CI/SfB
(21) Ff4

BBA BRITISH BOARD OF AGRÉMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

Designated by Government to issue European Technical Approvals

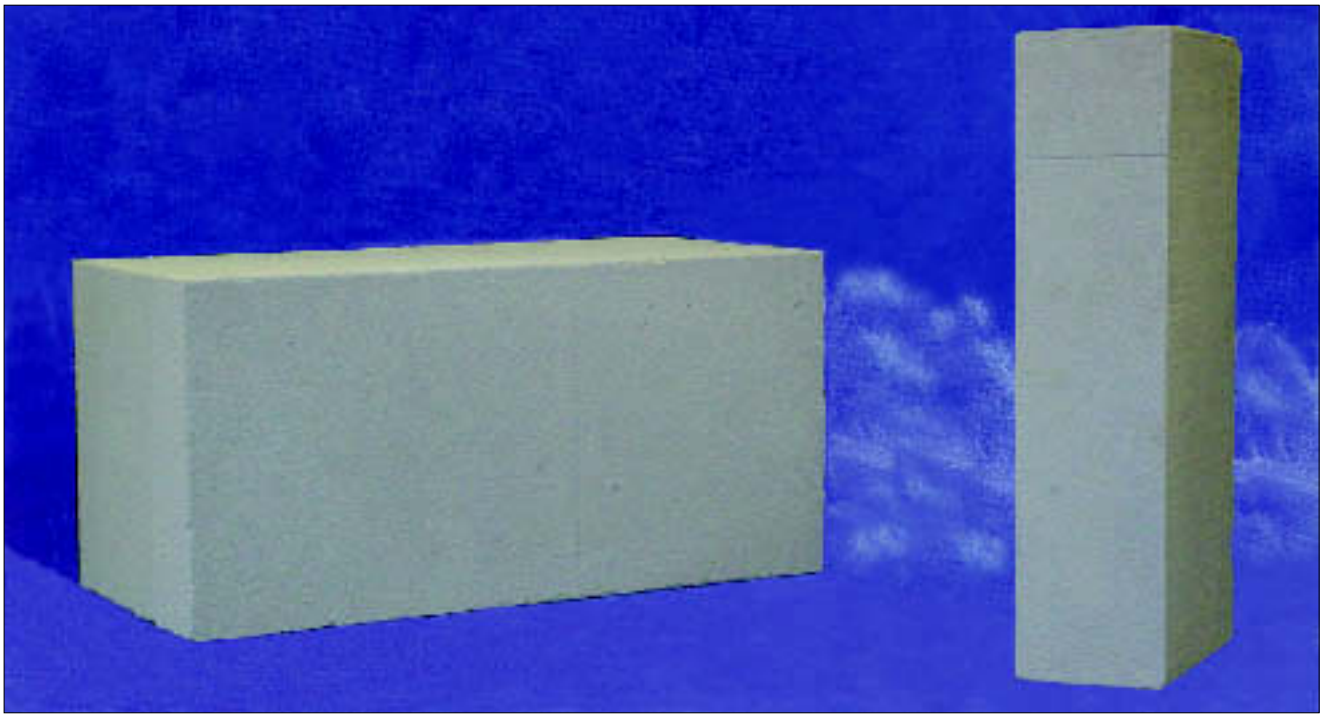
Quinn Manufacturing Ltd
Derrylin
Co Fermanagh BT92 9AU
Tel: 028 6774 8866 Fax: 028 6774 8800
e-mail: info@quinn-lite.com
website: www.quinn-group.com

Agrément Certificate No 04/4125

QUINN-LITE THIN-JOINT AIRCRETE BLOCKS

Blocs: Béton cellulaire autoclavé
Gasbetonsteinen

Product



- *THIS CERTIFICATE RELATES TO QUINN-LITE THIN-JOINT AIRCRETE BLOCKS, CONSISTING OF QUINN-LITE B3, B5 AND B7 THIN-JOINT AIRCRETE BLOCKS.*
- *The products have been assessed for use in the inner and outer leaf of external cavity walls, solid walls and internal partition walls, above and below the damp-proof course.*
- *The products are bonded on site with a thin-joint mortar conforming to BS EN 998-2 : 2003.*
- *Constructions using the products with a thin-joint mortar provide significant improvement in thermal insulation.*
- *It is essential that the blocks are specified, handled and installed strictly in accordance with the conditions set out in this Certificate.*

Regulations

1 The Building Regulations 2000 (as amended) (England and Wales)

The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of walls constructed from concrete building blocks and thin-joint masonry with the Building Regulations. In the opinion of the BBA, walls constructed from Quinn-Lite Thin-Joint Aircrete Blocks, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements listed below.

