QUINN lite

PRODUCT GUIDE

CONTENTS

Introduction
QUINN-*lite* thermal blocks

Comissioned in 1995, our fully automated QUINN-*lite* Factory in Derrylin is the only Aircrete Block manufacturing facility in Ireland to date.

Supplying both the Irish and UK markets, QUINN-*lite* offers one of the most energy efficient building block for the construction industry.

The QUINN-*lite* thermal block is a unique product in that its microcellular structure provides a wide range of desirable properties including excellent thermal performance, light weight, fire resistance, frost resistance and moisture resistance.

With thermal performances superior to those of conventional concrete blocks, the QUINN-*lite* Thermal block helps meet and exceed the requirements of the increasingly more stringent building regulations, without moving away from traditional forms of construction .

Our attainment of IAB and BBA certification, confirming our products compliance to the building regulations, is evidence of our continued commitment to quality and performance.

Manufacturing Process

The QUINN-*lite* plant is among the most modern of its kind in the world, incorporating state of the art computer process control. Allied to this is a highly trained and competent workforce, which allows us to consistently produce products of the highest calibre which meet all the relevant European and international standards.

The raw materials used in QUINN-*lite* include sand, cement, PFA, lime, aluminium and water. These raw materials are poured into a mould in a slurry form.

The minute amount of aluminium in the slurry reacts with the lime and forms hydrogen gas. The liberated gas causes the mixture to expand to twice its original height, forming extremely small air bubbles.

After the material has reached the correct height and hardness in our enclosed heated curing tunnel, it is ready for cutting. It is now referred to as a cake.

The cakes are trimmed to size and cut both horizontally, and vertically into the required block size, using piano wires. The cakes now cut to block size are fed into autoclaves where they are steam cured. During the autoclaving process, further chemical reactions take place with the formation of calcium silicate hydrates from which QUINN-*lite* derives its superior compressive strength.

After autoclaving the blocks are separated without dismantling. Colour coded straps are then placed around the pack of blocks.

This colour code identifies the strength of block, with a yellow strap representing a pack of B3 blocks, a blue strap representing B5 and a red strap representing B7 blocks. The blocks are then wrapped for delivery to site.

QUINN-*lite* Cakes ready to be removed from Autoclave.

QUINN-*lite* Properties

THERMAL PERFORMANCE

The thermal conductivity of the blocks is up to ten times that of conventional concrete blocks. QUINN-*lite* thermal blocks offer a high level of performance which help meet and exceed the requirements of Part L (R.O.I.) and Part F (N.I.,) of the building regulations as well as the specific needs of designers and developers.

WORKABILITY

QUINN-*lite* Thermal blocks can be easily built and plastered using traditional tools and materials. They can be easily chased, drilled and sawn using ordinary hand tools, allowing difficult shapes to be achieved with ease, while at the same time reducing waste through accurate cutting.

FIRE RESISTANCE

QUINN-*lite* thermal blocks provide excellent fire protection in both load bearing and non load bearing applications. They are classed as non combustible and have a Class 0 resistance to surface spread of flames. Table 12 outlines the thickness of block required to meet a specific fire resistance.

MOISTURE AND FROST RESISTANCE

QUINN-*lite* thermal blocks micro-cellular structure incorporates millions of pockets of trapped air which gives the product an excellent resistance to moisture and to attack from frost. This characteristic of the QUINN-*lite* thermal block makes it ideal for use below DPC level.

SOUND RESISTANCE

QUINN-*lite* thermal blocks are suitable for use in party wall construction. Together with a proprietary sound reduction board, QUINN-*lite* blocks have achieved test results with weighted standardised level differences (DnT,w) for airbourne sound transmission in excess of 60 dB. This construction exceeds even the most stringent of regulations. Please contact our technical department for further details.

LITE WEIGHT

QUINN-*lite* thermal blocks have nominal dry densities ranging from 480kg/m^3 to 760kg/m^3. They are only a fraction of the weight of a conventional concrete block which in turn, helps meet CDM requirements for manual handling, reduces transport costs and reduces the load on buildings in high rise construction. Their light weight characteristics do no compromise their strength or durability in any way. Tables 9, 10 and 11 can be used to work out the load for various wall thicknesses.

The Royal Victoria Hospital is a project in which QUINN-*lite* thermal blocks were used.

SUSTAINABILITY

The manufacturing process of QUINN-*lite* Thermal blocks is designed to promote sustainability, both before and after the blocks leave the yard.

Factors which help minimise QUINN-*lites* impact on the environment and enhance the products low carbon footprint include:

- Raw materials and labour are sourced locally.
- Pulverised Fuel Ash used in manufacture is a waste material from power stations.
- 365,000 gallons of water per hour used in sand washing process is recycled.
- Fine sands captured in water recycling process is used in production.
- Steam used in autoclaves is condensed back into water.
- Lighter material results in less energy consumption during haulage.
- Electricity used in manufacturing process is generated from local wind farm.

The inherent insulation properties of QUINN-*lite* thermal blocks can significantly reduce energy consumption in buildings, thus reducing CO^2 emissions.

ENJOY SIGNIFICANT SAVINGS

A NICER report published in 1998 found, "using QUINN-*lite* thermal blocks your home will heat six times faster...." This results in up to 50% savings on the cost of heating your home, depending on lifestyle. QUINN-*lite* Thermal Blocks save on labour, time and materials resulting in a more cost effective construction.

STRUCTURAL PERFORMANCE

QUINN-*lite* thermal blocks are available in compressive strengths of 3.0N/mm^2, 5.0N/mm^2 and 7.0mm^2 offering designers flexibility to meet the structural requirements of a wide range of buildings, from traditional dwellings to large commercial and industrial buildings. For residential buildings up to three storeys, national building regulations along with BS 8103: Part 2 'Structural design of low rise buildings,' provide general rules to enable designers to specify block strengths and wall thicknesses without the need for structural calculations. For residential buildings over three storeys as well as commercial and industrial buildings, design should be carried out in accordance with BS 5628: Part 1 by a Structural Engineer. For domestic dwellings up to two storeys, a 150mm QUINN-*lite* B5 block is recommended to carry hollowcore floor slabs.

