



The professionals guide to EcoTherm installation



TOPLINE
FOR FLAT ROOFS

SLIMLINE
FOR WALLS

TOPLINE
FOR PITCHED ROOFS

BASELINE
FOR FLOORS



EcoTherm Insulation (UK) Ltd
Harvey Road, Burnt Mills Ind. Est.
Basildon Essex SS13 1QJ
tel: +44 (0) 1702 520166
fax: +44 (0) 1702 420636

www.ecotherm.co.uk
email: info@ecotherm.co.uk

EcoTherm Insulation (UK) Ltd is
registered in England No. 1873816

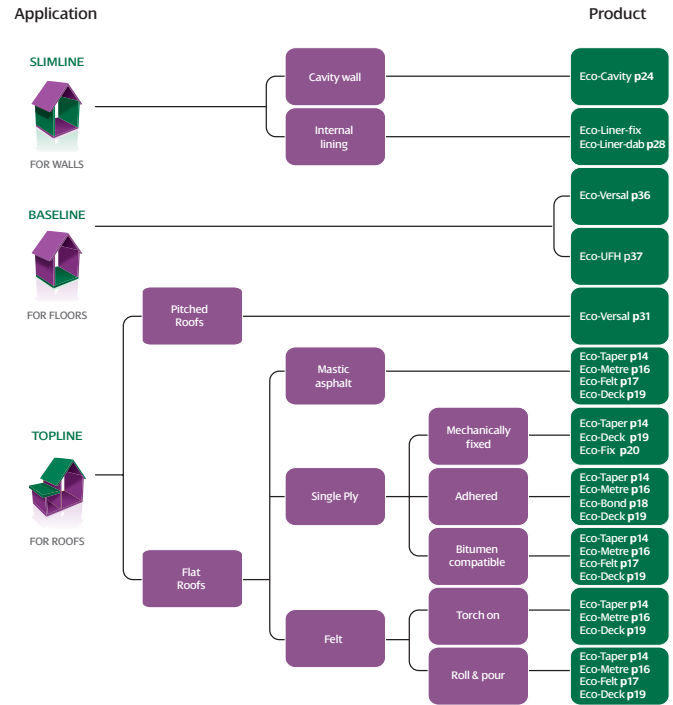
the professionals guide to
EcoTherm installation



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Select your product



Simply select your preferred insulation application from the diagram above to find the right product for the job.

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The future of insulation

Keeping **heat in** and **cold out** – EcoTherm has it covered

EcoTherm develops, manufactures and markets Polyisocyanurate (PIR) Rigid Thermal Insulation Boards. In addition to our standard range of products we also produce speciality products.

EcoTherm rigid insulation boards are produced in both the UK and Holland for the UK market. Rigorous quality control procedures are in place in both production facilities.

EcoTherm products are recognised for their superior compressive strength and dimensional stability which makes them ideally suited to flat and pitched roof constructions, wall insulations and for floors and ceilings. All these applications are supported at every stage with comprehensive technical advice and customer service.

Pitched roofs

EcoTherm Eco-Versal insulation saves on average 15% more loft space than traditional forms of insulation whilst achieving a higher thermal value. This versatile product can also be used in the cheeks of dormers, ceilings and floors.

Tapered roofs

High performance insulation that creates falls to outlets as well as it insulates and is an effective alternative to altering the structural fall or structure of a building. EcoTherm Eco-Taper boards are backed up by a full design service and comprehensive technical support.

Flat roofs

The days of one insulation solution for all are long gone. That's why EcoTherm produces a range to meet your various specifications.

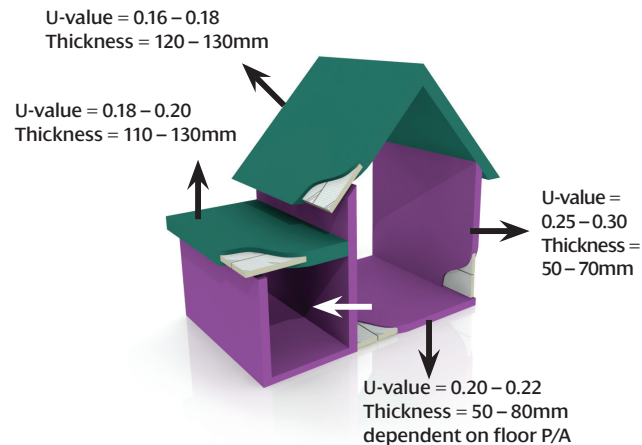
Floors

EcoTherm understands that achieving building regulations can be confusing. EcoTherm's Eco-Versal board is a versatile product that can be used in the floor as well as the roof saving time, space and money on site.

Walls

EcoTherm Eco-Cavity board offers excellent thermal resistance in practical thicknesses. It's tough, light and easily fitted to partial-fill cavity walls without impacting upon the usable living space of a building.

EcoTherm Eco-Liner offer an alternative room side insulation incorporating plasterboard for dry lining.



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Installation Essentials

Handling

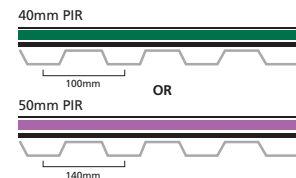
- Do not drop boards
- To cut use a sharp knife or fine tooth saw
- Wear eye protection
- Damaged boards should not be used
- Cutting with power tools generates dust so should be kept to a minimum
- Ideally all operations which produce dust should be carried out in well ventilated conditions; where possible an appropriate dust mask should be worn
- Refer to pack weights when lifting

Installation

- Check with membrane manufacturer for compatibility of board with your waterproofing system
- Fixings should not be installed within 50mm perimeter of the board when mechanically fixing
- All flat roofs necessitate the use of a vapour control layer. Assess in accordance with BS 6229:2003
- Always stagger the boards when laying and tape the joints where specified
- Refer to BS 6399-2:1997 or Euro Code 1:EN1991-1-4 when determining the number of fixings

Spanning Metal-Decks

- All ends of boards should be supported by a crown when fixing
- Do not exceed the following dimensions when spanning 100mm and 140mm metal decks



Spanning Distance Insulant Thickness

Trough opening mm	Minimum roof board thickness	
<75	25	
>75	≤100	30
>75	≤125	35
>125	≤150	40
>150	≤175	45
>175	≤200	50
>200	≤225	55
>225	≤250	60

On metal decks the long edges should be at right angles to the corrugations. All board joints should be fully supported by the deck. Please refer to BS 4841-4:2006 for details of thickness of board over metal trough openings.

