled. Do not wet the blocks before laying. Where necessary, adjust the consistency of the mortar to suit the suction of the units.

When laying blocks for facing, select the blocks from more than one pack as work proceeds to reduce the risk of banding or patchiness of colour in the finished wall. When decorating, an emulsion paint applied by brush using two coats over a sealer provides a well covered wall. Thinning of the paint should be avoided.

Design

Movement Control

The shrinkage movement, inherent in concrete blocks, may produce cracks if adequate precautions are not taken.

Typical movement joint spacing for un-reinforced concrete masonry panels is:

- Internal: 8 to 12m
- External: 6 to 9m

Mortar

Detailed guidance on the selection of mortars is given in BS 5628-3 and BS 8000-3.

Suggested Mortar Mixes

Work above ground level (DPC) - mortar designation (iii):

- a) 1:1:6 Portland cement/hydrated lime/sand
- b) 1:6 Portland cement/sand with approved plasticiser
- c) 1:5 Masonry cement/sand

Work below ground level (DPC) – mortar designation (ii):

- a) 1:4 Portland cement/sand with approved plasticiser
- b) 1:1/2:4 Portland cement/lime/sand

Note: Sand should conform to BS 1200.

Delivery

Thakeham provides a flexible and efficient delivery service utilising its modern fleet of 6 and 8 wheeled crane mounted rigid vehicles.

Thakeham follows the Concrete Block Association's Code of Practice for Safe Loading, Consignment and Off Loading of Concrete Blocks.



Important Information

Further Advice

All guidance has been given in accordance with British Standards and information contained within the Concrete Block Association's advice sheets. Full details are available at cba-blocks.org.uk. Product safety information is available on request or at thakeham.co.uk.

Colour

Variations in colour within concrete are normal and therefore the Company does not accept liability for any shade variation.

Continuous Improvement

Thakeham operates a policy of continuous product development and therefore reserves the right to alter specifications without notice.

Environment

Thakeham Tiles Ltd. operates an Environmental Management System to ensure compliance with all environmental legislation and to increase efficiency and minimise the impact of operations on the environment.

Standards

Thakeham Calxite and Teklite building blocks are manufactured to BS EN 771-3. UKAS accredited laboratories conduct third party testing to ensure compliance.



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Thakeham
CONCRETE PRODUCTS



CONCRETE BLOCK
ASSOCIATION