Windfarm, Derrylin, Co. Fermanagh.

QUINN-*lite* Product Range

QUINN LITE B3

QUINN-*lite* B3 blocks are supplied in response to customer demand for a building block with high thermal insulation combined with a high strength to weight ratio.

Suitable for use in

- Partitions
- Cavity walls
- Solid Walls

SPECIFICATIONS

- Thermal Conductivity (λ) 0.12W/mK
- Average saturated compressive strength not less than 3.0N/mm^2
- Normal Dry Density (480kg/m^3)
- Certified by British Board of Agrément (Cert no. 98/3477)
- Certified by Irish Agrément Board (Cert no. 07/0264)
- Dry shrinkage and dimensions comply with (BS 6073: Part 1: 1981)

Table 1

B3 FACE DIMENSIONS 440x215								
Available Thickness (mm)	100	115	125	140	150	215	275	300
Mass per Block (Kg) (including 3% moisture)	4.68	5.38	5.85	6.55	7.02	10.06	12.87	14.04
Number of Blocks per pack	72	64	56	48	48	32	24	24

QUINN-*lite* B5

QUINN-*lite* B5 blocks inherit the normal characteristics of QUINN -*lite* products with a higher strength specification. The QUINN lite B5 range achieves a strength of 5N/mm^2, yet is only 1/3 the weight of dense concrete blocks.

Suitable for use in

- Partitions
- Cavity walls
- Solid Walls
- Seperating Walls

SPECIFICATIONS

- Thermal Conductivity (λ) 0.17W/mK
- Average saturated compressive strength not less than 5.0N/mm^2
- Normal Dry Density (650kg/m^3)
- Certified by British Board of Agrément (Cert no. 98/3478)
- Certified by Irish Agrément Board (Cert no. 07/0264)
- Dry shrinkage and dimensions comply with (BS 6073: Part 1: 1981)

Table 2

B5 FACE DIMENSIONS 440x215							
Available Thickness (mm)	100	140	150	215	250	275	300
Mass per Block (Kg) (including 3% moisture)	6.33	8.87	9.50	13.62	15.83	17.42	19.00
Number of Blocks per pack	72	48	48	32	24	24	24

QUINN-*lite* Product Range

QUINN LITE B7

QUINN-*lite* B7 range is ideally suited to multi-storey construction and depending on design, buildings of up to four storeys may be constructed using the B7 range.

Suitable for use in

- Partitions
- Cavity walls
- Solid Walls
- Seperating Walls
- Multistorey Construction

SPECIFICATIONS

- Thermal Conductivity (λ) 0.19W/mK
- Average saturated compressive strength not less than 7.0N/mm
- Normal Dry Density (760kg/m^3)
- Certified by British Board of Agrément (Cert no. 98/3478)
- Certified by Irish Agrément Board (Cert no. 07/0264)
- Dry shrinkage and dimensions comply with (BS 6073: Part 1: 1981)

Table 3

B7 FACE DIMENSIONS 440x215				
Available Thickness (mm)	100	140	150	215
Mass per Block (Kg) (including 3% moisture)	7.41	10.37	11.12	15.93
Number of Blocks per pack	72	48	48	32

QUINN-*lite* Coursing Units

QUINN-*lite* coursing units are ideal for use as a space filler, around doors and windows, for closing cavities and for making up between joists. They are a convenient method of construction rather than the wasteful practice of cutting block into brick on site, incurring both expensive labour costs and lost building time.

Table 4

COURSING UNIT FACE DIMENSIONS 215x65			
Available Thickness (mm)	100	115	125
Number of coursing units per pack	364	364	364

QUINN-*lite* Thermal Conductivities

Table 5

PRODUCT	COMPRESSIVE STRENGTH	THERMAL CONDUCTIVITY
QUINN-lite B3	3N/mm2	0.12W/mk
QUINN-lite B5	5N/mm2	0.17W/mk
QUINN-lite B7	7N/mm2	0.19W/mk
Dense Concrete Block	5N/mm2	1.33W/mk

QUINN-*lite* Products
Foundation Blocks

QUINN-*lite* Foundation Blocks

QUINN-Foundation Blocks inherit the normal characteristics of Quinn Lite Products and are manufactured specially for solid wall construction below DPC level and are available in 3N/mm , 5N/mm2 and 7N/mm2.

They are suitable for use where classes 1 and 2 soil and ground water prevail, as defined in table 1 of BRE digest 363.

B3 Foundation Block Specifications

- Thermal Conductivity (λ) 0.12W/mK
- Average saturated compressive strength not less than 3.0N/mm2
- Normal Dry Density (480kg/m3)
- Certified by British Board of Agrément (Cert no. 98/3477)
- Certified by Irish Agrément Board (Cert no. 07/0264)
- Dry shrinkage and dimensions comply with (BS 6073: Part 1: 1981)

Table 6

B3 FACE DIMENSIONS 440x215				
Available Thickness (mm)	215	250	275	300
Mass per Block (Kg) (including 3% moisture)	10.06	11.7	12.87	14.04
Number of Blocks per pack	32	24	24	24

B5 Foundation Block Specifications

- Thermal Conductivity (λ) 0.17W/mK
- Average saturated compressive strength not less than 5.0N/mm2
- Normal Dry Density (650kg/m3)
- Certified by British Board of Agrément (Cert no. 98/3478)
- Certified by Irish Agrément Board (Cert no. 07/0264)
- Dry shrinkage and dimensions comply with (BS 6073: Part 1: 1981)

Table 7

B5 FACE DIMENSIONS 440x215				
Available Thickness (mm)	215	250	275	300
Mass per Block (Kg) (including 3% moisture)	13.62	15.83	17.42	1900
Number of Blocks per pack	32	24	24	24

B7 Foundation Block Specifications

- Thermal Conductivity (λ) 0.19W/mK
- Average saturated compressive strength not less than 7.0N/mm2
- Normal Dry Density (760kg/m3)
- Certified by British Board of Agrément (Cert no. 98/3478)
- Certified by Irish Agrément Board (Cert no. 07/0264)
- Dry shrinkage and dimensions comply with (BS 6073: Part 1: 1981)

Table 8

B7 FACE DIMENSIONS 440x215				
Available Thickness (mm)	215			
Mass per Block (Kg) (including 3% moisture)	15.93			
Number of Blocks per pack	32			

QUINN-*lite*
How "lite" are they?