Storage

Packs are stretch wrapped in recyclable polythene. Store boards in a flat, dry area off the ground away from mechanical damage and sources of ignition. Boards should be completely covered with weatherproof sheeting. The boards must be kept dry at all times, boards wetted accidentally must be replaced or allowed to dry fully before application of the waterproof layer. The boards must be protected from prolonged exposure to sunlight and should be stored either under cover or covered with opaque polyethylene sheets.

Night Joints

If left overnight; all laid boards must be protected and a night seal installed

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Detailed product data sheets are available from www.ecotherm.co.uk



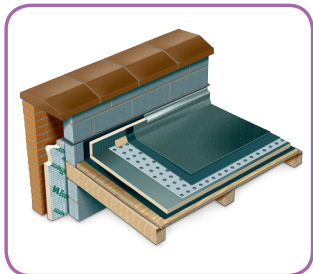


PLEASE SEE
THE INSTALLATION
ESSENTIALS SECTION
ON PAGE 6
before beginning
installation

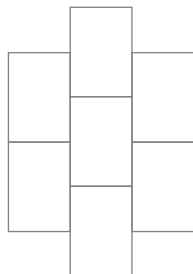
Flat Roof Fixing Details

- 1** Application
see installation essentials on page 6

Torch on felt



- 2** Laying pattern



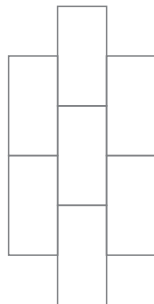
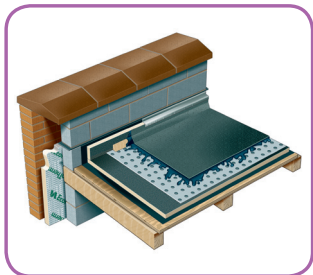
- 3** Application details

- Apply vapour control layer to deck
- Fully bond insulation boards to the vapour control layer with bitumen (max 240°C) or with P.U adhesive, fleece side up
- Apply torch with minimum heat
- Never heat insulation facing directly, always torch the roll
- 3G ventilation layer not always required
- Follow manufacturer's guidelines for the application of the felt system
- Can be mechanically fixed
- Fixings must incorporate a square/circular 50 x 50mm thermally broken washer
- Continue the felt vertically on the upstand to a minimum of 150mm
- Always use flame guards when torching
- Always break bond joints

- 4** Relevant products

Eco-Metre pg16
Eco-Deck pg19
Eco-Taper pgs14-15

3 layer roll & pour felt



- Apply a vapour control layer to deck
- Fully bed insulation board with bitumen (max 240°C) above vapour control layer
- Always break bond joints
- Boards must be fully supported by deck
- For Eco-Metre, lay bitumen coated glass tissue side up
- For Eco-Felt, lay bitumen coated glass tissue side up
- Follow manufacturer's guidelines for the application of the felt system

Eco-Metre pg16
(Bitumen mineral finish side up)
Eco-Felt pg17
Eco-Deck pg19
Eco-Taper pg14-15

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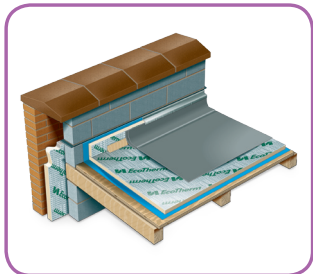


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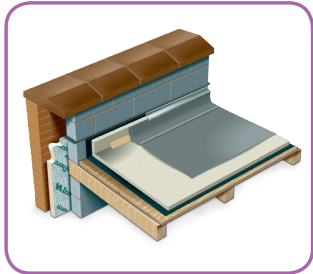
Flat Roof Fixing Details

- 1** Application
see installation essentials on page 6

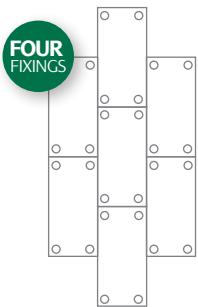
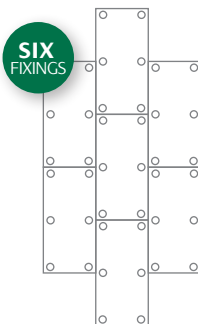
Single ply - mechanically fixed



Single ply - adhered



- 2** Laying & fixing pattern



- 3** Application details

- Apply a vapour control layer to deck
- Ensure all joints are supported by deck crowns
- Number of fixings depends on design height and geographical location
- Use suitable fixings for deck type
- Fixings must incorporate a square/circular 50 x 50mm washer and preferably be thermally broken
- BS 6399-2:1997 loadings for buildings. Code of practice for minimal wind loads takes precedence for the number and location of fixings
- Consult SPRA Design Guide for single ply roofing

- Apply vapour control layer to deck
- Ensure all joints are supported by deck crowns
- Apply adhesive in accordance with manufacturer's guidelines
- Never apply in temperatures less than 5°C
- Fixings must incorporate a square/circular 50 x 50mm washer and preferably be thermally broken
- Number of fixings depends upon height, width and geographical location
- Apply membrane adhesive in accordance with manufacturer's guidelines and overlay with specified waterproofing membrane
- BS 6399-2:1997 loadings for buildings. Code of practice for minimal wind loads takes precedence for the number and location of fixings
- Consult SPRA Design Guide for single ply roofing

- 4** Relevant products

Eco-Fix pg20
Eco-Deck pg19
Eco-Taper pg14-15

Eco-Bond pg18
Eco-Metre pg16
(Bitumen mineral finish side up)
Eco-Deck pg19
Eco-Taper pg14-15

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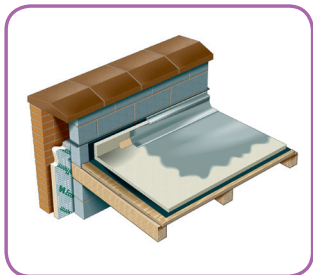


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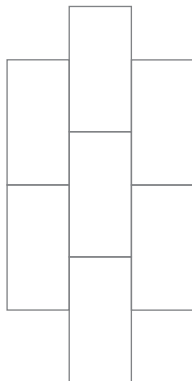
Flat Roof Fixing Details

1 Application see installation essentials on page 6

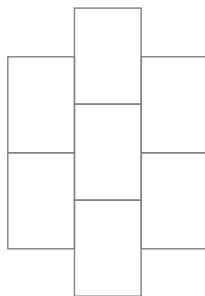
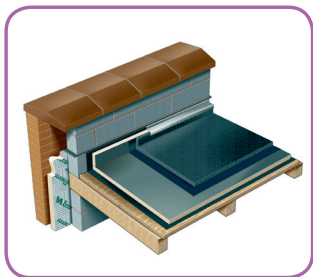
Liquid polymer



