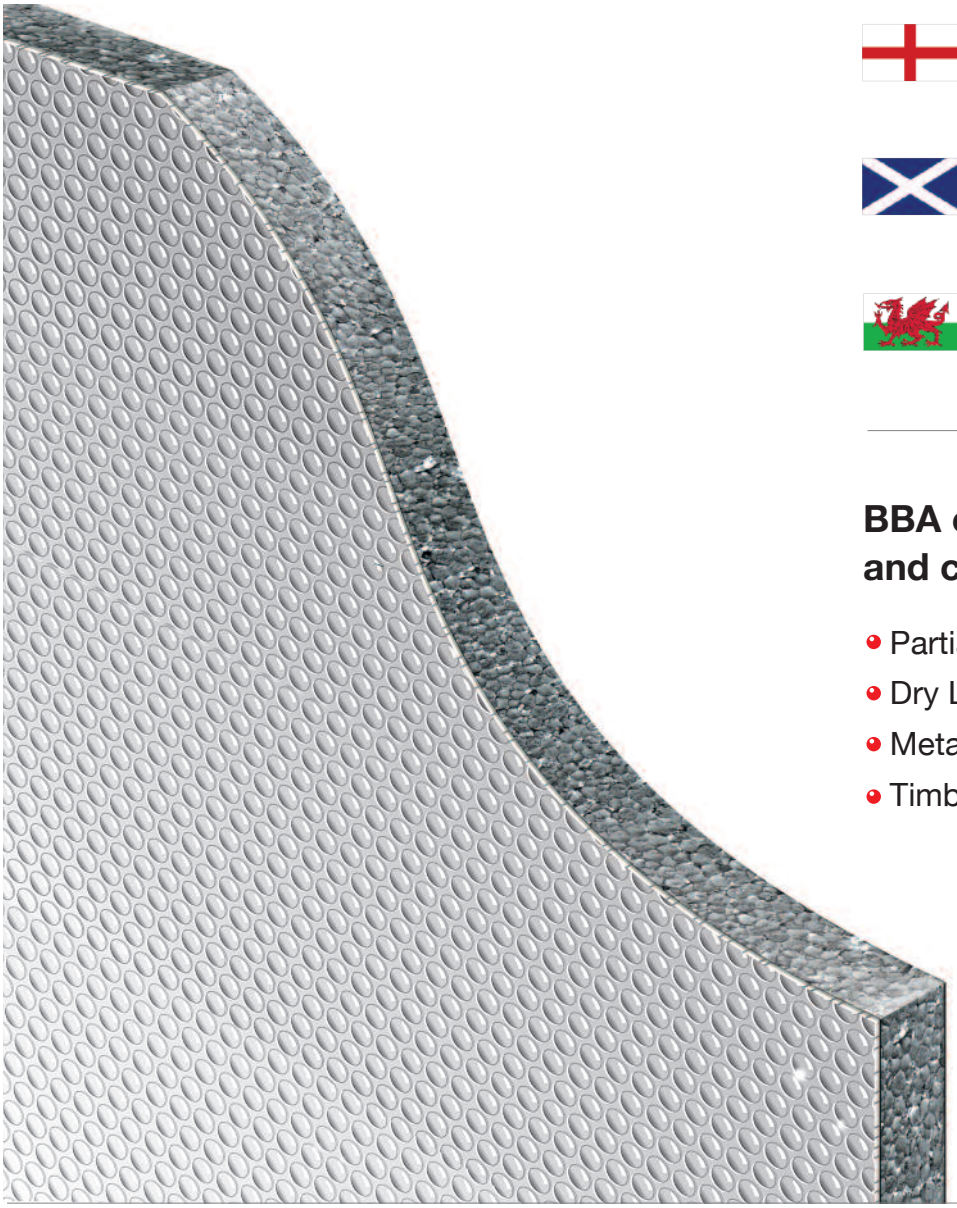
ALREFLEX®

BBA BRITISH BOARD AGREMENT 93/2861

BBA BRITISH BOARD AGREMENT 90/2436

ALREFLEX WALL SOLUTIONS - THERMAL INSULATION FOR WALLS



Approved Document Part L 2013 Solutions

Technical Handbook Section 6 2015 Solutions

Approved Document Part L 2014 Solutions

BBA certified thermal insulation and cavity rain barrier

- Partial Fill Cavity Wall Insulation
- Dry Lining Insulation
- Metal Frame Insulation
- Timber Frame Insulation

THE CODE FOR SUSTAINABLE HOMES · L1A · CE · Scottish Standards · BREEAM · HOME QUALITY MARK · bimstore

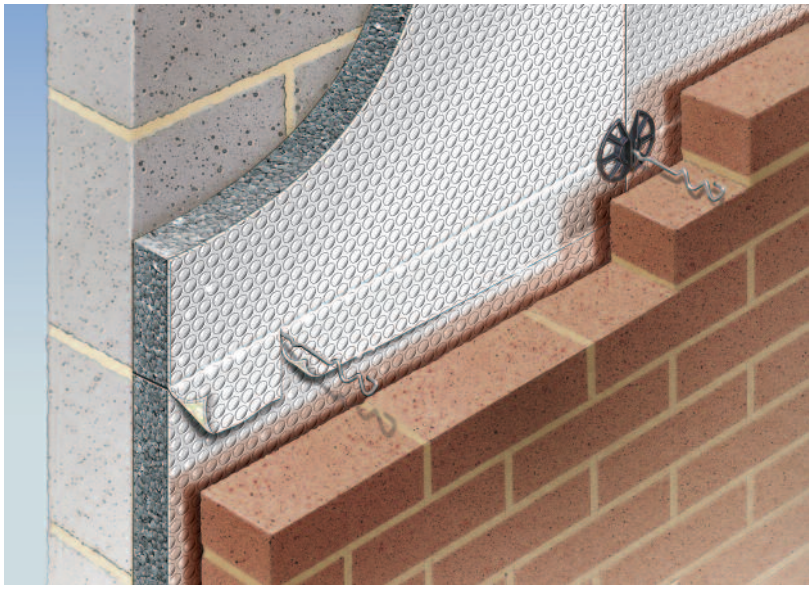
Thermal Economics™
THERMAL & ACOUSTIC INSULATION TECHNOLOGY