Tables 9, 10 & 11, below were complied by factoring the dry densities of QUINN-lite blocks by 1.3 to allow for moisture and mortar.

Table 9

100mm THICK WALL			
	UNPLASTERED (kN/m^2)	PLASTERED ONE SIDE ONLY (kN/m^2)	PLASTERED BOTH SIDES (kN/m^2)
B3	0.57	0.81	1.04
B5	0.73	0.97	1.20
B7	0.84	1.07	1.31

Table 10

150mm THICK WALL			
	UNPLASTERED (kN/m^2)	PLASTERED ONE SIDE ONLY (kN/m^2)	PLASTERED BOTH SIDES (kN/m^2)
B3	0.86	1.09	1.33
B5	1.10	1.34	1.57
B7	1.26	1.49	1.73

Table 11

215mm THICK WALL			
	UNPLASTERED (kN/m^2)	PLASTERED ONE SIDE ONLY (kN/m^2)	PLASTERED BOTH SIDES (kN/m^2)
B3	1.23	1.47	1.70
B5	1.58	1.81	2.05
B7	1.80	2.04	2.27

QUINN-*lite* FIRE RESISTANCE

Table 12

		6 HOURS	4 HOURS	3 HOURS	2 HOURS	90 MINUTES.	60 MINUTES
Load bearing Single Leaf Wall	no finish	215mm	180mm	140mm	100mm	100mm	90mm
Non-load Bearing Single Leaf Wall	no finish	150mm	100mm	75mm	63mm	63mm	50mm
Load bearing Cavity Wall	no finish	150mm	150mm	140mm	100mm	100mm	90mm
Non-load Bearing Cavity Wall	no finish	90mm	75mm	75mm	63mm	63mm	50mm

QUINN-*lite* Th
Build a Superior H

A) PARTITION WALLS
QUINN-*lite* Thermal blocks are ideal for constructing single leaf, internal partition walls, quickly and cost-effectively, as well as reducing loading on flooring systems.

B) INTERNAL FINISHES
QUINN-*lite* Thermal Blocks can be plastered using a 1:1:6 cement: lime:sand. Alternatively, gypsm bonding or proprietary spray on finishes can be used. Blocks can also be dry lined.

C) LOADBEARING WALLS
QUINN-*lite* Thermal Blocks are suitable for use in load bearing walls. In residential dwellings a 150mm wide 5N block is recommended for supporting concrete slabs. For buildings other than dwellings, advice should be sought, from a suitably qualified person

D) FIXINGS
A range of proprietary fixings are available for use in conjunction with QUINN-*lite* Thermal Blocks. These range from lightweight fixings for skirting boards, architraves etc to heavy duty fixings for kitchen cupboards, plasma screens etc.

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ome with Comfort

E) COURSING UNITS
QUINN-*lite* Thermal coursing units are ideal for use as a space filler around doors and windows, for closing cavities and for building up between joists.

F) EXTERNAL FINISHES
QUINN-*lite* Thermal Blocks can be finished using proprietary rendering systems. Alternatively, sand/cement can be used. Contact technical department for more details.

G) EXTERNAL WALLS
The high moisture resistance properties of QUINN-*lite* Thermal blocks makes them ideal for use in the external leaf of cavity walls as well as for solid wall construction.

H) LINTELS
Conventional steel and concrete lintels can be used in conjunction with QUINN-*lite* Thermal blocks.

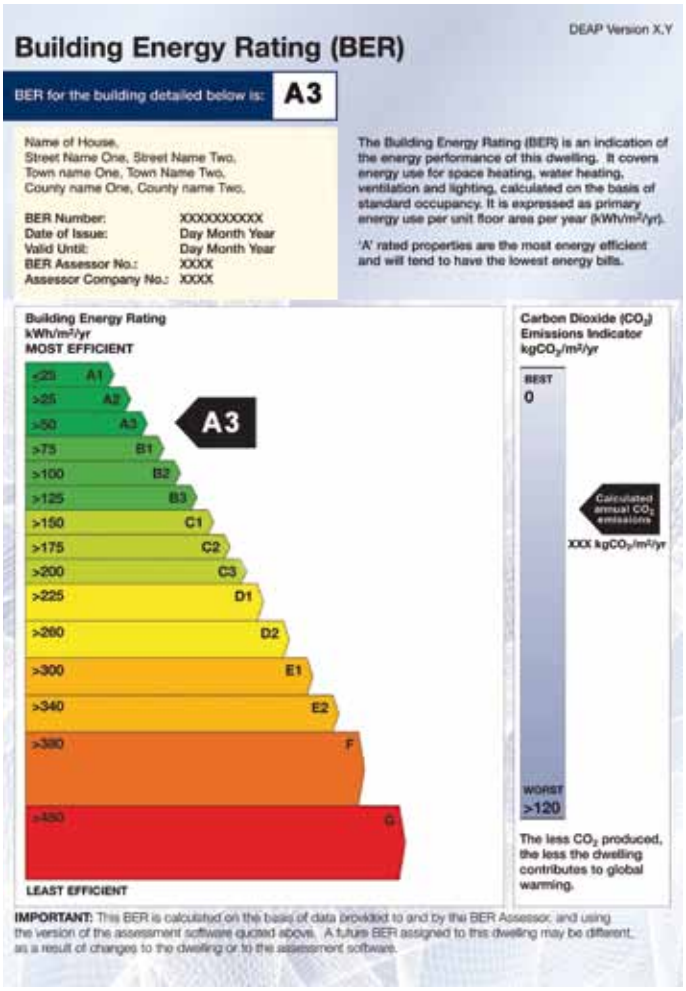
I) FOUNDATIONS
QUINN-*lite* Thermal B5 and B7 foundation blocks offer a cost effective and speedy method of construction below DPC level. B3 blocks can by used subject to an Engineers approval. The use of QUINN-*lite* foundation blocks is an excellent method of reducing thermal bridging at rising wall to floor junction.