2 Laying pattern



Mastic asphalt



3 Application details

- Apply a vapour control layer to deck
- Board must be fully supported by deck crowns
- Boards should be secured to vapour control layer with a PU adhesive or suitable fixings
- Apply tape to all joints
- Apply liquid polymer coating to manufacturer's guidelines
- Number of fixings depends upon height, width and geographical location
- Fixings must incorporate a square/circular 50 x 50mm washer and be suitable for the deck type ideally thermally broken
- Never apply in temperatures less than 5°C
- BS 6399-2:1997 loadings for buildings. Code of practice for minimal wind loads takes precedence for the number and location of fixings
- Consult LRWA - guidance notes for further information

* Liquid Roofing & Waterproofing Association

4 Relevant products

Eco-Bond pg18
Eco-Deck pg19

Eco-Metre pg16
Eco-Felt pg17
Eco-Deck pg19
Eco-Taper pg14-15

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Tapered Roofs - Eco-Taper

Eco-Taper

Description

PIR tapered insulation for pond-free flat roofs.
Available in 1:60 falls and 1:80 falls.

Applications

A wide variety of roof waterproofing systems including single ply, asphalt and built up felt roofs.

Benefits

- EcoTherm Eco-Taper creates falls on flat roofs. It is manufactured for fast and easy application
- Thicknesses ranging from 30-190mm, the widest range available for a single layered taper system
- + 190mm thicknesses also available
- NEW** - Pre mitred hips and valleys:
 - Reduce cutting on site
 - Reduces money, time and waste
 - Factory cut for superior finish
- EcoTherm Eco-Taper is ZERO ODP
- EcoTherm Eco-Taper provides warm-roof constructions

Falls available in:



1:80

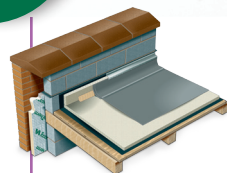


1:60

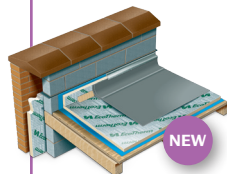


Cert 07/4487

WE'VE GOT IT COVERED
a tapered solution for all applications



• SINGLE PLY ADHERED



• SINGLE PLY MECHANICAL FIX



• TORCH & ROLL AND POUR
• ASPHALT
• BITUMEN COMPATIBLE SINGLE PLY



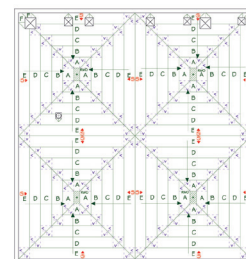
Design Considerations

These should be assessed in accordance with the BS 6399-2 1997.

Consideration should also be given to BS 5250: 2002 Code of Practice for control of condensation in buildings and BS 6229: 2003 Code of Practice for flat roofs with continuously supported coverings. Mechanical fixings should be specified as recommended in BRUFMA information document ID/1/2009 mechanical fixings for rigid PIR roof boards.

The overall U value of a tapered scheme is not the same as the U value at the average thicknesses because of the different thicknesses and thermodynamics involved. Calculation of the thermal transmittance of component tapered layers are carried out in accordance with Annex C BS EN ISO 6946: 2007.

Non foil (mm)		Foil (mm)	
1:60	1:80	1:60	1:80
A = 30-50	30-45	A = 30-50	30-45
B = 50-70	45-60	B = 50-70	45-60
C = 70-90	60-75	C = 70-90	60-75
D = 90-110	75-90	D = 90-110	75-90
E = 110-130	90-105		
F = 130-150	105-120		
G = 150-170	120-135		
H = 170-190	135-150		

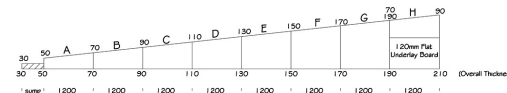


Dimensions

Width (mm): 1200
Length (mm): 1200



1:60 Fall
EcoTherm EcoBond
Cross Section
Not to Scale:



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Flat Roof Products

Eco-Metre



Applications

Used for new-build and for upgrading the thermal performance of existing roofs. Eco-Metre provides a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations. Eco-Metre achieves high performance insulation for metal, concrete or timber decks.

Description

EcoTherm Eco-Metre is a rigid polyisocyanurate foam core faced with bitumen coated glass tissue on one side and bitumen/polypropylene fleece on the other. Bitumen coated polypropylene fleece side up for torch on felt/asphalt applications. Bitumen coated glass tissue side up for roll and pour bitumen felt and bitumen compatible single ply applications. One board equates to one square metre for easy measurement and take-offs. The PIR foam core is temperature tolerant and withstands the application of hot bitumen and asphalt to the surface at up to 240 °C.

Dimensions

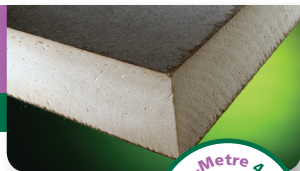
Width: 834mm
Length: 1200mm
Area: 1 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the foam varies by thickness as follows:

30 to 79mm = 0.026 W/mK
80 to 119mm = 0.025 W/mK
120 to 200mm = 0.024 W/mK

Thermal resistances of the range and typical U values within given constructions are shown in the table below.



Eco-Felt



Applications

Used for new-build and for upgrading the thermal performance of existing roofs. Eco-Felt provides a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations. Eco-Felt achieves high performance insulation in mastic asphalt and roll and pour built up felt roof waterproofing applications.

Description

EcoTherm Eco-Felt is a rigid polyisocyanurate foam core faced with bitumen coated glass tissue on one side and white plain glass tissue on the other. The PIR foam core is temperature tolerant and withstands the application of hot bitumen and asphalt to the surface at up to 240 °C.

Dimensions

Width: 600mm
Length: 1200mm
Area: 0.72 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the foam varies by thickness as follows:

25 to 79mm = 0.026 W/mK
80 to 119mm = 0.025 W/mK
120 to 200mm = 0.024 W/mK

Thermal resistances of the range and typical U values within given constructions are shown in the table below.