Requirement:	A1	Loading
Requirement:	A2	Ground movement
Comment:		Walls built from the products will meet these Requirements provided design, construction and installation are in accordance with this Certificate. See sections 7.3 and 9.1 to 9.3 of this Certificate.
Requirement:	B3	Internal fire spread (structure)
Requirement:	B4(1)	External fire spread
Comment:		The blocks are non-combustible. Walls constructed from the products have fire resistances as detailed in sections 13.1 to 13.5 of this Certificate.
Requirement:	C4	Resistance to weather and ground moisture
Comment:		Walls built from the products will meet this Requirement provided design and construction is in accordance with sections 7.3 and 10 of this Certificate.

Requirement:	E1	Protection against sound from other parts of the building and adjoining buildings
Requirement:	E2(a)	Protection against sound within a dwelling-house etc
Comment:		Walls built from the products will meet these Requirements provided construction is in accordance with sections 12.2 and 12.3 of this Certificate.
Requirement:	L1(a)(i)	Dwellings
Requirement:	L2(a)	Buildings other than dwellings
Comment:		Walls built from the products will meet these Requirements provided construction is in accordance with any of the alternatives detailed in sections 11.1, 11.3 and 11.4 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products form acceptable materials when specified and installed in accordance with this Certificate. See sections 7.1 to 7.3 and 17 of this Certificate.

2 The Building Standards (Scotland) Regulations 1990 (as amended)

In the opinion of the BBA, walls constructed from Quinn-Lite Thin-Joint Aircrete Blocks, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials and workmanship
Standard:	B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product can contribute to a construction meeting this Standard. See the *Installation* part of this Certificate.
Standard:	B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product is an acceptable material. See sections 7.1 to 7.3 and 17 of this Certificate.
Regulation:	11	Structure
Standard:	C2.1	Stability
Comment:		Walls constructed in accordance with this Certificate will comply with this Standard. See sections 7.3 and 9.1 to 9.3 of this Certificate.
Regulation:	12	Structural fire precautions
Standards:	D2.1 and D2.2	Structural protection — Principles
Standard:	D2.3	Structural protection — Non-combustible materials
Standard:	D7.1	Fire spread on internal linings — Principles
Standard:	D10.1	Fire spread on an external wall
Comment:		The products can be used to meet the particular requirements as detailed in Appendix D1.3 of these Standards. See sections 13.1 to 13.5 of this Certificate.
Standards:	D6.1 and D6.2	Concealed spaces — Principles
Comment:		The products are 'non-combustible' as defined in Table 3 of the *Provisions deemed to satisfy* Standard D1.3 and are unrestricted by these Standards. See sections 13.1 to 13.5 of this Certificate.
Regulation:	17	Resistance to moisture
Standard:	G3.1	Resistance to precipitation — Resistance to precipitation
Comment:		The products can be used in a wall to satisfy this Standard. See sections 7.3 and 10 of this Certificate.
Regulation:	18	Resistance to condensation
Standard:	G4.1	Condensation — Interstitial condensation
Standard:	G4.2	Condensation — Surface condensation
Comment:		Walls designed and constructed in accordance with section 7.3 of this Certificate.
Regulation:	19	Resistance to transmission of sound
Standard:	H2.1	Walls and floors to resist sound transmission — Airborne sound
Comment:		Walls built from the products will satisfy this Standard provided construction complies with the conditions set out in sections 12.2 and 12.3 of this Certificate.
Regulation:	22	Conservation of fuel and power
Standard:	J3.1	Buildings in purpose group 1 — Building fabric
Standard:	J8.1	Buildings in purpose groups 2 to 7
Comment:		Walls constructed from the products can satisfy these Standards provided construction is in accordance with the solutions detailed in sections 11.1, 11.3 and 11.4 of this Certificate.