Achieving An 'A' Rated Home

Since 1st January 2007, following an EU directive, all new houses require a Building Energy Rating (BER) certificate. This rating is based on a theoretical assessment of the energy performance of the dwelling.

BER performance bands range from A1 (the most efficient) to G (the least efficient). Although there is no stipulation on what rating your house must achieve, many people will pay more at the outset to achieve a high rating in order to reduce running costs and improve environmental performance over their lifetime.

Ratings are based on primary energy consumption measured in kWh/m2/yr. A figure of 158 kWh/m2/yr, which complies with 2005 building regulations, has a C1 rating. A figure of 70 kWh/m2/yr has an A3 rating. Two of the measures which contribute to large reductions in energy consumption are, 'Improved ground floor and external wall insulation' and 'Reduced thermal bridging in external fabric.'



The low thermal conductivity of QUINN-*lite* Thermal blocks improves U-values through external walls thus improving their insulating properties. The use of QUINN-*lite* foundation blocks eliminates the problems with thermal bridging at the junction between the ground floor slab and the innerleaf. Problems with thermal bridging at window reveals can also be easily overcome without the need for proprietary cavity closers.

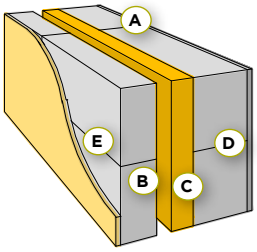
Pete Redmond's Passive home as seen on RTE's *"I want a Garden"*. QUINN-*lite* thermal blocks were used in this project.

Achieving An 'A' Rated Home

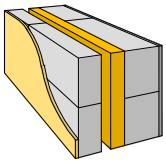
In order to achieve an A-rated home a U-Value through the wall of 0.20W/m²K or better is recommended.

WALL ELEMENT	THICKNESS (mm)	CALCULATED U-VALUE (W/m²K)
Render	15	0.20*
Dense block	100	
Cavity	≥25	
QUINN-*therm*	60	
QUINN-*lite* B3	150	
Plaster	13	
Render	15	0.20
QUINN-*lite* B5	100	
Cavity	≥25	
QUINN-*therm*	60	
QUINN-*lite* B5	150	
Plaster	12	
Render	15	0.20*
Dense Block	100	
Cavity	≥25	
QUINN-*therm*	60	
QUINN-*lite* B5	215	
Plaster	13	
Render	15	0.20
Dense Block	100	
Cavity	≥25	
QUINN-*therm*	75	
QUINN-*lite* B5	150	
Plaster	13	
Render	15	0.20
QUINN-*lite* B5	215	
QUINN-*therm* QL	60/12.5	
Skimmed finish	2	
Render	15	0.20
QUINN-*lite* B5	215	
Timber battens	25	
QUINN-*therm*	60	
Plaster board	12.5	
Skimmed finish	2	
Render	15	0.10 (passive home)
QUINN-*lite* B5	100	
Cavity	≥25	
QUINN-*therm*	100	
QUINN-*lite* B5	215	
QUINN-*therm* QL	60/12.5	
Skimmed finish	2	

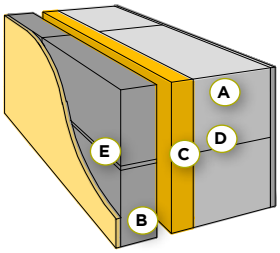
For further information contact our technical department.
***Values in table are based on thin joint mortar.**



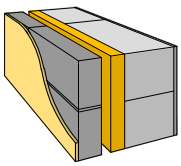
U-Value=0.20W/m²K



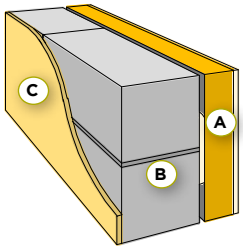
a) 150mm QUINN-*lite* (B5)
b) 100mm QUINN-*lite* (B5)
c) 60mm QUINN-*therm*
d) Thin Joint Mortar
e) External Render



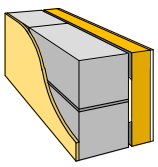
U-Value=0.20W/m²K



a) 215mm QUINN-*lite* (B5)
b) 100mm Dense Block
c) 60mm QUINN-*therm*
d) Thin Joint Mortar
e) Traditional Mortar



U-Value=0.20W/m²K



a) 80/12.5mm QUINN *therm* QL board
b) 215mm QUINN *lite (B5)*
c) Approved external render

Wall Construction Details
Party Wall Construction

Fig 1

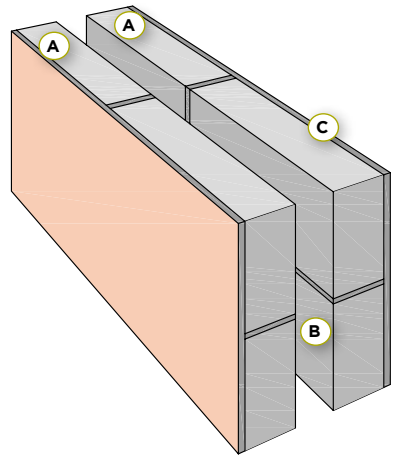


Fig 2

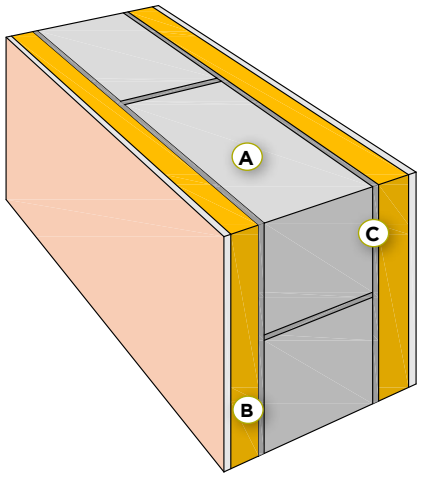


FIG 1 KEY FOR DIAGRAM

- a 100mm B5
- b 75mm Cavity
- c 13 Plaster

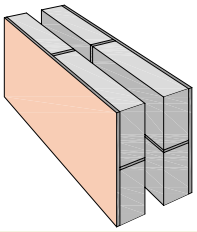
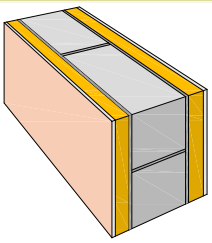