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² ·K/W)	Typical U value on metal deck (W/m ² ·K)	Typical U value on concrete deck (W/m ² ·K)	Typical U value on timber deck (W/m ² ·K)
30	1200	834	1.15	0.72	0.68	0.57
40	1200	834	1.54	0.58	0.55	0.48
50	1200	834	1.92	0.47	0.45	0.40
60	1200	834	2.31	0.40	0.38	0.34
70	1200	834	2.69	0.35	0.34	0.31
80	1200	834	3.20	0.29	0.28	0.26
90	1200	834	3.60	0.26	0.26	0.24
100	1200	834	4.00	0.24	0.23	0.22
110	1200	834	4.40	0.22	0.21	0.20
120	1200	834	5.00	0.19	0.19	0.18
130	1200	834	5.42	0.18	0.18	0.17
140	1200	834	5.83	0.17	0.16	0.16
150	1200	834	6.25	0.15	0.15	0.15
160	1200	834	6.67	0.15	0.14	0.14
170	1200	834	7.08	0.14	0.14	0.13
180	1200	834	7.50	0.13	0.13	0.12
190	1200	834	7.92	0.12	0.12	0.12
200	1200	834	8.33	0.12	0.12	0.11

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² ·K/W)	Typical U value on metal deck (W/m ² ·K)	Typical U value on concrete deck (W/m ² ·K)	Typical U value on timber deck (W/m ² ·K)
30	1200	600	1.15	0.72	0.68	0.57
40	1200	600	1.54	0.58	0.55	0.48
50	1200	600	1.92	0.47	0.45	0.40
60	1200	600	2.31	0.40	0.38	0.34
70	1200	600	2.69	0.35	0.34	0.31
75	1200	600	2.89	0.32	0.31	0.29
80	1200	600	3.20	0.29	0.28	0.26
90	1200	600	3.60	0.26	0.26	0.24
100	1200	600	4.00	0.24	0.23	0.22
110	1200	600	4.40	0.22	0.21	0.20
120	1200	600	5.00	0.19	0.19	0.18
130	1200	600	5.42	0.18	0.18	0.17
140	1200	600	5.83	0.17	0.16	0.16
150	1200	600	6.25	0.15	0.15	0.15
160	1200	600	6.67	0.15	0.14	0.14
170	1200	600	7.08	0.14	0.14	0.13
180	1200	600	7.50	0.13	0.13	0.12
190	1200	600	7.92	0.12	0.12	0.12
200	1200	600	8.33	0.12	0.12	0.11

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Flat Roof Products

Eco-Bond



Applications

Used for new-build, fast-track roofs and for upgrading the thermal performance of existing roofs. It provides a cost effective means of reducing CO₂ emissions for compliance with Building Regulations. Eco-Bond achieves high performance insulation for metal, concrete or timber decks.

Description

EcoTherm Eco-Bond is rigid polyisocyanurate foam with a mineral coated glass fibre tissue on both sides. It is a high performance insulation suitable for use with fully adhered and mechanically fixed single-ply waterproofing membranes.

Dimensions

Width: 600, 1200mm
Length: 1200, 2400mm
Area: 0.72 or 2.88 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the foam varies by thickness as follows:

25 to 79mm = 0.026 W/mK
80 to 119mm = 0.025 W/mK
120 to 200mm = 0.024 W/mK

Thermal resistances of the range and typical U values within given constructions are shown in the table below.

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² ·k/W)	Typical U value on metal deck (W/m ² ·k)	Typical U value on concrete deck (W/m ² ·k)	Typical U value on timber deck (W/m ² ·k)
30	1200	600	1.15	0.72	0.68	0.57
40	1200	600	1.54	0.58	0.55	0.48
50	1200	600	1.92	0.47	0.45	0.40
60	1200	600	2.31	0.40	0.38	0.34
70	1200	600	2.69	0.35	0.34	0.31
80	1200	600	3.20	0.29	0.28	0.26
90	1200	600	3.60	0.26	0.26	0.24
100	1200	600	4.00	0.24	0.23	0.22
110	1200	600	4.40	0.22	0.21	0.20
120	1200	600	5.00	0.19	0.19	0.18
130	1200	600	5.42	0.18	0.18	0.17
140	1200	600	5.83	0.17	0.16	0.16
150	1200	600	6.25	0.15	0.15	0.15
160	1200	600	6.67	0.15	0.14	0.14
170	1200	600	7.08	0.14	0.14	0.13
180	1200	600	7.50	0.13	0.13	0.12
190	1200	600	7.92	0.12	0.12	0.12
200	1200	600	8.33	0.12	0.12	0.11

Eco-Deck



Applications

Used for new-build and for upgrading the thermal performance of existing roofs. It provides a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations. Eco-Deck achieves high performance insulation for warm roof structures.

Description

EcoTherm Eco-Deck is PIR foam core faced with tough, 9mm exterior grade, FSC Certified Grade 3 Oriented Strand Board used as pre-insulated foil-backed thermal insulating decking for flat roofs. It is ready to fix and finish using basic tools and traditional roofing techniques.

Dimensions

Width: 1200mm
Length: 2400mm
Area: 2.88 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the foam is 0.022 W/mK. The thermal conductivity (λ value) of the OSB is 0.14 W/mK.

Thermal resistances of the range are shown in the table below.

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² ·k/W)	Typical U value (W/m ² ·k)
99 o/all	2400	1200	4.16	0.22
109 o/all	2400	1200	4.62	0.20
119 o/all	2400	1200	5.07	0.18
129 o/all	2400	1200	5.53	0.17
139 o/all	2400	1200	5.98	0.16
149 o/all	2400	1200	6.44	0.15
159 o/all	2400	1200	6.89	0.14



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Email: technical@ecotherm.co.uk



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Flat Roof Products

Eco-Fix



Applications

Used for new-build, fast-track roofs and for upgrading the thermal performance of existing roofs. It provides a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations. Eco-Fix achieves high performance insulation for metal, concrete or timber decks.

Description

EcoTherm Eco-Fix is rigid polyisocyanurate foam with aluminium foil composite on both sides. It is a high performance insulation suitable for use with mechanically fixed single-ply waterproofing membranes.

Dimensions

Width: 1200mm
Length: 2400mm
Area: 2.88 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the foam is 0.022 W/mK. Thermal resistances of the range and typical U values within given constructions are shown in the table below.