3 The Building Regulations (Northern Ireland) 2000

In the opinion of the BBA, walls constructed from Quinn-Lite Thin-Joint Aircrete Blocks, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable. See sections 7.1 to 7.3 and 17 of this Certificate.

Regulation:	C4	Resistance to ground moisture and weather
Comment:		The blocks can be used in a wall to satisfy this Regulation. See sections 7.3 and 10 of this Certificate.
Regulation:	C5	Condensation
Comment:		Walls built from the products will meet this Regulation provided design and construction are in accordance with section 7.3 of this Certificate.
Regulation:	D1	Stability
Comment:		Walls constructed in accordance with this Certificate are deemed to satisfy this Regulation. See sections 7.3 and 9.1 to 9.3 of this Certificate.
Regulation:	E4	Internal fire spread — Structure
Regulation:	E5	External fire spread
Comment:		The blocks are non-combustible, have a Class 0 surface and walls constructed from the products have appropriate fire resistance. See sections 13.1 to 13.5 of this Certificate.
Regulation:	F2	Building fabric
Comment:		Walls constructed from the products can satisfy this Regulation provided construction is in accordance with any of the alternatives detailed in sections 11.1, 11.3 and 11.4 of this Certificate.
Regulation:	G2	Separating walls and separating floors
Comment:		Separating walls built from the blocks may be used to satisfy this Regulation. See sections 12.2 and 12.3 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended)

Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See section: 6 *Delivery and site handling* (6.3 and 6.4).

Technical Specification

5 Description

5.1 Quinn-Lite Thin-Joint Aircrete Block consists of B3, B5 and B7 type blocks and are manufactured to comply with BS 6073-1 : 1981 with workface sizes of 440 mm by 215 mm and in a range of thicknesses. The blocks meet the tolerance requirements for thin joint application given in BS EN 771-4 : 2003.

5.2 The products have the characteristics given in Table 1.

Table 1 Block density and compressive strength

	Quinn-Lite B3	Quinn-Lite B5	Quinn-Lite B7
Nominal dry density (kgm^{-3})	460	650	760
Minimum dry density (kgm^{-3})	440	600	710
Average compressive strength (Nmm^{-2})	3.0	5.0	7.0
Minimum individual block compressive strength (Nmm^{-2})	2.4	4.0	5.6

5.3 The raw materials used in the production of the blocks are cement, lime and sand, the proportions of which may be varied. Aluminium powder is the aerating agent. The blocks are wire-cut to the required dimensions and are cured in high-pressure steam autoclaves to increase their physical and chemical stability.

5.4 The products should be used in conjunction with a thin-joint mortar complying with BS EN 998-2 : 2003.

5.5 Background information on this type of construction can be found in BRE Digest 432 : 1998 *Aircrete : thin joint mortar systems* and the Aircrete Bureau Publication *Code of Best Practice for the use of Aircrete Products*, November 2002.

5.6 Raw materials are checked against chemical and physical specifications, and the final product is checked to BS 6073-1 : 1981 for compressive strength, density and dimensional accuracy.

6 Delivery and site handling

6.1 The blocks are supplied banded and shrink-wrapped in standard packs. All blocks may be off-loaded using mechanical grabs, or fork-lift trucks may be used for palletised blocks.

6.2 The blocks should be stored off the ground on a firm, level area and protected from water ingress. The wrapping should be kept in place until the blocks are required for use.

6.3 The thin-joint mortar is supplied in 25 kg bags and should be stored off the ground in dry, frost-proof conditions.

6.4 In common with other cementitious products, suitable protective clothing should be worn when handling the dry mortar powder. Contact with the eyes and respiratory system should be avoided. Wet mortar in contact with the skin should be washed off immediately.

Design Data

7 General

7.1 Quinn-Lite Thin-Joint Aircrete Blocks are satisfactory for use above and below the damp-proof course in the inner and outer leaf of external cavity walls, solid walls or internal partition walls.