FIG 2 KEY FOR DIAGRAM

- a 215mm QUINN-*lite* B5
- b 50mm Proprietary sound board
- c 12.5mm Plaster

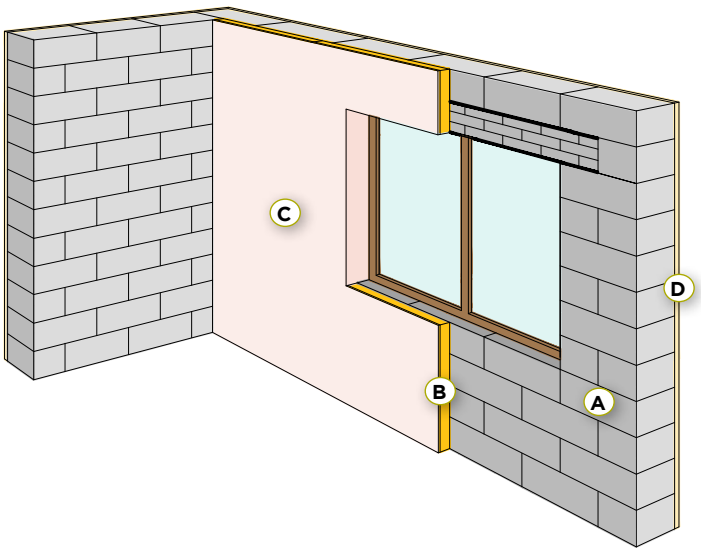


Note: Wall ties used in this construction to be Type A "Butterfly" as defined in BS 1243:1978

Both wall construction shown above comply with the sound regulations send out on Technical Booklet G:1990 (NI) and Technical Guidance Document E: 1997 (ROI)

Solid Wall Construction

Solid wall construction is a common practice in Britain and across Europe as an alternative to cavity wall construction. Architects and Designers across Ireland are now too looking at alternatives to the traditional cavity wall. The use of QUINN-*lite* Thermal blocks in solid wall construction offers improved U-values over dense blocks, which can be further enhanced by using the thin-joint mortar system.



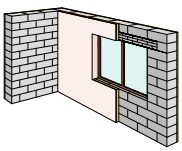
Their high strength to weight ratio and the range of blocks available make the QUINN-*lite* thermal block ideal for solid wall construction.

A number of different finishes can be applied to QUINN-*lite* solid external walls. A high performance mineral based render, external insulation systems or cladding systems are all compatible with QUINN-*lite* thermal blocks. Traditional sand/cement render should not be used in conjunction with QUINN-*lite* blocks in solid wall construction.

The Quinn Therm laminate board applied to the inside surface of the wall offers a quick finish and comes in a range of thickness to give the desired U-values.

FIG 3 KEY FOR DIAGRAM

- a 215mm Quinn Lite B5
- b Quinn Therm laminate board
- c Skimmed finish
- d Approved external render



Improve your Build Performance with QUINN-*lite* Thermal Blocks

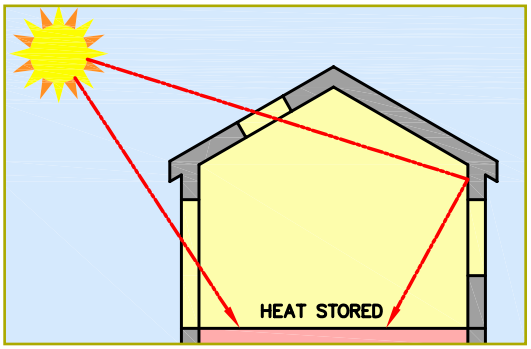
THERMAL MASS

Thermal mass is the ability of a material to absorb heat. High thermal mass materials act as thermal sponges, absorbing heat during sunny periods and so cooling the building and releasing during cooler periods and at night,

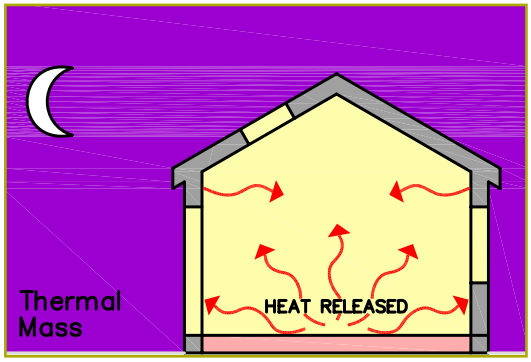
Too little or too much thermal mass can have undesirable effects. Light weight structures will absorb very little heat and as a result may become uncomfortably hot during sunny periods but will grow cold at night. Dense concrete structures may absorb too much heat making them difficult to heat during the day. The QUINN-*lite* Thermal block helps achieve the optimum level.

The inherent thermal mass of QUINN-*lite* Thermal Blocks can help achieve comfortable room temperatures all year round, preventing over heating in summer months whilst storing heat from winter sun and dispatching this during colder periods. This will reduce the need for cooling in summer and heating in winter thus improving the energy performance of your home.