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² ·K/W)	Typical U value on metal deck (W/m ² ·K)	Typical U value on concrete deck (W/m ² ·K)	Typical U value on timber deck (W/m ² ·K)
30	2400	1200	1.36	0.67	0.63	0.53
40	2400	1200	1.82	0.51	0.49	0.43
50	2400	1200	2.27	0.42	0.40	0.36
60	2400	1200	2.73	0.35	0.34	0.31
70	2400	1200	3.18	0.30	0.30	0.27
80	2400	1200	3.64	0.27	0.26	0.24
90	2400	1200	4.09	0.24	0.23	0.22
100	2400	1200	4.55	0.22	0.21	0.20
110	2400	1200	5.00	0.19	0.19	0.18
120	2400	1200	5.46	0.18	0.18	0.17
130	2400	1200	5.91	0.17	0.16	0.16
140	2400	1200	6.36	0.15	0.15	0.15
150	2400	1200	6.82	0.14	0.14	0.14
160	2400	1200	7.27	0.14	0.13	0.13
170	2400	1200	7.73	0.13	0.13	0.12
180	2400	1200	8.18	0.12	0.12	0.12
190	2400	1200	8.64	0.11	0.11	0.11
200	2400	1200	9.09	0.11	0.11	0.10

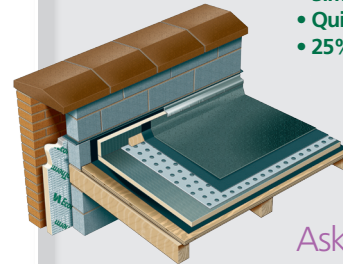


Eco-Metre

The best insulation solution whichever way you look at it

- Simple to order; one board = 1m²
- Quick and easy to lay
- 25% less joints installed

1200mm x 834mm (1m²)



Ask for it at the counter!

4 in 1
insulation





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Cavity Wall Fixing Details

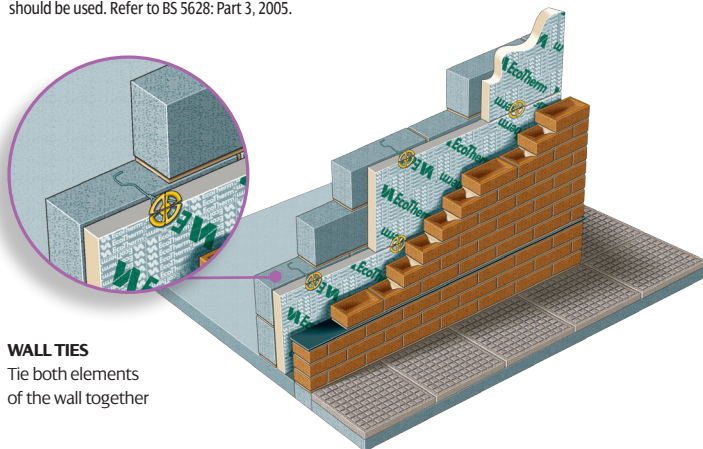
Eco-Cavity *Foil faced on both sides for partial fill cavity wall insulation*

Design Considerations

A minimum 25mm cavity should always be maintained after the installation of EcoTherm Cavity- Wall board, irrespective of the thickness specified. This will avoid problems associated with completely filled cavities. NHBC advise a 50mm clear cavity. BS 5628: Part 1: 2005 Code of Practice for the use of masonry, Part 1: un-reinforced masonry, Part 2: 2005 structural use of reinforced and pre-stressed masonry, should be consulted. Wall ties should be long enough to provide a minimum 50mm bed into the mortar joints of the inner and the outer skin mortar bed. The specified ties should conform to current British Standards for metal ties for cavity wall constructions and should restrain the board against the inner skin of brick or block work.

Severe Exposure Zones

In severe exposure zones only stainless steel or copper alloy wall ties should be used. Refer to BS 5628: Part 3, 2005.



WALL TIES

Tie both elements
 of the wall together

Typical Fixing Instructions

EcoTherm Eco-Cavity board is held in position by the wall ties used to tie the two skins of masonry together with additional washers.

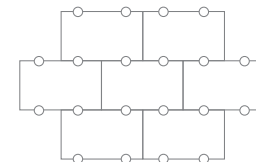
Where the inner skin of masonry is monolithic, and it is not possible to use such fasteners, the boards may be fixed by a minimum of 4 screws incorporating a large 50mm minimum diameter plastic, galvanised, or stainless steel washer. The screws should be screwed directly into the masonry skin behind the board. The number of mechanical fixings required will vary with the size of the board used. Regardless of the method of fixing and type of construction, EcoTherm board should be evenly supported so that it will remain flat against the inner skin of masonry.

The boards should always be installed with staggered joints.

For buildings up to 12m high, a minimum clear cavity width of 25mm free from all obstructions may be acceptable subject to exposure.

Laying And Fixing Pattern

Typically each 450 x 1200 board requires
 2 fixings.



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 Call: 01268 597 212/213
 Email: technical@ecotherm.co.uk

A detailed Eco-Cavity datasheet is available
 to download from www.ecotherm.co.uk





Cavity Wall Products

Eco-Cavity

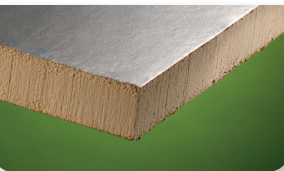


Applications

Used for new build and for upgrading the thermal performance of existing cavity walls, providing a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations. Eco-Cavity achieves high performance insulation whilst maintaining a clear residual cavity; effective protection against driving rain, particularly in coastal and exposed locations.

Description

Eco-Cavity is rigid polyisocyanurate foam with aluminium foil composite on both sides. It is a high performance insulation used as a partial cavity fill within traditionally built masonry walls. It is conveniently sized so that the boards co-ordinate with brick and block dimensions and to allow the insertion of wall ties into the construction at the appropriate spacing.



Dimensions

Width: 450mm
Length: 1200mm
Area: 0.54 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the foam is 0.022 W/mK. Thermal resistances of the range and typical U values within given constructions are shown in the table below.

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² k/W)	Typical U value light block (W/m ² k)	Typical U value medium block (W/m ² k)	Typical U value dense block (W/m ² k)
25	1200	450	1.14	0.34	0.41	0.43
30	1200	450	1.36	0.31	0.37	0.39
35	1200	450	1.59	0.29	0.35	0.36
40	1200	450	1.82	0.27	0.32	0.33
45	1200	450	2.05	0.26	0.30	0.31
50	1200	450	2.27	0.24	0.28	0.29
55	1200	450	2.50	0.23	0.26	0.27
60	1200	450	2.73	0.22	0.25	0.25
70	1200	450	3.18	0.20	0.22	0.23
75	1200	450	3.41	0.19	0.21	0.22
100	1200	450	4.55	0.16	0.17	0.17

105 - 200mm Call for information

Low Thermal Conductor



Orchestrate improvements to wall U-values with Ancon low thermal conductivity wall ties.



Ancon[®]
BUILDING PRODUCTS

► www.ancon.co.uk/LowConductor Tel: +44 (0) 114 275 5224



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Internal Wall Fixing Details

Eco-Liner Dab & Eco-Liner Fix *Thermal Laminate Insulation*

Plasterboard faced PIR foam insulation for dry lining and insulation in a one board application.