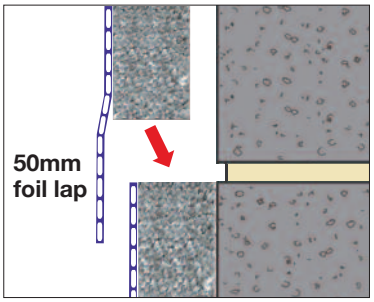
For help choosing the right product for your project please contact Thermal Economics Technical Department on 01582 544255

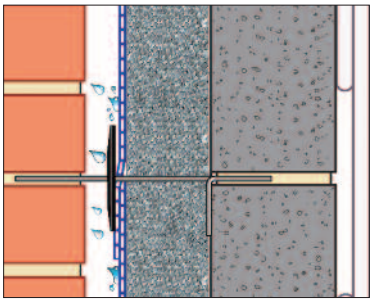
For all our Acoustic & Thermal insulation products visit: www.thermal-economics.co.uk

Eliminating issues associated with Partial fill insulation

BBA BRITISH BOARD AGREMENT 93/2861







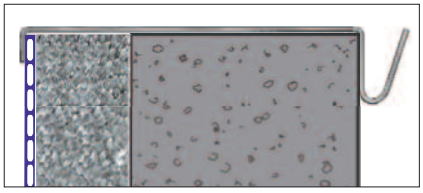
The only partial fill insulations with a BBA Certified Cavity Rain Barrier.

Each Alreflex Platinum Cavity Board has a 50mm foil lap along the bottom edge (see below left).

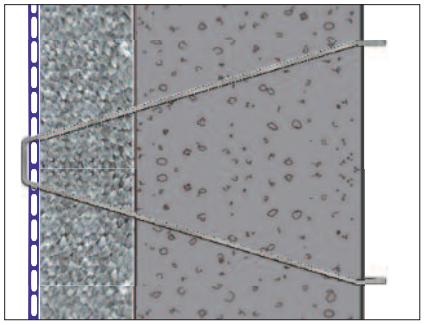
When installed this creates a weather lap that has been certified by the BBA as a cavity rain barrier to prevent water ingress.

The horizontal lap system has been tested in the BBA cavity wall water ingress rig. When tested there was zero water penetration across the cavity.

Alreflex Insulation Clips and Wall Ties that prevent boards from falling forwards in the cavity.



Alreflex Insulation Clip - section view



Alreflex Insulation Clip - plan view

When installing partial fill cavity insulation, the boards had a tendency to fall forwards. This allows mortar snots to collect behind the boards, preventing them from being returned to their correct position.

This leads to ill fitting boards that can bridge the cavity and allow water to penetrate into the inner leaf.

The Alreflex Insulation Clip is an optional installation aid that completely eliminates this problem. This simple, re-useable clip holds the boards against the inner leaf until the wall ties and retaining clips are fitted.

Our product specific wall ties ensure that the retaining clips hold the boards securely and position the ties drip to prevent water bridging across the cavity. These ties are part of the BBA certification and are an integral part of the cavity rain barrier system.

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THERMAL & ACOUSTIC INSULATION TECHNOLOGY

ALREFLEX® PLATINUM

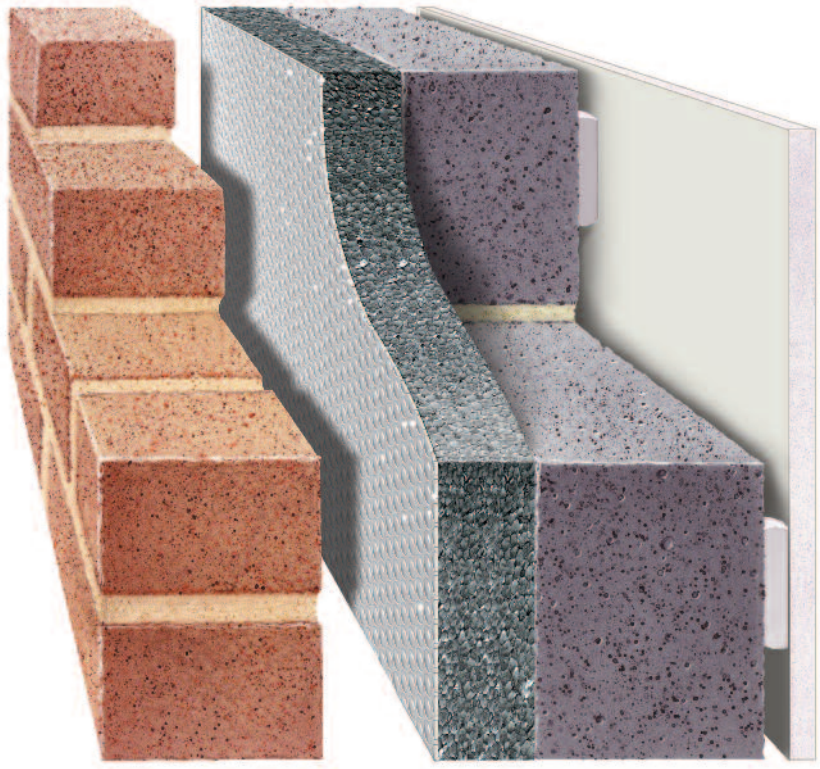
Partial Fill Cavity Wall Insulation

BBA BRITISH BOARD AGREMENT 93/2861

A cost effective solution for Part L 2013 & Section 6 2015 compliance

Alreflex Platinum provides an extremely cost effective alternative to PUR & PIR insulation boards with equivalent thermal performance.

- BBA Certified insulation & cavity rain barrier.
- Used by major UK House builders.
- Suitable for use in all exposure areas with standard 50mm cavity.
- Environmentally friendly: No CFC's or HCFC's used in production.
- ODP = Zero
  GWP = Less than 5



U-Value Examples

Building Regulations require new build walls to achieve the following area weighted averages:

Approved Doc. Part L 2013 (England) - 0.30W/m^{2}K
Technical Handbook Section 6 2015 (Scotland) - 0.22W/m^{2}K
Approved Doc. Part L 2014 (Wales) - 0.21W/m^{2}K

Alreflex Platinum thickness (mm)

Block K-value (W/mK)	50	60	70	80	90	100
1.13	0.33	0.30	0.27	0.25	0.23	0.21
0.49	0.32	0.29	0.26	0.24	0.22	0.21
0.25	0.30	0.28	0.25	0.23	0.22	0.20
0.19	0.29	0.27	0.25	0.23	0.21	0.20
0.11	0.27	0.25	0.23	0.21	0.20	0.19

England only- Meets minimum requirement of A.D. Part L 2013

England & Scotland- Meets minimum requirements of A.D. Part L 2013 (England) & Section 6 2015 (Scotland).