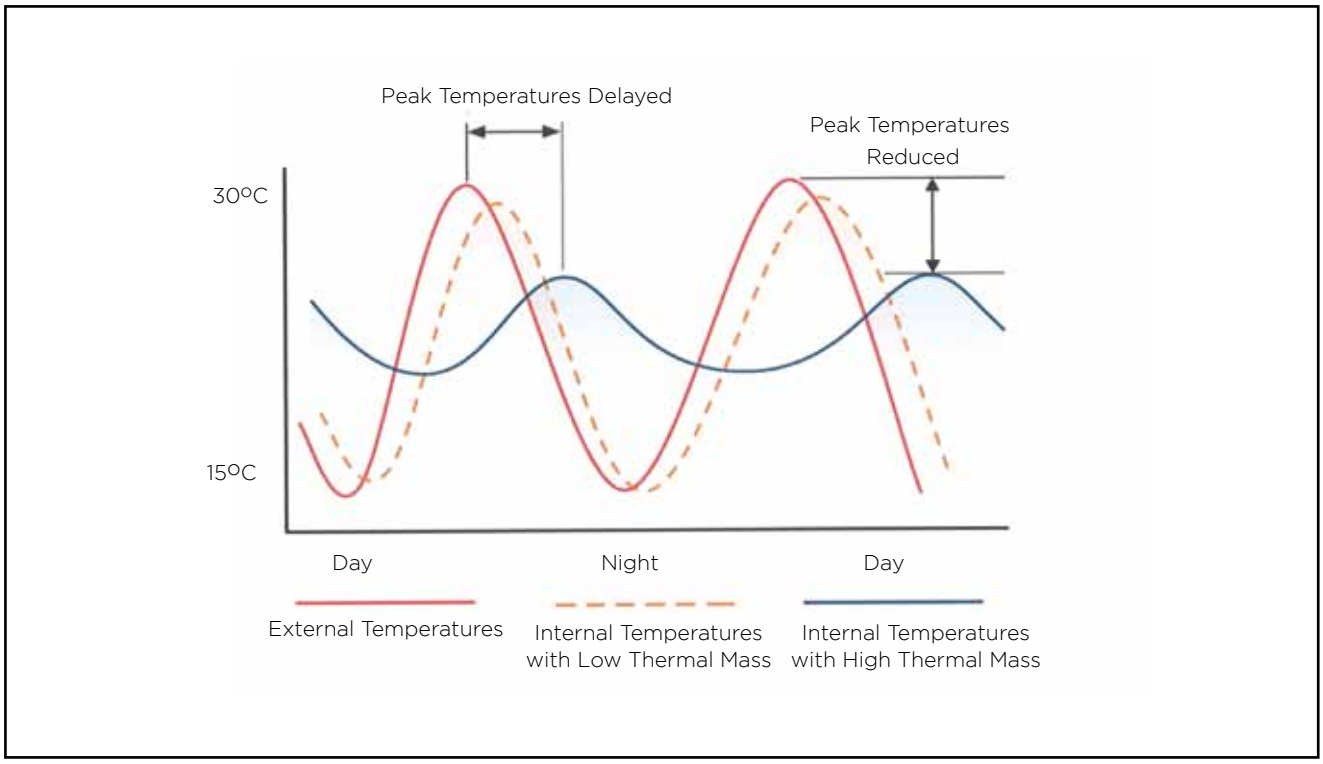
With predictions for climate change pointing towards increased global temperatures in the 21st century, it is vital that new homes are both energy efficient and comfortable to live in. If taken into consideration in the design process, the thermal mass of QUINN-*lite* Thermal blocks can play an important role in future proofing our homes.



Heat stored durning sunny periods



Heat released during cooler periods and at night.



Internal temperature profiles expected in buildings with high and low levels of thermal mass.
Source: The Concrete Centre

QUINN-*lite*
Thin joint mortar system

THIN JOINT MORTAR

The QUINN-*lite* Thin-Joint Mortar System is a modern innovative construction method which brings numerous benefits to the construction industry.

Thin Joint Mortar differs from traditional mortar in that it sets much more quickly. Sufficient strength to support further coursing is gained much quicker, significantly increasing the height of blockwork which can be built in a day.

It's high bond strength and the use of proprietary wall ties allows the inner leaf of blockwork to be built first, taking the outer leaf off the critical path of the building programme. Internal work can continue whilst the outer leaf is being constructed.

For the system to work the blocks need to be manufactured to a very high dimensional accuracy which reduces on-site wastage and forms an excellent substrate on which to apply finishes.

The reduction in mortar joints from 10mm to 2-3mm significantly reduces cold bridging through the mortar, hence significantly improving the thermal performance of the wall and creating a more energy efficient building. Air tightness of the building is also improved with the use of thin joint mortar.

HOW DOES IT WORK

A cement based powder is mixed with water to form a homogenous mortar. The powder is normally supplied in 25kg bags and is available from QUINN-*lite*. The consumption of mortar is dependant on the coursing height and thickness of blocks being used. Consumption rates are shown in the table opposite. Note that the table is based on a 215mm coursing height and does not allow for wastage.

A proprietary serrated scoop is used to apply mortar to the horizontal and vertical surface of the block. The scoop controls the amount of mortar applied giving a consistent bed depth and ensuring that the joints are fully filled to improve air tightness. The next block is placed onto to mortar and a rubber mallet is used to ensure the block is bedded firmly against the proceeding block.

Movement control mesh or bed joint reinforcement is an important part of the thin joint system to distribute any stresses that may build within the wall panel. For information on how frequently it should be used, please contact our technical department.

Thin joint mortar will set within 20 minutes of application.

Clean accurate cuts can be achieved using a specific style handsaw.

Thin joint mortar being applied with a serrated scoop.

A layer of thin joint with reinforced mesh shown.

Block is easily lifted into position.

THIN JOINT WALL TIES

Where the inner and outer leafs of a cavity wall are both constructed using the Thin Joint System, conventional wall ties can be used.

Where the outer leaf is constructed using traditional mortar, the courses will not match therefore conventional ties cannot be used. A range of ties are available that can be fixed into the inner leaf blockwork and embedded into the coursing of the outer leaf in the normal way. These ties are placed at normal centres. For specific details on these ties, please contact our technical department.

Block Thickness	Number of Block / M²	M² per bag
0.100	10.571	7.22
0.115	10.571	6.28
0.125	10.571	5.78
0.130	10.571	5.55
0.140	10.571	5.16
0.150	10.571	4.81
0.200	10.571	3.61
0.215	10.571	3.38
0.250	10.571	2.89
0.300	10.571	2.41

TABLE 1. Consumption rates
Note: *Excludes any allowance for wastage

QUINN-*lite*
Recommended Fixings

QUINN-*lite* recommended a number fixings from fischer fixings Ltd for use with Aircrete Blocks. A number of fixings and their applications are outlined below.