7.2 The blocks should be specified in accordance with BS 6073-2 : 1981, and the stricter dimensional requirements for thin-joint use given in BS EN 771-4 : 2003.

7.3 Walls built from the blocks should be designed and constructed in accordance with the relevant recommendations of BS 5628-1 : 1992, BS 5628-3 : 2001 and BS 5250 : 2002.

8 Ancillary materials

Cavity wall ties

8.1 Suitable cavity wall ties should be manufactured in accordance with BS 1243 : 1978 and achieve the level of performance set out in BS DD 140-2 : 1987. Such ties should be suitable for fixing directly to the thin-jointed leaf and embedded into the mortar joints of the outer leaf.

8.2 Helical and other wall ties are available but have not been assessed. Advice on their use should be sought from the Certificate holder.

8.3 A minimum of 2.5 ties per m^2 should be used.

Movement joint ties

8.4 These ties are strip-form dowels as defined in BS 5628-3 : 2001 and are manufactured from appropriate materials as set out in Table 14 of that Standard. They are incorporated in the movement joint at 450 mm maximum centres vertically.

Bed joint reinforcement

8.5 This reinforcement is flattened wire or nylon mesh, 2 mm thick, and manufactured from appropriate materials as set out in Table 14 of BS 5628-3 : 2001.

9 Strength and stability

9.1 It has been experimentally shown that the characteristic flexural strengths of wallettes made with thin-joint masonry were equivalent to the values given in BS 5628-1 : 1992. The characteristic compressive strength of aircrete blockwork will be greater with thin joint construction than that with traditional mortar joints. Thus the flexural and compressive strengths can be assumed to be adequate (see BRE Digest 432 : 1998 and DD ENV 1996-1-1 : 1996).

9.2 The Certificate holder should be consulted for other test data for strength and stability for design purposes.

9.3 The wall ties, when installed as described in sections 18.8 and 18.9 and at the appropriate density given in Table 2, are satisfactory for use in areas of the mainland UK with design wind speeds of 40, 44, 49 and 57 ms^{-1} as defined in BS 6399-1 : 1996. The effective thickness of the wall can then be calculated in accordance with clause 28.4 of BS 5628-1 : 1992.

Table 2 Tie density

Design wind speed (ms^{-1})	Tie density (ties per m^2)	Tie spacing (mm)	
		horizontal	vertical
40	2.47	900	450
44	2.96	750	450
49	3.70	600	450
57	4.94	450	450

10 Weather resistance

Walls built from the blocks and subject to the national Building Regulations should be designed and constructed as described in:

England and Wales

Approved Document C, Requirement C4, Section 4. In addition, the minimum block thicknesses to be used in solid rendered external walls (related to exposure as defined in BS 5628-3 : 2001) are given in Table 3.

Table 3 Minimum block thicknesses(1)

Exposure	Severe	Moderate/ severe	Sheltered/ moderate	Sheltered	Very sheltered
Minimum block thickness (mm)	215	190	140	90	90

(1) Increased thicknesses may be necessary to meet other requirements such as structural stability (see sections 7, 11 and 12 of this Certificate).

Scotland

Technical Standards, Part G *Provisions deemed to satisfy the Standards*.

Northern Ireland

Technical Booklet C, and section 13 of this Certificate.

11 Thermal insulation

11.1 For the purposes of calculating thermal transmittance (U values), for protected blockwork (as defined in CIBSE Guide A : 1999 *Environmental Design*) the thermal conductivity (λ value) used should be taken from Table 4.

Table 4 Thermal conductivities

Block type	Thermal conductivity ($Wm^{-1}K^{-1}$)
B3	0.12
B5	0.17
B7	0.19

11.2 In the opinion of the BBA, the thin-mortar joint construction will reduce the actual thermal transmittance of the wall compared with a standard 10 mm joint construction. A typical figure of an 8% reduction is quoted for a brick-cavity-aircrete wall in BRE Information Paper IP 2/98 : January 1998 *Mortars for blockwork : improved thermal performance*, A W Stupart and J S Skandamoorthy.