All of UK- Meets minimum requirements of all building regulations across the UK.

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ALREFLEX® PLATINUM RC

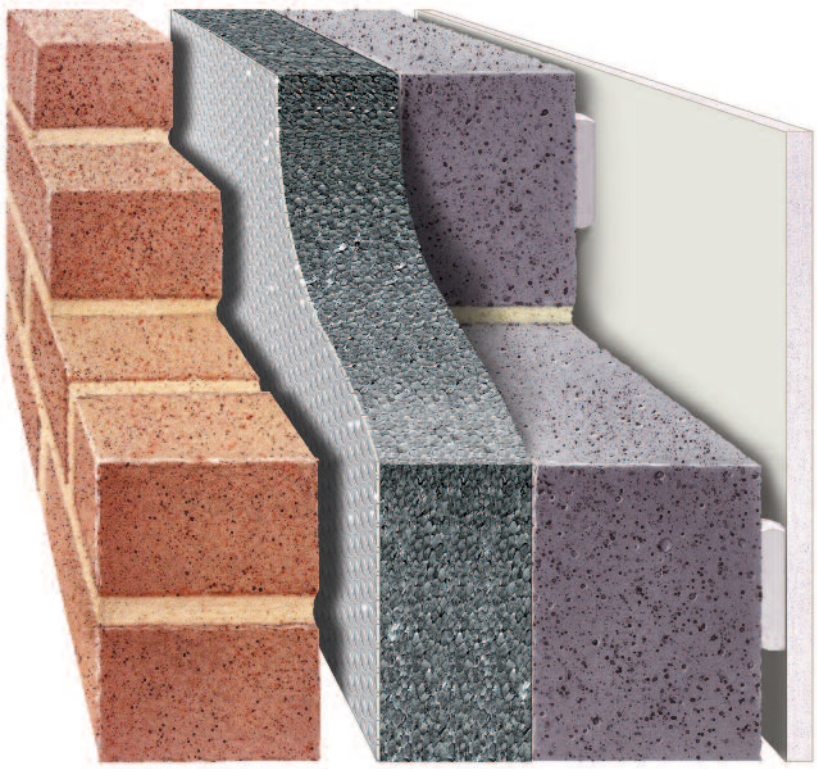
Partial Fill Cavity Wall Insulation

BBA BRITISH BOARD AGREMENT 93/2861

The Next Generation of Thermal Insulation for Reduced Residual Cavities

The ONLY BBA Certified cavity insulation suitable for use with a 25mm Residual Cavity.

- A 75mm thickness of Alreflex Platinum RRC in 100mm cavity can achieve a U-value of **0.25W/m²K** with any 100mm medium density block.
- Cost effective solution for 2013 Regs compliance.
- Available in a range of thicknesses to meet the various regulations, FEEs and Code for Sustainable Homes requirements.
- Reduced cavity size allows 50% more insulation to be installed in a 100mm cavity.



U-Value Examples

Building Regulations require new build walls to achieve the following area weighted averages:

Approved Doc. Part L 2013 (England) - 0.30W/m²K
Technical Handbook Section 6 2015 (Scotland) - 0.22W/m²K
Approved Doc. Part L 2014 (Wales) - 0.21W/m²K

Alreflex Platinum RC thickness

Block K-value (W/mK)	50	75	100	125
1.13	0.33	0.26	0.21	0.18
0.49	0.32	0.25	0.21	0.18
0.25	0.30	0.24	0.20	0.17
0.19	0.29	0.24	0.20	0.17
0.11	0.27	0.22	0.19	0.16

The U-values in this table are based on a wall construction of 102mm brick, 25mm cavity, Alreflex platinum RC as listed, 100mm Block as listed and 12.5mm Plasterboard on dabs.

England only- Meets minimum requirement of A.D. Part L 2013

England & Scotland- Meets minimum requirements of A.D. Part L 2013 (England) & Section 6 2015 (Scotland).

All of UK- Meets minimum requirements of all building regulations across the UK.

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ALREFLEX® ULTRATHERM

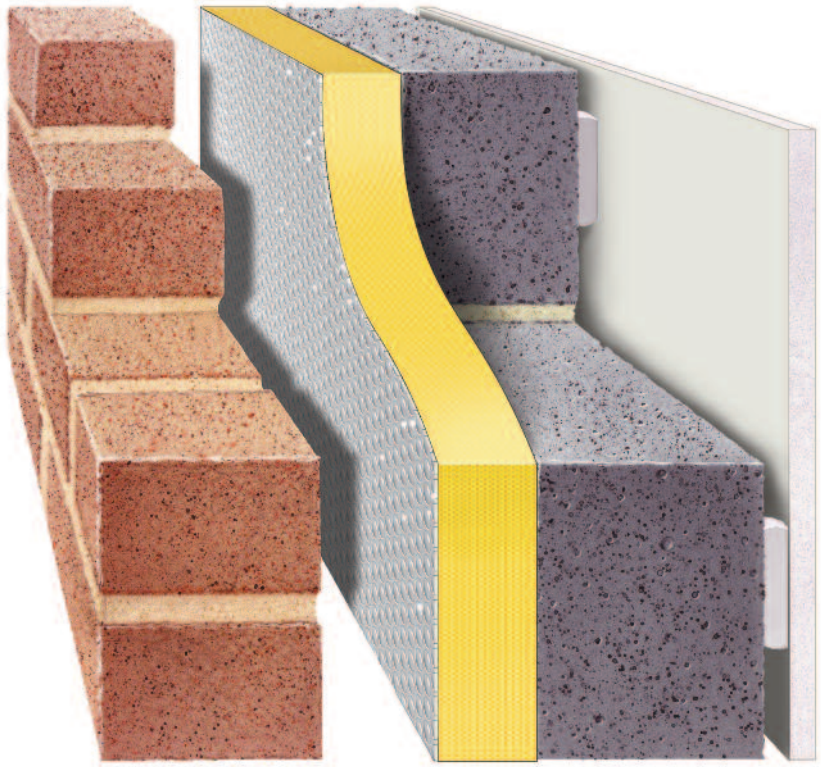
Partial Fill Cavity Wall Insulation

BBA BRITISH BOARD AGREMENT 93/2861

A cost effective solution for Part L 2013 & Section 6 2015 compliance

Alreflex Ultratherm is a high performance insulation and cavity rain barrier designed for use where low U-values are required.