CPS Multi Purpose Sure Twist Anchor

Suitable Fixing for :

- Skirting Boards
- Dado Rails
- Architrave

S-H-R Frame Fixing

Suitable fixing for :

- Radiators
- Mirrors
- Door
- Frames
- Windows
- Kitchen cabinets
- Pictures
- Mirrors,
- Wall lights
- Plumbers pipes
- Electrical Cables

FIS G Injection Treaded Rod

To be uses in conjunction with PBB drill bit and Fischer Injection Mortar

Suitable Fixing for :

- Sanitaryware
- Brackets
- Plasma TV
- Satellite dishes
- Façade/Roof cladding
- Hand-rails,
- Outside lights
- Gate brackets

Square Anchor

Suitable Fixing for :

- Insulation Board

Note

All fixings should have a miminum penetration of 50mm into the blockwork and should be no closer to any edge of the blockwork than the length of the fixing. Whilst drilling blockwork rotary action should be used, hammer action should not be used.

QUINN-*lite* Guidance Notes

MORTAR

Mortars of a low cement content, or class III mortars as defined in BS 5628 Part 3 are recommended for use with QUINN-*lite* Blocks due to their ability to accommodate movement.

Recommended types of mortar mix:
BELOW D.P.C 1:4 cement:sand + plasticiser/mortar mix
ABOVE D.P.C 1:6 cement:sand + plasticiser/mortar mix

Ready to use mortars should be of equivalent composition.
Note: Do not use stronger mixes than those recommended.

CUTTING AND CHASING

Blocks are easily cut using hammer and bolster, hand saw or bench saw. The use of coursing units reduces the need for cutting and keeps waste to a minimum. Vertical chasing must not exceed one third and horizontal chasing one sixth of the wall thickness. Electrical socket boxes should not be placed back to back. A double blade disc saw connected to a vacuum cleaner can be used for vertical chasing while a socket box sinker can be used for electrical sockets. An S.D.S. type drill with a flat chisel blade will easily remove excess material. Do not use hammer action or percussion type tools.

Note: Chasing in party walls between dwellings/apartments should be avoided.

RENDERING AND PLASTERING

Internal

(1) Dampen blockwork with a fine spray of water to reduce suction.
(2) -a: Apply scud coat 1:2 sand/cement with waterproofer.
-b: Alternatively a proprietary bonding agent maybe used, e.g. Evobond, Unibond, or PVA bond.
(3) Scratch coat 1:6 sand/cement to a depth of 8-10mm.
(4) Finish coat 1:6 sand/cement to a depth of 8-10mm.

Gypsm bonding or proprietary lightweight finishes are compatible with QUINN-*lite* Thermal Blockwork.

Plasterboard or insulated plasterboard can be applied using plaster dabs or alternatively it can be mechanically fixed.

Plastering should conform to BS 5492: 1991 Code of practice for internal plastering.

External

External render should be PRAL D by Weber Building Solutions or other equal and approved.

Drying must not be accelerated at any stage before plastering begins

LINTELS

Steel Lintels are recommended to avoid cold bridging. If concrete lintels are used, additional insulation should be used locally along the lintel. Expanded metal should be placed across lintel extending past each edge to avoid cracking. Lintels should bear onto a full block and should have 100mm minimum bearing at openings of 1.2m or less and 150mm minimum bearing at openings of greater than 1.2m.

Where beams carrying excessive loading are resting on QUINN-lite blockwork, concrete padstones should be used.

MOVEMENT JOINTS

It is not normally necessary to include movement joints in the internal walls and inner leaf of dwellings unless the walls are longer than about three times their height. In the external leaf of dwellings and the walls of industrial and commercial buildings, movement joints should be inserted in accordance with BS 5628: part 2 and IS 325. Generally a vertical joint should be inserted every five to six metres.

BED JOINT REINFORCEMENT

Austenitic stainless steel bed joint reinforcement should be placed in two courses above and below openings to avoid cracking. This should extend at least 600mm past both sides of opening. Reinforcement should also be placed under areas of high concentrated loads, e.g. load bearing beams and where a wall is supported by a floor which is subject to deflection.

WALL TIES

Standard Blockwork:
Flexible wall ties butterfly or double triangle to BS 1234 1978 or EN 845-1.

Thin Joint Blockwork:
Where thin joint mortar is used in both leaves of a cavity wall, HJJ100 thin joint cavity tie from Clan Products or equal and approved should be used.

Where thin joint mortar is used on the inner leaf and traditional mortar used on the outer leaf of a cavity wall, Staifix-Thor Helical TJ2 Wall Ties should be used. These ties are driven into the inner leaf blockwork at heights coinciding with the coursing of the outer leaf blockwork or brickwork. Staifix TJ clips should be used with this tie. Please contact Technical Department for further details.

QUINN-*lite*
Quality Control, Distributions & Services

Quality Control

QUINN-*lite* has its own in house laboratory facilities with trained quality technicians to ensure that the process is monitored at the various stages of development. Our laboratory is fitted with all the equipment needed to test the materials used for the process. The raw materials used in the process include; sand, cement, silt, lime, PFA and aluminium. Three of the materials mentioned above are supplied internally by the Quinn Group.

Technicians work on a daily basis analysing raw materials ensuring that they are within the specification limits required for the process. All the raw materials both internally and externally are supplied with certificates of compliance.
During the manufacturing process whilst the cakes are in there green state (pre-autoclaving) they are stamped with an identification mark as a means of traceability.

At the final stage of manufacture blocks are checked for compression strength (N/mm^2), density and dimensionally (mm) using a Vanier calliper. All results are checked against the specifications designed for the particular type of block. All checks are carried out in accordance with
BSEN 771-4:2003 Specification for masonry units - Part 4: Autoclaved aerated concrete masonry units.

All QUINN-*lite* products are certified by the BBA (British Board Agrement) & the IAB (Irish Agrement Board).

Distribution & Services

We offer an extensive and efficient delivery service to all parts of Ireland and the U.K. Our modern fleet of Lorries combined with excellent haulier services, ensures quick, safe and efficient delivery of our products to all locations.

QUINN-*lite* thermal blocks are fully palletised, banded with a colour coded band and stamped for traceability purposes, then shrink wrapped in order to allow safe handling.

At our Manufacturing plant we hold large stock of different strengths and sizes of our block, ensuring all orders are processed without delay.

In common with all divisions within our group, we pride ourselves on the standard of our service and support. We strongly believe that you our customer deserve the best and endeavour at all times to satisfy each unique requirement.

Technical Solutions/ After Sales Service

Our experienced and highly skilled technical staff can provide excellent knowledge and support to our customers, builders, and specifiers. All our staff undergo constant training to ensure we are fluent with changing regulations and are confident in dealing with customer enquiries.

Material Safety Data Sheet
QUINN-*lite* Blocks

This information is issued in accordance with Section 6 of the Health and Safety at Work Act 1974 and the Control of Substances Hazardous to Health Regulations 1988.

Identification of Product / Company

Product: QUINN-lite Aircrete Blocks

Company: Quinn Building Products Ltd.
Derrylin
Co. Fermanagh
BT 92 9AU

Application
QUINN-*lite* Blocks are manufactured in various strengths and densities for use in the construction industry.

Main Constituents
QUINN-*lite* Aircrete Blocks contain a mixture of sand, lime, cement, P.F.A., aluminium based compound and water.

Health Hazards
QUINN-*lite* blocks are not hazardous within the meaning of the Safety & Health at Work Act. Normal building site safety wear such as hard hat, safety footwear and gloves should be worn to prevent abrasion, nip and crush injuries. A dust mask and suitable eye protection should be worn during cutting, chasing or drilling.

Storage
QUINN-*lite* blocks should be stored on firm, level ground. Care should be taken when removing shrink wrapping and strapping from blocks.

Disposal
Waste material should be disposed of in accordance with local regulations.

Corrective Action
Dust Contact with Eye:
Wash with plenty of water.
Skin Abrasion:
Wash with soap and Water
Ingestion:
Drink plenty of Water

Seek medical attention if irritation persists.

QUINN-*lite*
U-Value Calculator

U-value tables for different builds using QUINN-*lite* thermal blocks with typical insulation.

CAVITY BUILD WITH 50mm QUINN THERM (QW)	OUTER LEAF		QUINN LITE INNER LEAF								
			B3			B5			B7		
			100	150	215	100	150	215	100	150	215
	BRICK		0.26	0.24	0.22	0.27	0.25	0.23	0.27	0.26	0.24
	DENSE BLOCK		0.26	0.24	0.22	0.27	0.26	0.24	0.28	0.26	0.24
	QUINN LITE	**B3**	0.23	0.21	0.19	0.23	0.22	0.21	0.24	0.23	0.21
		B5	0.23	0.22	0.20	0.24	0.23	0.21	0.25	0.23	0.22
		B7	0.24	0.22	0.20	0.25	0.23	0.22	0.25	0.24	0.22

CAVITY BUILD WITH 60mm QUINN THERM (QW)	OUTER LEAF		QUINN LITE INNER LEAF								
			B3			B5			B7		
			100	150	215	100	150	215	100	150	215
	BRICK		0.23	0.22	0.20	0.24	0.23	0.21	0.25	0.23	0.22
	DENSE BLOCK		0.23	0.22	0.20	0.24	0.23	0.21	0.25	0.23	0.22
	QUINN LITE	**B3**	0.21	0.20	0.18	0.22	0.21	0.20	0.22	0.21	0.20
		B5	0.22	0.20	0.19	0.22	0.20	0.20	0.22	0.22	0.20
		B7	0.22	0.20	0.19	0.23	0.22	0.20	0.23	0.22	0.21

CAVITY BUILD WITH 75mm QUINN THERM (QW)	OUTER LEAF		QUINN LITE INNER LEAF								
			B3			B5			B7		
			100	150	215	100	150	215	100	150	215
	BRICK		0.20	0.19	0.17	0.21	0.20	0.19	0.21	0.20	0.19
	DENSE BLOCK		0.20	0.19	0.18	0.21	0.20	0.19	0.21	0.20	0.19
	QUINN LITE	**B3**	0.18	0.17	0.16	0.19	0.18	0.17	0.19	0.18	0.17
		B5	0.19	0.18	0.16	0.19	0.18	0.17	0.19	0.19	0.18
		B7	0.19	0.18	0.16	0.19	0.19	0.18	0.20	0.19	0.18

CAVITY BUILD WITH 65mm LITE PAC PEARL	OUTER LEAF		QUINN LITE INNER LEAF								
			B3			B5			B7		
			100	150	215	100	150	215	100	150	215
	BRICK		0.26	0.24	0.20	0.28	0.26	0.24	0.28	0.26	0.24
	DENSE BLOCK		0.27	0.24	0.22	0.28	0.26	0.24	0.28	0.26	0.25
	QUINN LITE	**B3**	0.23	0.21	0.19	0.24	0.22	0.21	0.24	0.23	0.21
		B5	0.24	0.22	0.20	0.25	0.23	0.22	0.25	0.24	0.22
		B7	0.24	0.22	0.20	0.25	0.24	0.22	0.25	0.24	0.22

Note: Values are based on traditional mortar. Values may be improved upon by using thin joint mortar.
Values based on 20mm external render and 13mm internal plaster.

For Further information:

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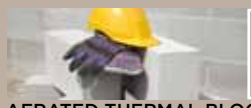
Bord Agrément na hÉireann
Irish Agrément Board
CERTIFICATE No. 07/0264
Quinn-Lite Aircrete Blocks: B3, B5 & B7


AERATED THERMAL BLOCKS


CEMENT

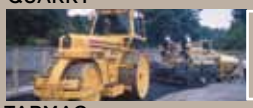

CONCRETE ROOFTILES


QUINN THERM (PIR)


QUINN LITE PAC


PRESTRESSED


QUARRY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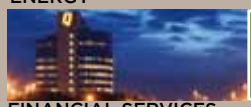

FINANCIAL SERVICES

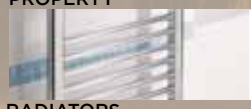

GLASS


HOTELS


PACKAGING


PLASTICS


PROPERTY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