11.3 The requirement for limiting the heat loss through the building fabric will be satisfied if the U values of the building elements including thermal bridging do not exceed the maximum values given in the Elemental Method of Approach in the national Building Regulations:

England and Wales

Approved Documents L1 and L2, Table 1

Scotland

Technical Standards, J3.1, Table and J8.1

Northern Ireland

Technical Booklet F, Table 1.2 or 1.4.

11.4 Alternative solutions are also described in these documents which allow for more flexibility in design of U values for individual constructional elements.

12 Sound insulation

12.1 Constructions using the products in accordance with this Certificate will have insulation properties slightly different to those of walls constructed with conventional mortar and blockwork, in that resistance to low frequencies will be greater but for high frequencies, resistance will be smaller. However, using correct design, the overall sound insulation properties of a thin-joint wall will meet the regulatory requirements.

12.2 The product is suitable for use in flanking wall situations. The relevant construction requirements are:

Flanking walls construction

Where the product is used in a solid external wall or the inner leaf of an external cavity wall subject to the national Building Regulations, and the external wall flanks a separating wall, it should comply with the construction conditions given in Table 5.

Table 5 External wall requirements

Separating wall type[1]	External wall requirements to appropriate Building Regulations[2]		
	England and Wales	Scotland	Northern Ireland
Wall Type 1: Solid Masonry	Condition 1 Condition 2 Condition 3	Condition 1 Condition 2	Condition 1 Condition 2 Condition 4 Condition 5
Wall Type 2: Cavity Masonry, Construction B	Condition 1 Condition 3	Condition 1	Condition 1 Condition 4 Condition 5
Wall Type 2: Cavity Masonry Construction C[3]	Condition 1 Condition 3 Condition 6		Condition 1 Condition 4 Condition 5 Condition 6
Subject of current Agrément Certificate[2]	Condition 6 or Condition 7		Condition 6 or Condition 7

(1) Separating wall type as defined in the Building Regulations: England and Wales — Approved Document E, Scotland — Standard H2.1, Northern Ireland — Technical Booklet G.

(2) **Condition 1** — The external wall should be bonded to the separating wall or be butted to it and tied at a maximum 300 mm vertical spacing.
Condition 2 — The external wall, when constructed using B3 blocks, should have openings on both sides of the separating wall at every storey. The openings must be at least one metre high and not more than 700 mm from the face of the separating wall.
Condition 3 — If the external wall is a cavity wall, the cavity should be stopped with a flexible closer.
Condition 4 — The external wall, when constructed using B3 blocks, should have at least 650 mm between openings on either side of the separating wall.
Condition 5 — The external wall, when constructed using B3 blocks, should not extend past the end of the separating wall.
Condition 6 — A minimum leaf thickness of 100 mm of Quinn-Lite B3 is required, finished with either plaster or plasterboard on dabs.
Condition 7 — A leaf with a minimum thickness of 100 mm (Quinn-Lite B5) or 90 mm (Quinn-Lite B7), or a construction using Quinn-Lite B3 blocks of an equivalent wall weight (or the equivalent as covered by an Agrément Certificate).

(3) Where the separating wall is neither of Wall Type 2: Cavity Masonry, Construction C nor the subject of an Agrément Certificate, the blocks may be used in repeating an existing acceptable construction in accordance with the provisions of Approved Document E, Section 3, in England and Wales, or Technical Booklet G, Section 2, in Northern Ireland.

Separating walls

12.3 The B5 and B7 blocks can be used in separating walls. Separating walls constructed from the blocks and subject to the national Building Regulations should be constructed in accordance with the following provisions:

- two 100 mm thick leaves cavity construction
- all vertical and horizontal joints shall be filled with thin-joint mortar complying with BS EN 998-2 : 2003
- penetrations eg by structural members and services, should be avoided. Where such penetration is genuinely unavoidable, full sealing should be applied at the construction stage
- where joists are at right angles to the separating wall, joist hangers must be used
- the cavity width shall be a minimum of 75 mm and should be maintained into the roof space
- wall ties shall be of the butterfly type or an alternative proven not to increase the transmission of airborne sound in comparison. This may be determined by test evidence or by reference to an Agrément Certificate
- electrical and TV sockets shall not be placed on the wall where avoidable, and never within a block length of each other on opposite sides of the wall
- walls shall be finished on both sides with a sand-cement plaster with a minimum thickness of 13 mm. Finishes are not required above the roof space
- gas flues shall not be built into the separating wall where avoidable. Where such construction is genuinely unavoidable, full sealing should be applied at the construction stage
- the use of lightweight ceiling boards, eg foam-filled, shall be avoided
- the flanking construction shall comply with provisions given in section 12.2 of this Certificate.