- BBA Certified insulation & cavity rain barrier.
- Used by major UK House builders.
- Suitable for use in all exposure areas with standard 50mm cavity.
- Environmentally friendly: No CFC's or HCFC's used in production.
- ODP = Zero
  GWP = Less than 5



U-Value Examples

Building Regulations require new build walls to achieve the following area weighted averages:

Approved Doc. Part L 2013 (England) - 0.30W/m^{2}K
Technical Handbook Section 6 2015 (Scotland) - 0.22W/m^{2}K
Approved Doc. Part L 2014 (Wales) - 0.21W/m^{2}K

Alreflex Ultratherm thickness (mm)

Block K-value (W/mK)	50	60	70	80	90	100
1.13	0.27	0.24	0.22	0.20	0.18	0.17
0.49	0.27	0.24	0.21	0.19	0.18	0.17
0.25	0.25	0.23	0.21	0.19	0.17	0.16
0.19	0.25	0.22	0.20	0.19	0.17	0.16
0.11	0.23	0.21	0.19	0.18	0.16	0.15

Wall Build-up:

102mm Brick

50mm Cavity

Alreflex Ultratherm as listed

100mm Block as listed

12.5mm Plasterboard on dabs

England only- Meets minimum requirement of A.D. Part L 2013

England & Scotland- Meets minimum requirements of A.D. Part L 2013 (England) & Section 6 2015 (Scotland).

All of UK- Meets minimum requirements of all building regulations across the UK.

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Lowering U-values & reducing cavity sizes

BBA BRITISH BOARD AGREMENT 93/2861

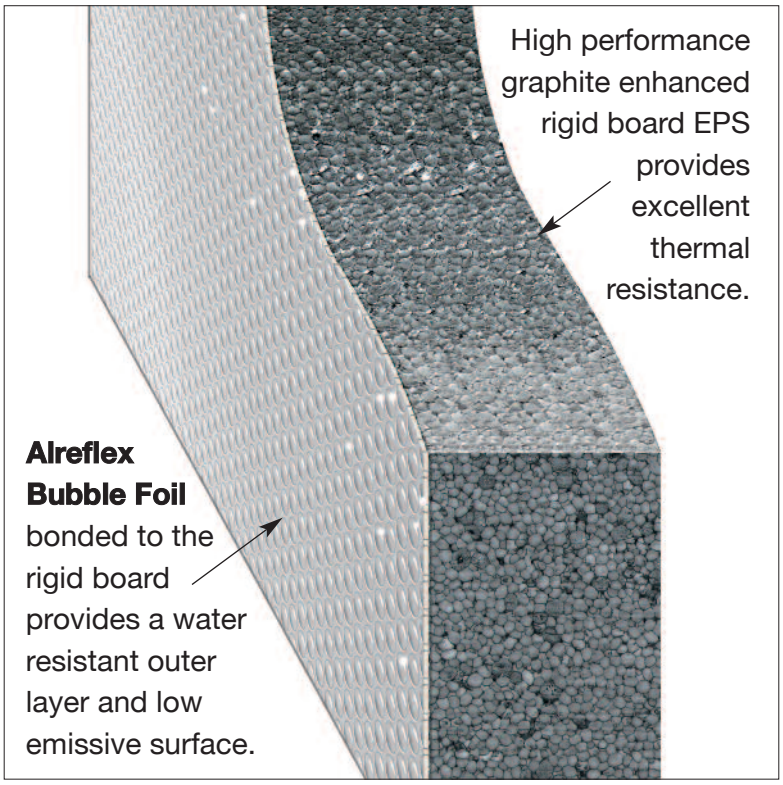
ALREFLEX® FULL FILL

Although it is classed as a full fill product, our Alreflex Full Fill solution incorporates a minimal 10mm cavity between the boards and the outer leaf.

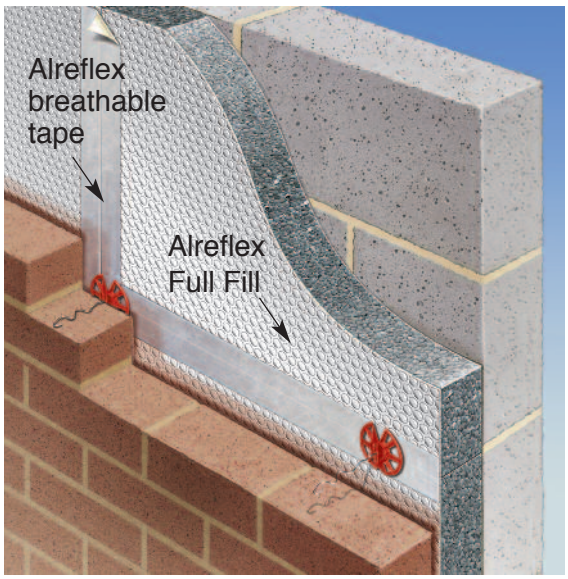
It is the first insulation of its kind to combine the insulating properties of Graphite Enhanced EPS and the insulating cavity rain barrier properties of Alreflex bubble foil.

Keeping the overall thickness of a wall to the minimum has many advantages including:

- Reduce footprint of dwelling.
- Increase sellable floor area.
- Reduce cost of lintels, wall ties, cavity trays etc.