Design Considerations

Cut using a fine tooth saw, ensuring accurate trimming to achieve close butt joints and continuity of insulation. For good drywall practice follow BS 8212:1995 Code of Practice for dry lining and partitioning using gypsum plasterboard and BS 8000- Part 8:1994 Workmanship on building sites, Code of practice for plasterboard partitions and dry linings. If required for acoustics and air tightness apply a suitable parge coat prior to lining.

Eco-Liner Dab

Bond Eco-Liner Dab using proprietary gypsum adhesive. Please follow the gypsum adhesive manufacturer's instructions.

Apply a continuous perimeter ribbon of adhesive, 50mm wide, around any openings i.e. windows, electric plug sockets on the external walls to provide a seal.

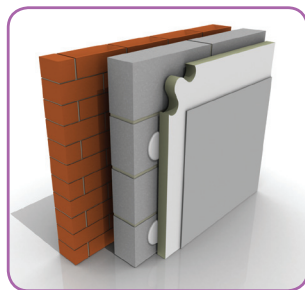
Apply 3 vertical rows of gypsum plasterboard adhesive dabs to the wall at 300mm vertical centres and a continuous bead at the bottom and top.

Install board and ensure it is plumb, working to chalk lines on ceiling and floor by tamping the boards leaving a small gap of 10mm at the base.

After the gypsum plasterboard adhesive has set, fix suitable nailable plugs (minimum of two) per board at mid-height, 25mm minimum depth into the masonry as a secondary fixing.

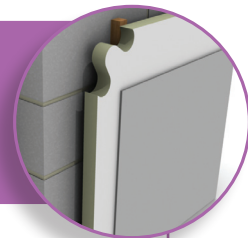
The maximum height of this system is 3m high.

For sound, existing plasterwork, an alternative is to bond directly using walnut sized dabs of proprietary adhesive at 300mm centres vertically/ horizontally. Secure with nailable plugs as a secondary fix at mid height as above.



INTERNAL FINISHING

The ivory face of the tapered edge plasterboard enables a flat seamless finish using either skim coat plaster or seamless drywall jointing techniques in accordance with manufacturer's guidance.



Eco-Liner Fix

It is ideal for insulating a solid brick or block wall via a timber frame or battens to the inside. It can be used with a metal framing system directly to the frame system.

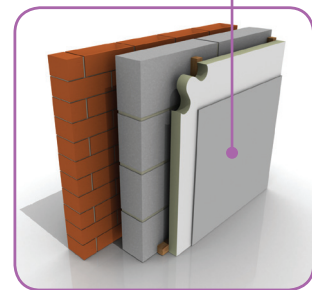
For a wall lining, fix pre-treated 50mm wide x 25mm deep timber battens at maximum 600mm centres with horizontal battens at ceiling and just above floor level.

Install Eco-Liner using drywall screws at 150mm centres ensuring that they penetrate the timber 25mm deep and not less than 10mm from the edge. The screw heads should be driven until they are just below the surface and care taken to ensure that they are not over driven.

When installing the boards under rafters, they must be at right angles to the rafters and supported on all four edges. Therefore noggings may be required across the rafters.

Fix to metal channels or metal furrings using specialist drywall screws.

It can also be used under timber rafters in a pitched roof situation or a cold flat roof system.





NEW

Internal Wall Products



Eco-Liner Dab & Eco-Liner Fix

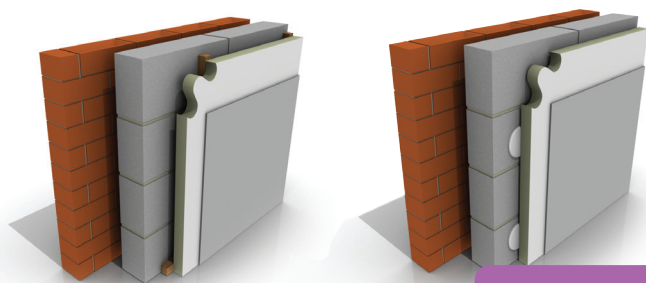
Description

Composite insulated panel comprising PIR foam bonded to 12.5mm tapered edge gypsum plasterboard for internal dry lining applications. It is available in thicknesses of 37.5mm to 112.5mm in board sizes of 2400x1200mm. Two versions are available: Eco-Liner Dab has a clay filled glass fibre tissue face; ideal for adhesive (dab) bonding and higher thermal performance Eco-Liner Fix has a high performance aluminium foil backing suitable for mechanically fixed systems.

Applications

Room side insulation responds quickly to heating systems and applications include upgrading the thermal performance of existing walls, providing a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations. Ideal for:

- Walls
- Pitched roofs/Cold flat roofs
- Room-in-the-roof applications
- Both new build and renovations



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Call: 01268 597 212/213
Email: technical@ecotherm.co.uk

A detailed Eco-Liner datasheet is available to download from www.ecotherm.co.uk

Eco-Liner Dab

Insulation thickness (mm)	Plasterboard thickness (mm)	Overall thickness (mm)	Length (mm)	Width (mm)	R Value (m ² K/W)	Typical U value solid brick = 225mm (W/m ² K)
25	12.5	37.5	2400	1200	1.04	0.63
30	12.5	42.5	2400	1200	1.23	0.56
35	12.5	47.5	2400	1200	1.42	0.50
40	12.5	52.5	2400	1200	1.61	0.46
45	12.5	57.5	2400	1200	1.81	0.42
50	12.5	62.5	2400	1200	2.00	0.39
60	12.5	72.5	2400	1200	2.38	0.34
70	12.5	82.5	2400	1200	2.85	0.30
75	12.5	87.5	2400	1200	2.96	0.28
80	12.5	92.5	2400	1200	3.27	0.26
90	12.5	102.5	2400	1200	3.67	0.24
100	12.5	112.5	2400	1200	4.07	0.22

Eco-Liner Fix

Insulation thickness (mm)	Plasterboard thickness (mm)	Overall thickness (mm)	Length (mm)	Width (mm)	R Value (m ² K/W)	Typical U value solid brick = 225mm (W/m ² K)
25	12.5	37.5	2400	1200	1.21	0.45
30	12.5	42.5	2400	1200	1.44	0.41
35	12.5	47.5	2400	1200	1.67	0.37
40	12.5	52.5	2400	1200	1.89	0.35
45	12.5	57.5	2400	1200	1.89	0.32
50	12.5	62.5	2400	1200	2.35	0.30
60	12.5	72.5	2400	1200	2.80	0.26
70	12.5	82.5	2400	1200	3.26	0.23
75	12.5	87.5	2400	1200	3.48	0.22
80	12.5	92.5	2400	1200	3.71	0.21
90	12.5	102.5	2400	1200	4.17	0.19
100	12.5	112.5	2400	1200	4.62	0.18