13 Properties in relation to fire

13.1 For walls constructed from the blocks and standard mortars and subject to the national Building Regulations, the fire resistance can be determined by reference to Building Research Establishment Report BR 128 (1988) *Guidelines for the construction of fire-resisting structural elements.*

13.2 The blocks are non-combustible as defined in the national Building Regulations:

England and Wales

Approved Document B, Appendix A, Table A6

Scotland

Technical Standards (D1.3), Table 3 *Reaction to fire*

Northern Ireland

Technical Booklet E, Section 6, paragraph 6.4.

13.3 Consideration of data in the National Application Document (NAD) to DD ENV 1996-1.2 : 1997 indicate that walls of thin-joint blockwork will achieve a minimum fire resistance to 60 minutes for loadbearing walls and 240 minutes for non-loadbearing walls at a minimum leaf thickness of 100 mm. Where other periods of fire resistance are required, the Tables in the above NAD should be consulted.

13.4 The performance of the thin joint mortar to be used should be determined in accordance with section 5.6 of BS EN 998-2 : 2003.

13.5 The wall ties and anchors must be non-combustible.

14 Concentrated loads

14.1 Increased local stresses may be permitted with the products provided the member applying the load is sensibly rigid or a suitable spreader is introduced. Design should be in accordance with BS 5628-1 : 1992, clause 34.

14.2 Construction should be in accordance with BS 5628-3 : 2001; in particular, supervision and workmanship should ensure that coursing is carried out such that bearings are not less than 150 mm in length or the length required by the design calculation whichever is the greater. Lintels should not bear on short lengths of cut block. Where possible the masonry should be set out to provide a full block under a bearing.

14.3 Joist hangers may be used provided that:

- when designing in accordance with BS 5628-1 : 1992, the full effect of the maximum eccentric load at the joist hanger detail should be taken into account (see clause 31). In addition, since it should be assumed that joist hangers are not sensibly rigid in terms of BS 5628-1 : 1992, clause 34, when calculating the local bearing stress under single hangers, the effective load applied via the hanger should be determined by an acceptable elastic theory
- they are compatible with aircrete blocks of average compressive strengths greater than 2.8 Nmm^{-2}, the thin mortar joint, and the dimensions used in the design and manufactured from appropriate materials as set out in Table 14 of BS 5628-3 : 2001
- supervision and workmanship(1) are adequate to ensure that:
  - installation is in accordance with the hanger manufacturer's instructions
  - the course to carry the hangers is level and at the correct height, any adjustments being made before the course is laid
  - the hanger bears directly on a complete block with the back plate flat against the block
  - the gap between the joist and the back plate does not exceed 6 mm
  - construction complies with the conditions used in the design, and restraint type hangers are used when specified
  - the thin-joint blockwork above the hanger is completed and matured before any load is applied to the hanger.

(1) Further guidance may be obtained from BRE Defect Action Sheet 58 : 1984 *Suspended timber floors : joist hangers in masonry walls — installation.*

15 Movement

15.1 The drying shrinkage of the blocks as defined in BS 6073-1 : 1981 may be taken as not more than 0.09%.

15.2 Movement may be accommodated using movement joints or bed joint reinforcement or a combination of the two.

Movement joints

15.3 Movement joints should be provided strictly in accordance with BS 5628-3 : 2001 and the Certificate holder's instructions. Vertical movement joints should be provided (subject to section 15.2):

- at 6 m centres in long plain walls (with the first not more than three metres from the edge restraints or corners) or where the aspect ratio (length/height) of a panel exceeds 2:1
- where internal partitions or loadbearing walls abut the inner leaf of external walls
- as necessary above and below window openings, and above door openings.