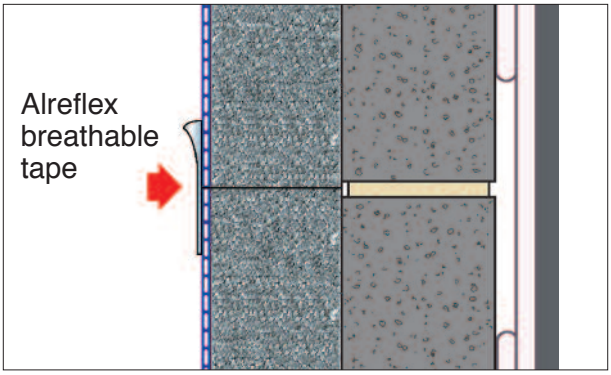


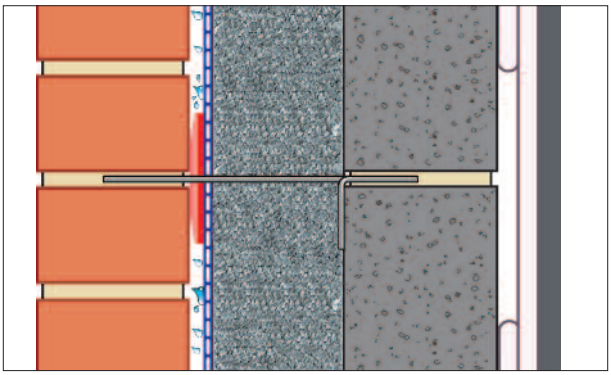
BBA tested for the prevention of water ingress



Alreflex Breathable Tape is used at board joints to create a waterproof surface that has been tested by the BBA to measure water ingress.

The taped joint system was subjected to the BBA cavity wall water ingress test. The results showed that there was zero water penetration across the cavity.





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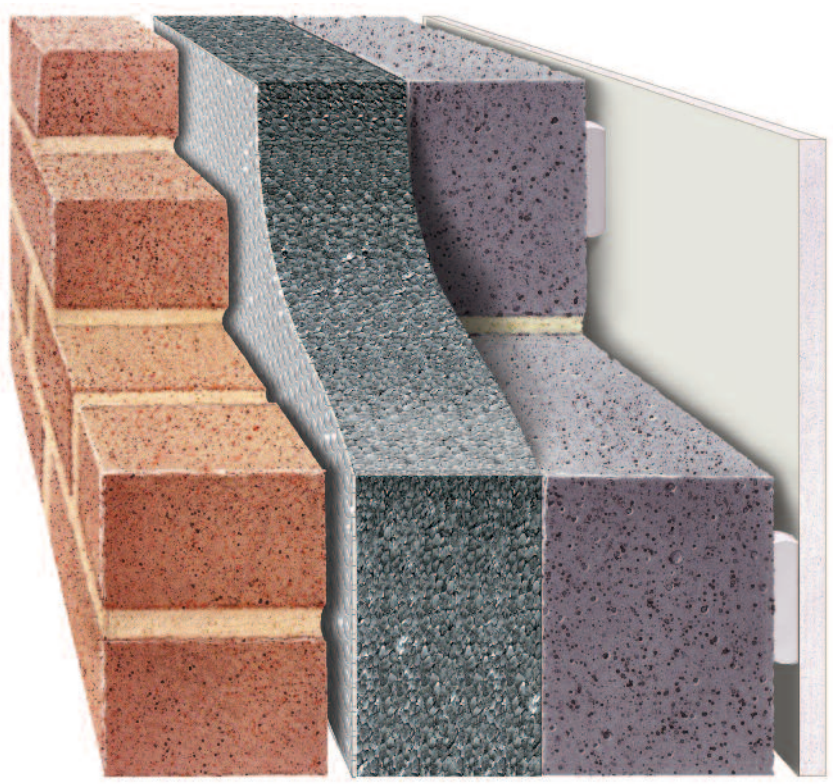
ALREFLEX® FULL FILL

The new 100mm cavity insulation solution

BBA BRITISH BOARD AGREMENT 93/2861



Providing lower U-values with reduced cavity sizes

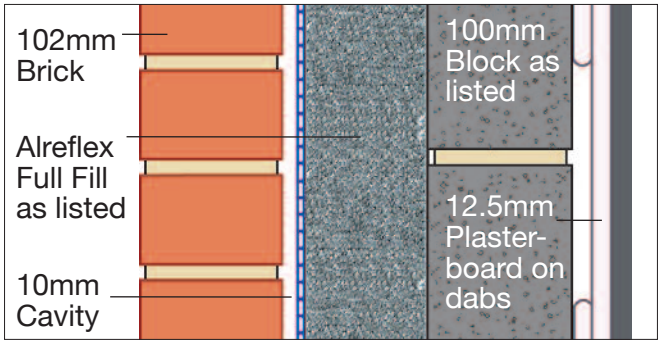
Alreflex Full Fill insulation provides an extremely cost effective way to achieve very low U-values and exceeds the requirements of Part L and Section 6, even when using dense blocks.

- 93/2861 BBA Certified insulation.
- Reduces thickness of wall providing cost savings in many areas.
- ODP = Zero
  GWP = Less than 5

U-value examples

Typical wall constructions

The U-values in the table are based on a wall construction of:



Part L or Section 6 compliance is achieved when 90mm boards are used in a typical 100mm cavity.

England only- Meets minimum requirements of A.D. Part L 2013.

England & Scotland- Meets minimum requirements of A.D. Part L 2013 (England) & Section 6 2015 (Scotland).

All of UK- Meets minimum requirements of all building regulations across the UK.

Building Regulations require new build walls to achieve the following area weighted averages:

Part L 2013 (England) - 0.30W/m²K

Section 6 2015 (Scotland) - 0.22W/m²K

Section 6 2015 (Wales) - 0.21W/m²K

Alreflex Fullfill thickness (mm)

Block K-value (W/mK)	65	90	115	140
1.13	0.32	0.25	0.21	0.18
0.49	0.31	0.25	0.20	0.17
0.25	0.30	0.24	0.20	0.17
0.19	0.29	0.23	0.19	0.17
0.11	0.27	0.22	0.18	0.16