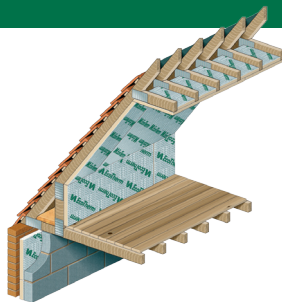


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Pitched Roof Fixing Details

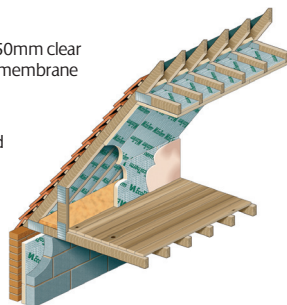
Between & over rafter insulation

- Cut the insulation tight and push up between the rafters towards the top. Install the other-thicker-layer of insulation over the top of the rafters
- Secure the over rafter insulation with a vertical batten down the line of each rafter
- Install the breathable membrane as per manufacturers instructions



Between & under rafter insulation

- Cut the insulation tight between the rafters leaving a 50mm clear cavity above the insulation and below the breathable membrane
- Fix a secondary layer of Eco-Versal to the underside of the rafter and cover with 12.5mm plaster board or use EcoTherm Eco-Liner Fix thermal laminate board
- Fill any small gaps with PU foam
- Tape joints with self adhesive foil tape



Eco-Liner solution in combination with Eco-Versal between rafters to achieve desired U values. Further details are available from EcoTherm Technical Services.

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Call: 01268 597 212/213
Email: technical@ecotherm.co.uk

A detailed Eco-Versal datasheet is available to download from www.ecotherm.co.uk

Pitched Roof Products



Eco-Versal

Applications

Applications include upgrading the thermal performance of existing building elements, providing a cost effective means of reducing CO₂ emissions and for compliance with Building Regulations. Ideal for:

- Floors
- Pitched roofs/Cold flat roofs
- Walls
- Room-in-the-roof applications
- Both new build and renovations

Description

Eco-Versal is rigid polyisocyanurate foam with aluminium foil composite on both sides. It is a universal high performance insulation used for pitched roofs, floors, dormer cheeks and ceilings.

Dimensions

Width: 1200mm
Length: 2400mm
Area: 2.88 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the foam is 0.022 W/mK. Thermal resistances of the range and typical U values within given constructions are shown in the table below:

Thickness (mm)	R Value (m ² ·k/W)	Typical U value single layer over rafters (W/m ² ·k)	Typical U value between and 25mm under rafters (W/m ² ·k)
25	1.14	0.60	0.36
30	1.36	0.52	0.34
35	1.59	0.47	0.32
40	1.82	0.42	0.30
45	2.05	0.39	0.29
50	2.27	0.36	0.27
60	2.73	0.31	0.25
65	2.96	0.29	0.24
70	3.18	0.27	0.23
75	3.41	0.25	0.22
80	3.64	0.24	0.22
90	4.09	0.22	0.20
100	4.55	0.20	0.19
110	5.00	0.18	0.18
120	5.46	0.17	0.17
130	5.91	0.15	0.16
140	6.36	0.14	0.15
150	6.82	0.14	0.15
160	7.27	0.13	0.14
170	7.73	0.12	0.13
180	8.18	0.11	0.13
190	8.64	0.11	0.13
200	9.09	0.10	0.12



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Floor Fixing Details

Eco-Versal



Application

EcoTherm Eco-Versal has a PIR foam core with aluminium foil faced composite on both sides. It can be used in both new-build and refurbishment applications as a thermal insulation material for floor constructions.

Benefits

- Gives high insulation efficiency
- Offers good compressive strength
- Simple application
- Little change to construction practice
- Low thermal conductivity
- High resistance to compressive creep
- Adaptability in modern constructions
- For smooth floor surfaces
- Offers an insulated base for chipboard
- Insulates within screeded floors
- Insulation of timber floating floors
- Insulation for warm suspended floors
- Insulated ducting in suspended floors
- Meets NHBC recommendations
- Meets UK Building Regulation standards
- Reduces heating costs
- Provides thermal envelope at floor level
- Avoids cold bridging
- Insulates the whole of the floor area

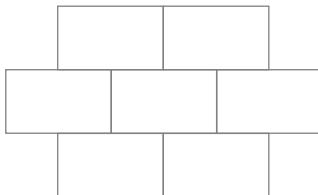
Membrane

In those applications where a concrete slab is specified or exists, EcoTherm Eco-Versal should be overlaid with a protective membrane of minimum 500 gauge prior to the application of the screed.

Durability

Eco-Versal has an indefinite life and its durability depends on the background/supporting structure and conditions of its use. It should not be used to isolate dampness nor be used in continuously damp/humid conditions.

Laying Pattern

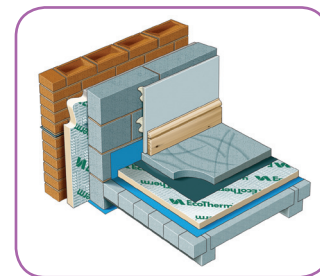


Application Details

- Ensure damp proof membrane maintains continuity with surrounding walls
- Overlay insulation with polythene sheet (min 500 gauge) if using screed
- Ensure DPM is below insulation
- Use 25mm perimeter insulation as a thermal break

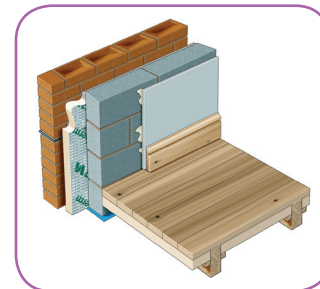
Beam and block suspended ground floor insulation

- Support boards on a smooth level surface
- Overlay insulation with polythene sheet (min 500 gauge) if using screed
- Use 25mm perimeter insulation as a thermal break



Suspended timber floor insulation

- Cut insulation board, push up tight against timber joists/under side of floor
- Secure in place with a timber batten
- Fill any small gaps with expanding polyurethane foam



IMPORTANT NOTE: Insulation depth for floors depends upon floor perimeter to area ratio.

Contact EcoTherm Technical Services for advice on meeting U values in floors:
01268 597 212/213



Floor Fixing Details

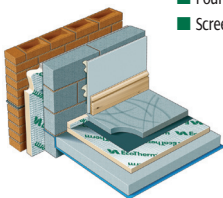
Eco-Versal

Solid ground floor insulation

Solid floor (above slab)

Application Details

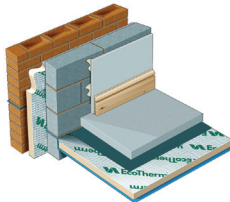
- Ensure damp proof maintains continuity with surrounding walls
- Overlay Eco-Versal insulation with polythene sheet (min 500 gauge) if using screed. Not required with EcoTherm Eco-UFH board.
- Ensure damp proof membrane is below insulation
- Use 25mm perimeter insulation as a thermal break



Solid floor (below slab)

Application Details

- Install damp proof membrane above hard core
- Lay Eco-Versal close butted with staggered joints
- Use 25mm Eco-Versal perimeter insulation as a thermal break
- Overlay insulation with polythene sheet (min 500 gauge) Not required with EcoTherm Eco-UFH board.
- Pour concrete slab
- Screed over the top



Made to order products

EcoTherm offers a core range of insulation boards designed to meet the demands of modern methods of construction. However, we realise that modern methods of construction and SAP compliance opens a whole range of possibilities.

That's why EcoTherm offers a range of made to order products designed for bespoke projects. Please call us if what you see doesn't meet your requirements, we're always happy to discuss your needs.

Please call our customer support team for further details on our complete product range on **01702 520166**.



PRINTED GRID makes it easier to align the pipes

Eco-UFH

Under Floor Heating

Applications

- Lay the boards close butted and with staggered joints
- Install perimeter edge insulation accordingly
- Mechanically fix the pipe work to the boards following the gridlines for accurate alignment and spacing
- Lay the screed to the correct depth following the manufacturer's guidelines

IT'S THIN superior rigid insulation

BUILT IN MEMBRANE no need for a polythene overlay

SUPERB CLIP RETENTION heavy duty facing holds clips tight



Use EcoTherm UFH board in conjunction with screeds and under-floor heating systems, visit www.ecotherm.co.uk for further details.



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Floor Products



Eco-Versal

Description

EcoTherm Eco-Versal is rigid polyisocyanurate foam with aluminium foil composite on both sides. It is a universal high performance insulation used for pitched roofs, floors, dormer cheeks and ceilings.

Applications

- Ground bearing concrete floors
- Remedial overlay floors
- Suspended hollow pot floors
- Solid floors above slab
- Suspended timber floors
- Solid floors below slab
- Floor perimeter
- Suspended block and beam

Dimensions

Width: 1200mm
Length: 2400mm
Area: 2.88 Sq m



Thermal Conductivity

The thermal conductivity (λ value) of the board is 0.022W/mK. Thermal resistances of the range and typical U Values within given constructions are shown in the table below.

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² ·K/W)	Typical U Value Solid Concrete (W/m ² ·K)	Typical U Value Suspended B&B (W/m ² ·K)	Typical U Value Suspended Timber (W/m ² ·K)
25	2400	1200	1.14	0.36	0.40	0.39
30	2400	1200	1.36	0.33	0.37	0.36
35	2400	1200	1.59	0.31	0.34	0.34
40	2400	1200	1.82	0.28	0.31	0.32
45	2400	1200	2.05	0.27	0.30	0.30
50	2400	1200	2.27	0.25	0.27	0.29
60	2400	1200	2.73	0.22	0.24	0.26
65	2400	1200	2.96	0.21	0.23	0.25
70	2400	1200	3.18	0.20	0.22	0.25
75	2400	1200	3.41	0.19	0.21	0.24
80	2400	1200	3.64	0.19	0.20	0.23
90	2400	1200	4.09	0.17	0.18	0.22
100	2400	1200	4.55	0.16	0.17	0.21
110	2400	1200	5.00	0.15	0.16	0.20
120	2400	1200	5.46	0.14	0.15	0.19
130	2400	1200	5.91	0.13	0.14	0.18
140	2400	1200	6.36	0.12	0.13	0.18
150	2400	1200	6.82	0.12	0.12	0.17
160	2400	1200	7.27	0.11	0.12	0.15*
170	2400	1200	7.73	0.11	0.11	0.15*
180	2400	1200	8.18	0.10	0.10	0.14*
190	2400	1200	8.64	0.10	0.10	0.14*
200	2400	1200	9.09	0.09	0.10	0.14*

All calculations based on a P/A ratio of 0.5

* 200mm deep timbers

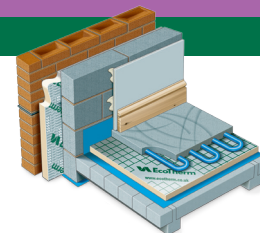
Eco-UFH

Description

EcoTherm Eco-UFH is rigid polyisocyanurate foam with tough woven aluminium foil composite grid on both sides. It saves energy and building running costs by distributing the heat (upwards) evenly via the foil facing. It has inherent resistance to alkali attack and it is a high performance insulation suitable for use with most screeded under floor heating systems. The tough woven grid gives a visual guide to enable installers to lay the pipes quickly and the line grid system measures at 50mm intervals enabling any pipe centres to be chosen easily.

Applications

Used in conjunction with screeded under floor heating systems in new-build floors and for upgrading the thermal performance of existing floors. It provides a cost effective means of reducing CO₂ emissions and for compliance with building regulations.



Dimensions

Width: 1200mm
Length: 2400mm
Area: 2.88 Sq m

Thermal Conductivity

The thermal conductivity (λ value) of the board is 0.022W/mK. Thermal resistances of the range and typical U values within given constructions are shown in the table below.

Thickness (mm)	Length (mm)	Width (mm)	R Value (m ² ·K/W)	Typical U Value Solid (W/m ² ·K)	Typical U Value Suspended B&B (W/m ² ·K)
25	2400	1200	1.14	0.36	0.40
30	2400	1200	1.36	0.33	0.37
35	2400	1200	1.59	0.31	0.34
40	2400	1200	1.82	0.28	0.31
50	2400	1200	2.27	0.25	0.27
60	2400	1200	2.73	0.22	0.24
75	2400	1200	3.41	0.19	0.21
80	2400	1200	3.64	0.19	0.20
90	2400	1200	4.09	0.17	0.18
100	2400	1200	4.55	0.16	0.17

FOR FREE TECHNICAL ADVICE
Call: 01268 597 212/213
Email: technical@ecotherm.co.uk

A detailed Eco-Versal & UFH datasheet is available to download from www.ecotherm.co.uk