Bed joint reinforcement

15.4 When bed joint reinforcement is designed to contribute towards accommodation of movement in association with appropriate movement joints, thin-joint blockwork should be designed and installed strictly in accordance with the Certificate holder's instructions.

16 Pattern staining

16.1 Calculations carried out at the BBA indicate that the risk of pattern staining on the inside surface of a wall constructed with the blocks will be negligible under anticipated conditions of temperature and humidity, provided the plaster thickness is in accordance with BS 5492 : 1990, or that dry lining is used in accordance with the relevant recommendations of BS 8212 : 1995.

16.2 Where the blocks are to be used in solid external walls of rooms expected to have high humidities, the provision of ventilation should be in accordance with the Building Regulations and Standards.

17 Durability

Aircrete is a durable material. Walls will have a durability equivalent to that of traditional masonry.

Installation

18 General

18.1 Walls incorporating the products should be designed and installed strictly in accordance with this Certificate. The Certificate holder's technical advice should also be sought.

18.2 The level of supervision during installation of the products and the associated structure, as with all masonry, must be sufficient to ensure the quality of workmanship described in BS 5628-3 : 2001 and BS 8000-3 : 1989.

18.3 The blocks are resistant to damage by site handling but should be used in accordance with BS 5628-3 : 2001 Sections 30 *Storage on site*, and 35 *Protection against damage during construction*.

18.4 The blocks may be cut to size using a masonry handsaw.

Procedure

18.5 To ensure the ability to construct a level thin-joint wall, to line and level the first course of blocks is bedded in traditional mortar.

18.6 The thin-joint mortar should be mixed according to the manufacturer's instructions and spread to a thickness of 2 mm to 3 mm(1) using a notched trowel (similar to a tiling adhesive trowel), ensuring all joints are filled.

(1) It should be noted that the dimensional tolerances of the blocks theoretically could result in a mortar joint thickness outside the specified 2 mm to 3 mm; however, test and production data indicate a low probability of problems in this respect.

18.7 It is normally permissible to build the inner leaf to storey height ahead of the outer leaf. However, construction should only proceed where weather and exposure conditions allow. If there is a significant delay before the outer leaf is built the inner leaf will require propping and may also require protection from the weather.

18.8 The outer leaf should be laid in accordance with the relevant Codes of Practice. In particular, the use of a cavity batten is recommended to catch mortar droppings. A minimum cavity width of 50 mm should be maintained, and cavity wall ties as described in sections 8.1 to 8.3 should be incorporated at this stage. Helical ties can be hammer driven into the aircrete inner leaf at the appropriate mortar joint level of the outer leaf as construction progresses. Alternatively, ties to be face-fixed to the thin-joint blockwork should be anchored through the hole provided in the tie using an expanding nail or similar fixing. Frame-fix ties must be installed correct side up, and placed horizontally or with a slight fall to the outer leaf.

18.9 In addition, extra ties should be located on either side of movement joints and adjacent to window and door openings at 215 mm vertical centres.

18.10 Surface imperfections should be made good.

18.11 The internal surface of the blockwork should be finished in accordance with BS 5492 : 1990. The blockwork is suitable to receive low-thickness finishes such as textured paint or thin-coat plaster. The effect on other required properties should always be considered. Plaster should be cut at movement joints while wet.

18.12 Other components (such as cavity trays, restraint straps) can be accommodated by appropriate chasing or other methods, as necessary. The advice of the Certificate holder should be sought.

19 Chasing

In accordance with BS 5628-3 : 2001, vertical chases should not exceed one-third of the thickness of the leaf, and horizontal chases should not exceed one-sixth of the thickness of the leaf at any point.

20 Rendering and plastering

As with all masonry, rendering should be carried out in accordance with BS 5262 : 1991 and plastering should be carried out in accordance with BS 5492 : 1990. Suitable mixes for use with the product may be determined by reference to the Certificate holder; account should be taken of the moisture condition of the masonry before finishes are applied. The Certificate holder should be consulted regarding low water vapour permeability renders.

21 Fixings

21.1 Cut nails or spiral nails may be used for lightweight fixtures. For heavier fixtures, screws and nylon plugs, nailable expansion fixings or helical fixings should be used. A minimum of 50 mm penetration should be achieved in all cases.