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ALREFLEX® PLATINUM

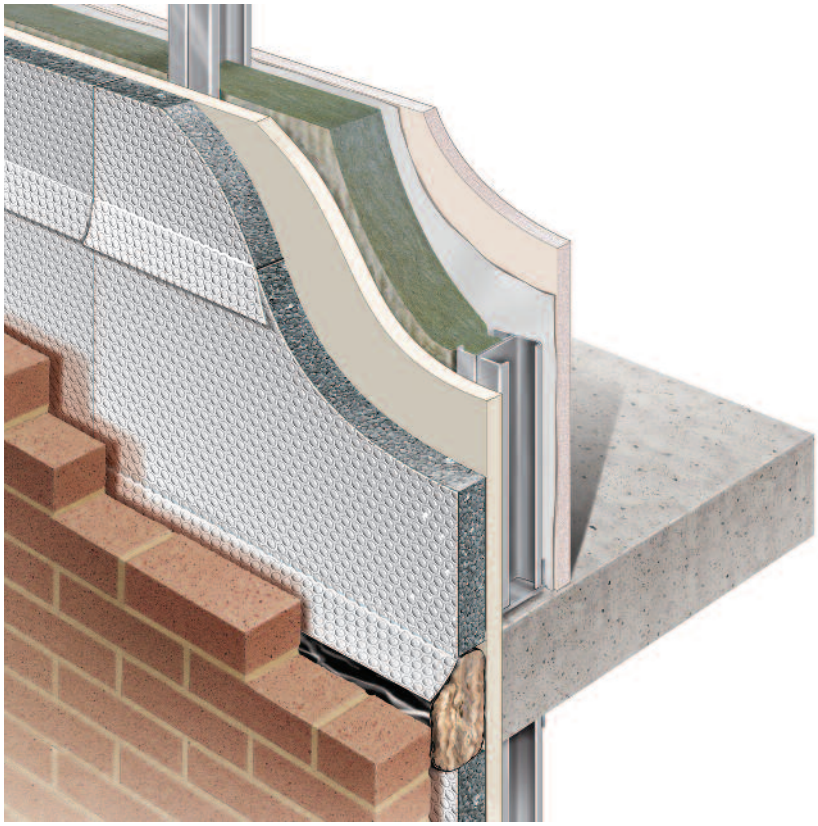
Metal Frame Insulation

BBA BRITISH BOARD AGREMENT 93/2861

A cost effective solution for Part L 2013 & Section 6 2015 compliance

Alreflex Platinum provides an extremely cost effective alternative to PUR & PIR insulation boards with equivalent thermal performance in non-vented metal frame construction.

- Significant cost savings over PUR & PIR solutions
- BBA certified
- Provides rain barrier during construction
- Space saving- Reduced construction depth
- Helps alleviate condensation in metal frame
- Environmentally friendly:
  No CFC's or HCFC's used in production.
  ODP = Zero
  GWP = Less than 5



U-Value Examples

Building Regulations require new build walls to achieve the following area weighted averages:

Approved Doc. Part L 2013 (England) - 0.30W/m^{2}K
Technical Handbook Section 6 2015 (Scotland) - 0.22W/m^{2}K
Approved Doc. Part L 2014 (Wales) - 0.21W/m^{2}K

Alreflex Platinum Thickness (mm)

Mineral Wool K-value (W/mK)	25	50	60	75	90	100
0.044	0.28	0.23	0.21	0.19	0.17	0.16
0.038	0.28	0.22	0.20	0.18	0.17	0.16
0.032	0.27	0.21	0.20	0.18	0.16	0.15

England only- Meets minimum requirement of A.D. Part L 2013

England & Scotland- Meets minimum requirements of A.D. Part L 2013 (England) & Section 6 2015 (Scotland).

All of UK- Meets minimum requirements of all building regulations across the UK.

Wall Build-up:
102mm Brick
50mm Cavity
Alreflex Platinum as listed
20mm Cement Particle Board
100mm SFS - Filled with Mineral Wool as listed
VCL
12.5mm Plasterboard

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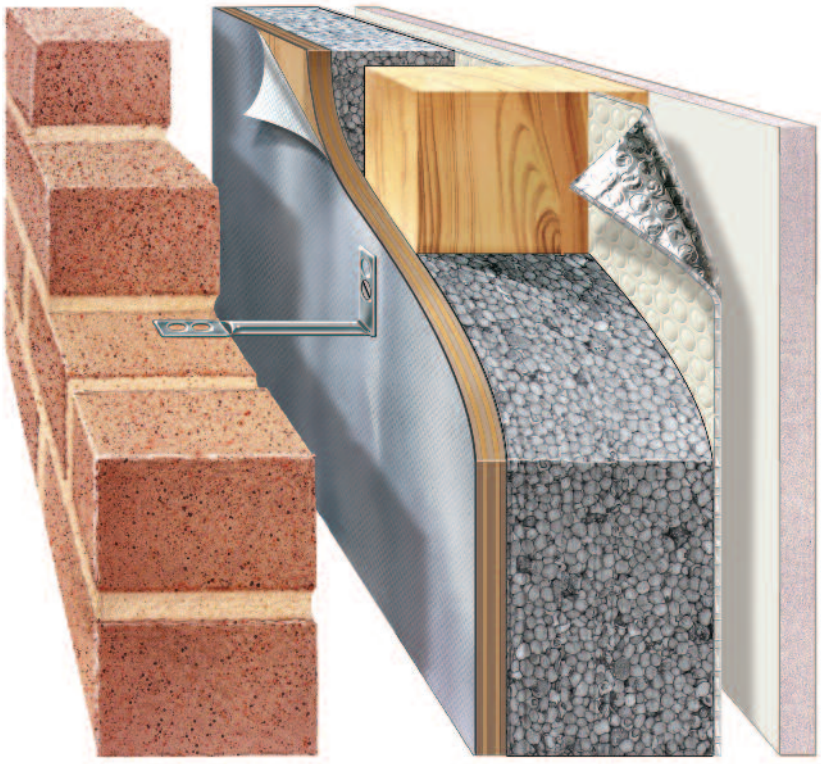
ALREFLEX® PLATINUM

Timber Frame Insulation

Part of a 140mm Stud solution for Part L 2013 & Section 6 2015 compliance.

Alreflex Platinum provides an extremely cost effective alternative to PUR & PIR insulation boards with equivalent thermal performance in non-vented metal frame construction.

- Cost effective way to meet Section 6 2015 values within a 140mm stud
- Internal foil face can be sealed as vapour barrier
- Service void directly behind plasterboard



For further information regarding alternative detail with Perfo Reflex a BBA certified vapour permeable insulating membrane (including how it can help achieve the latest building regulation requirements) please refer to the Perfo Reflex brochure or our website: www.thermal-economics.co.uk

U-Value Examples

Building Regulations require new build walls to achieve the following area weighted averages:

Approved Doc. Part L 2013 (England) - 0.30W/m^{2}K
Technical Handbook Section 6 2015 (Scotland) - 0.22W/m^{2}K
Approved Doc. Part L 2014 (Wales) - 0.21W/m^{2}K

Alreflex Platinum Thickness (mm)

Breather Membrane	75	80	90	100	110	120
Standard Breather Membrane	0.31	0.30	0.28	0.27	0.26	0.25
Thermabreathe Breather Membrane	0.27	0.27	0.25	0.24	0.23	0.22
Standard Breather Membrane + Perfo Reflex Double	0.25	0.24	0.23	0.22	0.21	0.20

England only- Meets minimum requirement of A.D. Part L 2013

England & Scotland- Meets minimum requirements of A.D. Part L 2013 (England) & Section 6 2015 (Scotland).

All of UK- Meets minimum requirements of all building regulations across the UK.

Wall Build-up:
102mm Brick
50mm Cavity
Breather Membrane as listed
12mm OSB
140mm Timber Studs with Alreflex Platinum as listed
12.5mm Plasterboard

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THERMAL & ACOUSTIC INSULATION TECHNOLOGY

ALREFLEX® PLATINUM

BBA BRITISH BOARD AGREMENT 93/2861

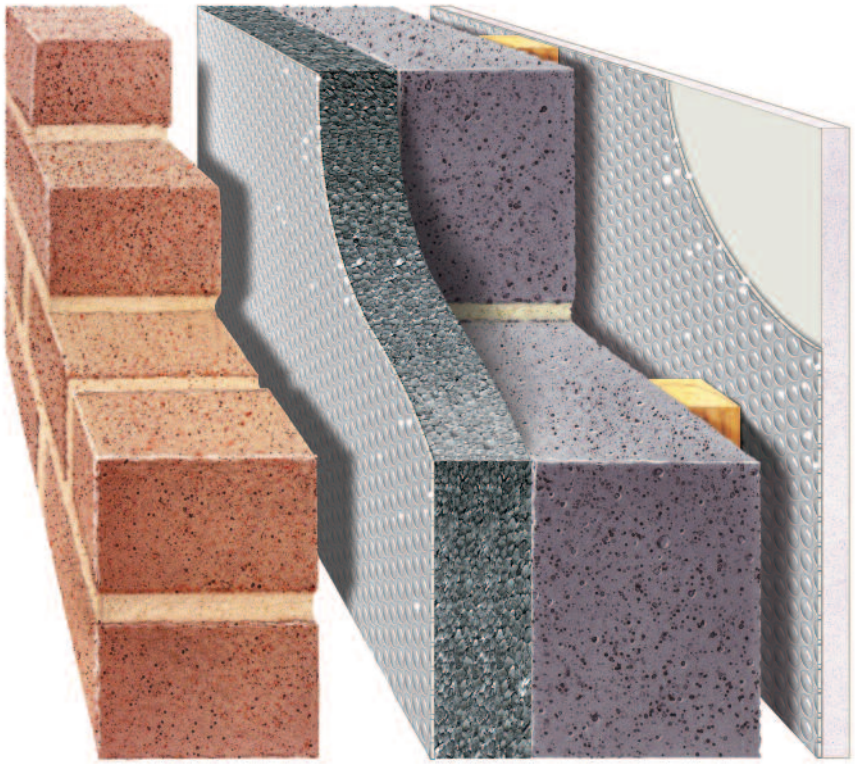
BBA BRITISH BOARD AGREMENT 90/2436

Partial Fill Cavity Wall Insulation with Dry Lining

A cost effective solution for exceeding the requirements of Part L 2013 & Section 6 2015

Alreflex Platinum with Alreflex 1L1 dry lining provides an extremely cost effective method of achieving very low U-values without increasing cavity sizes.

- BBA Certified insulation and cavity rain barrier and dry lining.
- Alreflex 1L1 dry lining vastly improves air tightness.
- Used by major UK House Builders with minimum 6 million sq.metres being installed successfully.
- Suitable for use in all exposure areas.
- Environmentally friendly: No CFC's or HCFC's used in production.
- ODP = Zero
  GWP = Less than 5



U-Value Examples

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Approved Doc. Part L 2013 (England) - 0.30W/m^{2}K
Technical Handbook Section 6 2015 (Scotland) - 0.22W/m^{2}K
Approved Doc. Part L 2014 (Wales) - 0.21W/m^{2}K

Alreflex Platinum Thickness (mm)

Block K-value (W/mK)	50	60	70	80	90	100
1.13	0.28	0.25	0.23	0.22	0.20	0.19
0.49	0.27	0.25	0.23	0.21	0.20	0.19
0.25	0.26	0.24	0.22	0.21	0.19	0.18
0.19	0.25	0.23	0.22	0.20	0.19	0.18
0.11	0.24	0.22	0.20	0.19	0.18	0.17

England only- Meets minimum requirement of A.D. Part L 2013

England & Scotland- Meets minimum requirements of A.D. Part L 2013 (England) & Section 6 2015 (Scotland).

All of UK- Meets minimum requirements of all building regulations across the UK.

Wall Build-up:
102mm Brick
50mm Cavity
Alreflex Platinum as listed
100mm Block as listed
3mm Alreflex 1L1
25mm Batten
12.5mm Plasterboard

Thermal Economics
THERMAL & ACOUSTIC INSULATION TECHNOLOGY

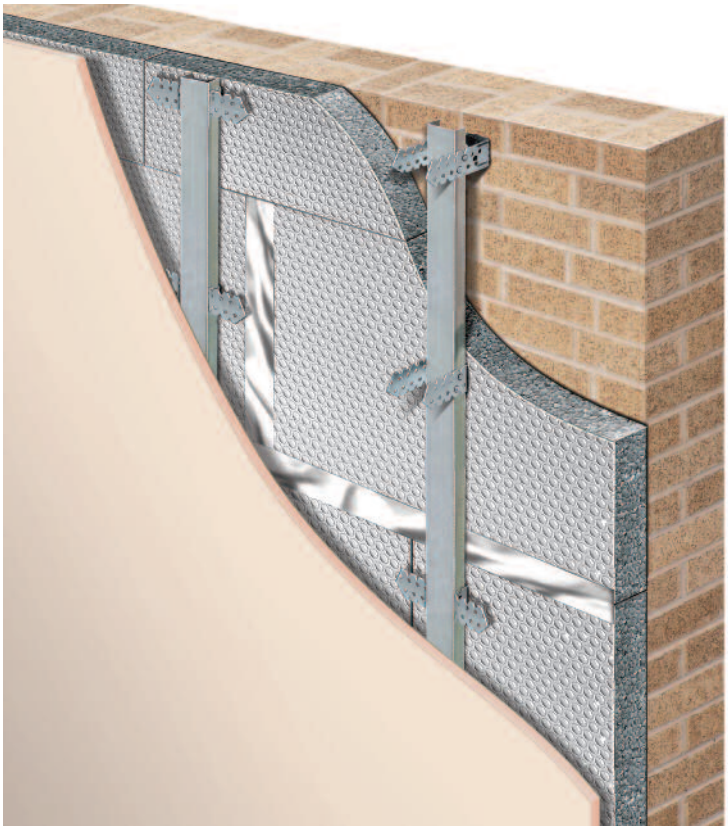
ALREFLEX® PLATINUM

Dry Lining Insulation

A cost effective solution for Part L 2013 & Section 6 2015 refurbishment projects

Alreflex Platinum dry lining provides an extremely cost effective method of upgrading existing walls and achieving building regulation standards.

- Significant cost savings over laminate lining boards
- Integral vapour and damp proof membrane
- Clear service void behind plasterboard
- Dry system (no wet trades)
- Environmentally friendly: No CFC's or HCFC's used in production.
- ODP = Zero
  GWP = Less than 5



U-Value Examples

Approved Docs. Part L (England & Wales) and Technical Handbook Section 6 (Scotland) require refurbished walls to achieve a maximum U-value of 0.70W/m^{2}K and an Area Weighted Average of 0.30W/m^{2}K.

Alreflex Platinum Thickness (mm)

Wall Type	0	25	50	75	100
Type 1	2.16	0.54	0.38	0.29	0.24
Type 2	3.85	0.61	0.41	0.31	0.25
Type 3	1.18	0.44	0.33	0.26	0.22
Type 4	1.74	0.51	0.37	0.28	0.23
Type 5	0.69	0.35	0.28	0.23	0.19

All of UK- Meets minimum requirements of all building regulations across the UK.

Wall Type 1: 225mm Solid Brick

Wall Type 2: 100mm Dense Block (K=1.13)

Wall Type 3: 100mm Lightweight Block (K=0.11)

Wall Type 4: 100mm Brick, 50mm Clear Cavity, 100mm Dense Block

Wall Type 5: 100mm Brick, 50mm Mineral Wool (K=0.044), 100mm Dense Block

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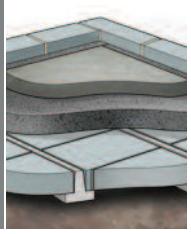
Thermal Solutions

FLOOR

ALREFLEX® FULLFILL

Extremely cost effective at achieving very low U-values. Exceeds Part L and Section 6 requirements, even utilising dense blocks.



PLATINUM
ground floor insulation

Extremely cost effective ground floor insulation. Provides significant savings overPUR/PIR boards with equivalent performance.

TIMBER FRAME

Therma breathe

The only spun bond, Class W1 insulating Breather membrane available in the UK. Designed to improve U-values without increasing structure thickness.

PERFO REFLEX

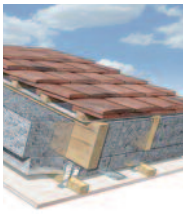
Vapour permiable, insulating membrane. Designed to improve U-values without increasing structure thickness.
Ideal for Section 6 2015 compliance.

WALLS

ULTRATHERM

High performance, BBA certified cavity wall insulation and rain barrier. Designed for achieving the very lowest wall U-values. Ideal for use where the structure thickness needs to be kept to a minimum.

ROOFS



RAFTER THERM

Cost effective, LABC approved pitched roof insulation system. Designed for use in non-ventilated roof structures.

Acoustic Solutions

CONCRETE FLOORS

Isorubber Base

6mm thick acoustic matting for use below screeds or timber floor finishes.

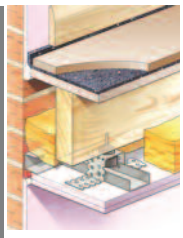
Robust Details:
E-FC-4
E-FC-14

Isorubber Top

3mm thick acoustic overlay for use over concrete or timber floors.

Robust Details:
E-FC-9
E-FC-10

TIMBER FLOORS



Isosonic TimberFloor

Acoustic system for timber floor constructions.

Suitable for new build or refurb projects.

Part E compliant

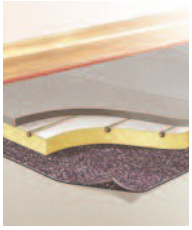
Isosonic Platformfloor

25mm thick acoustic deck. Comprising 18mm T&G chipboard and a 7mm acoustic layer.

Suitable for use in new build and refurb projects.

Robust Detail: FFT5

UFH



Isorubber HP3

3mm thick acoustic matting for use below screeds or timber floor finishes.

Ideal for use with all types of under floor heating system.

Robust Detail: E-FC-12

VINYL UNDERLAY

Isorubber Top

Suitable for use below all types of vinyl floor finish including:

Tiles
Planks
Sheets

Independently tested for wear and lifting.

Technical Services

CALCULATIONS

Thermal Economics highly qualified and experienced Technical Department can provide a range of calculations and assessments including:

SAP Calculations
PSi Assessments
Condensation Calculations
U-value Calculations
CSH / BREEAM Assessments
Energy Performance Certificates

DESIGN ADVICE

We can design cost effective solutions that meet your needs and comply with the latest building regulations.

We can also help to provide bespoke, high performance solutions for planning requirements, CSH/BREEAM credits or to overcome project specific issues.

We have recently saved a house builder over £1000 per dwelling, by simply revising the thermal insulations being used. This equates to a £75,000 saving across the site.

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Visit our website for mobile friendly installation guides

Thermal Economics
THERMAL & ACOUSTIC INSULATION TECHNOLOGY

For help choosing the right product for your project please contact Thermal Economics Technical Department on 01582 544255

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