21.2 Fixings must be selected and installed in accordance with the fixings manufacturer's instructions, paying particular attention to drilling depth, drill diameter, minimum spacings and minimum edge distances.

21.3 Safe working loads for certain proprietary fixings used with the blocks can be obtained from the Certificate holder.

21.4 Guidance on some typical loads applied by relevant components (eg for services and finishing) can be obtained from BS 648 : 1964 and by common fixtures from Table 5 of BS 8200 : 1985.

Technical Investigations

The following is a summary of the technical investigations carried out on Quinn-Lite Thin-Joint Aircrete Blocks.

22 Tests

Tests were carried out on the blocks to determine:

- dimensional accuracy
- squareness
- dry density.

23 Investigations

23.1 The manufacturing process for the blocks was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

23.2 Sites in progress were examined to establish the practicability of installation.

23.3 A re-examination was made by the BBA of data associated with BBA Certificate Nos 98/3477 and 98/3478 for Quinn-Lite B3 and Quinn-Lite B5 and B7 respectively.

23.4 The Certificate holder's recommendations concerning design and installation were reviewed.

Bibliography

BS 648 : 1964 *Schedule of weights of building materials*

BS 874 : 1973 *Methods for determining thermal insulating properties with definitions of thermal insulating terms*

BS 1243 : 1978 *Specification for metal ties for cavity wall construction*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 5262 : 1991 *Code of practice for external renderings*

BS 5492 : 1990 *Code of practice for internal plastering*

BS 5628-1 : 1992 *Code of practice for use of masonry — Structural use of unreinforced masonry*
BS 5628-3 : 2001 *Code of practice for use of masonry — Materials and components, design and workmanship*

BS 6073-1 : 1981 *Precast concrete masonry units — Specification for precast concrete masonry units*
BS 6073-2 : 1981 *Precast concrete masonry units — Method for specifying precast concrete masonry units*

BS 6399-1 : 1996 *Loading for buildings — Code of practice for dead and imposed loads*

BS 8000-3 : 1989 *Workmanship on building sites — Code of practice for masonry*

BS 8200 : 1985 *Code of practice for design of non-loadbearing external vertical enclosures of buildings*

BS 8212 : 1995 *Code of practice for dry lining and partitioning using gypsum plasterboard*

BS DD 140-2 : 1987 *Wall ties — Recommendations for design of wall ties*

BS EN 771-4 : 2003 *Specification for masonry units — Autoclaved aerated concrete masonry units*

BS EN 998-2 : 2003 *Specification for mortar for masonry — Masonry mortar*

DD ENV 1996-1.1 : 1996 *Eurocode 6. Design of masonry structures — General rules for buildings — Rules for reinforced and unreinforced masonry — (together with United Kingdom National Application Document)*
DD ENV 1996-1.2 : 1997 *Eurocode 6. Design of masonry structures — General rules — Structural fire design (together with United Kingdom National Application Document)*

Conditions of Certification

24 Conditions

24.1 This Certificate:

(a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;

(b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;

(c) is valid only within the UK;

(d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;

(e) is copyright of the BBA;

(f) is subject to English law.

24.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

24.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabrication including all related and relevant processes thereof:

(a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine; and

(c) are reviewed by the BBA as and when it considers appropriate.

24.4 In granting this Certificate, the BBA is not responsible for:

(a) the presence or absence of any patent or similar rights subsisting in the product or any other product;

(b) the right of the Certificate holder to market, supply, install or maintain the product; and

(c) the nature or standard of individual installations of the product or any maintenance thereto, including methods and workmanship.

24.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.

BBA BRITISH BOARD OF AGRÉMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

In the opinion of the British Board of Agrément, Quinn-Lite Thin-Joint Aircrete Blocks are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 04/4125 is accordingly awarded to Quinn Manufacturing Ltd.

On behalf of the British Board of Agrément

Date of issue: 22nd July 2004

Chief Executive

British Board of Agrément
P O Box No 195, Bucknalls Lane
Garston, Watford, Herts WD25 9BA
Fax: 01923 665301

e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk