FOR FLAT ROOFS

EcoTherm Insulation

Eco-Fix

Flat roof insulation for use with mechanically fixed single-ply waterproofing membranes

Fibre-free rigid polyisocyanurate (PIR) insulation core with aluminium foil composite facing to both sides

Issue 13 I February 2026

Eco-Fix

Description

Eco-Fix comprises a fibre-free rigid polyisocyanurate (PIR) insulation core with aluminium foil composite facing to both sides.

Applications

Eco-Fix is a flat roof insulation board, for use in new roofs, refurbished roofs or for upgrading the thermal performance of existing roofs. Eco-Fix is suitable for mechanically fixed single-ply waterproofing membranes on concrete, timber or metal decks. For advice on how Eco-Fix can suit your application, please contact EcoTherm.

Product properties

DIMENSIONS

Eco-Fix is available in the following standard sizes:

	Flat Boards
Width	1200 mm
Length	2400 mm
Thickness	25-160 mm*
Area	2.88m²

* Greater thicknesses of insulation may be achieved with two layers of insulation boards

THERMAL PERFORMANCE

Eco-Fix has a thermal conductivity (lambda/λ-value) of 0.022 W/mK.

Eco-Fix lambda/ λ-values quoted in this datasheet are in accordance with BS EN 13165: 2012 + A2: 2016 (Thermal insulation products for buildings. Factory made rigid polyurethane foam (PU) products. Specification).

COMPRESSIVE PERFORMANCE

The average compressive stress of Eco-Fix exceeds 150 kPa at 10% compression, when tested to BS EN 826: 2013 (Thermal insulating products for building applications. Determination of compression behaviour).

RESISTANCE TO SOLVENTS, FUNGI & RODENTS

Eco-Fix resists attack from dilute alkalis and acids, mineral oil and petrol, however, it is not resistant to ketonic solvents. The insulation core and facings of Eco-Fix resist attack from mould and microbial growth and do not provide any food value to vermin.

DURABILITY

When correctly installed, Eco-Fix will remain effective for the life of the building. Its durability depends on the background/supporting structure and conditions of its use. It should not be used to isolate dampness or be used in continuously damp/humid conditions.

RESPONSIBLE SOURCING

Eco-Fix produced at Kingspan Insulation's Pembridge (Herefordshire) and Selby (North Yorkshire) manufacturing facilities is certified to BES 6001 (Framework Standard for the Responsible Sourcing of Construction Products) 'Good'.

BES 6001 Responsible Sourcing www.greenbooklive.com

To download all available certification, please visit our website

WATER VAPOUR RESISTIVITY

When tested in accordance with BS EN 12086 (Thermal insulating products for building applications. Determination of water vapour transmission properties), Eco-Fix produced at Kingspan Insulation's Pembridge (Herefordshire) and Selby (North Yorkshire) manufacturing facilities achieves a resistance of 300 MNs/g for the insulation core and 80 MNs/g for the composite foil-facing.

FIRE PERFORMANCE

For guidance regarding the routes to compliance for meeting fire safety requirements please refer to the relevant Building Regulations/ Standards for England, Wales and Scotland.

Under System 4 AVCP, Eco-Fix has a Euroclass rating of F.

Additional materials can be placed above the insulation layer within a roofing system including mechanically fixed membranes. These additional materials complete the roofing system. As such, the fire performance of a roofing system is predominantly determined by these finishes.

Compliance for meeting the fire safety requirements of the Building Regulations/Standards can be evaluated by testing the fire performance of the roofing system. The most commonly used route to compliance involves testing the full roofing system and uses test method DD CEN/TS 1187: 2012 (Test methods for external fire exposure to roofs). External roof exposure testing is typically carried out by the waterproofing manufacturer/system supplier, due to the complexities of the roofing system.

NB Test evidence to demonstrate compliance with the fire safety requirements of the Building Regulations/Standards incorporating Eco-Fix within a roof system would be required to be provided from the chosen waterproofing system supplier. Without the required classification for the proposed roof system, achieved through either an external roof exposure test or an overlay of inorganic material, the use of Eco-Fix must be restricted to at least 20 metres in England and 24 metres in Scotland, or more from any point of the relevant boundary.

Further details on the fire performance may be obtained from EcoTherm Technical Services (see rear cover for details).

FOR FREE TECHNICAL ADVICE
Tel: +44 (0) 1544 387 325
Email: ecothermtechnical@kingspan.com

ROOF LOADING

Eco-Fix is suitable for roof decks which are exposed to limited maintenance foot traffic, depending on the waterproofing system being used. For roofs which require regular pedestrian access, a walkway should be provided. The roof should be boarded out with protective boarding whenever site work is to take place after the roofboard has been laid and the roof made watertight.

ROOF WATERPROOFING SYSTEM

Eco-Fix is suitable for use with mechanically fixed waterproofing systems (PVC, TPO, EVA, EPDM etc). Please contact the waterproofing manufacturer to check the compatibility of the waterproofing system with Eco-Fix.

SPANNING METAL DECKS

Trough opening (mm)	Minimum roofboard thickness (mm)
<75	25
≥75 and ≤100	30
>100 and ≤125	35
>125 and ≤150	40
>150 and ≤175	45
>175 and ≤200	50
>200 and ≤225	55
>225 and ≤250	60

Table 1 Eco-Fix thickness and trough opening sizes

The insulation should be laid perpendicular to the metal roof deck so all joints are fully supported.

DESIGN CONSIDERATIONS

Consideration should also be given to BS 5250: 2021 and BS 6229: 2018. Mechanical fixings should be used as recommended in IMA information document ID/1/2009 (Mechanical fixings for rigid polyisocyanurate (PIR) and polyurethane (PUR) roofboards beneath single-ply waterproofing membranes).

STANDARDS AND APPROVALS

The use of Eco-Fix (in thicknesses of 25 - 160 mm), produced at the Pembridge (Herefordshire) and Selby (North Yorkshire) manufacturing facilities, is covered by BBA Certificate No 24/7272.

The EcoTherm roofing range is manufactured under a management system certified to ISO 9001: 2015 (Quality management systems), ISO 14001: 2015 (Environmental Management Systems), ISO 45001: 2018 (Occupational Health and Safety Management Systems), ISO 50001: 2018 (Energy Management Systems) and ISO 37301: 2021 (Compliance Management Systems).

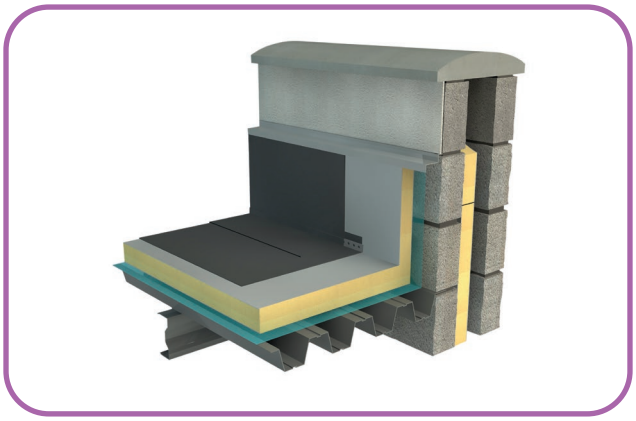
All available certificates can be downloaded from www.ecotherm.co.uk

WIND LOADING

Wind loadings should be assessed in accordance to BS EN 1991-1-4: 2005 + A1: 2010 (Eurocode 1. Actions on structures. General actions. Wind actions) and the UK National Annex. EcoTherm recommend contacting the waterproofing manufacturer for a project specific wind uplift calculation.

CONSTRUCTION CONSIDERATIONS

Consideration should be given to the recommendations and best practice guidance of SPRA (Single Ply Roofing Association), LRWA (Liquid Roofing and Waterproofing Association) and the IMA (Insulation Manufacturers Association).



INSTALLATION

The roof substrate should be sound, secure, clean, dry, smooth, and free from frost, contaminants, voids, and protrusions. Before applying the waterproofing system, voids, cracks, and holes must be repaired, and hollows, depressions, and deflections must be made good. In order to ensure adequate drainage, BS 6229: 2018 (Flat roofs with continuously supported coverings. Code of practice) recommends uniform gradients of not less than 1 in 80. However, because of building settlement, it is advisable to design in even greater falls.

- The Eco-Fix insulation should be installed over the loose AVCL in a staggered formation, tightly butted together. The AVCL must run behind all installed insulation.
- It is important to follow the waterproofing manufacturer's membrane application guidelines.
- The waterproofing membrane will continue vertically as a separate detailing upstand. The membrane should be a minimum of 150mm above the finished roof level.

MECHANICAL FIXINGS

Mechanical fixings should be used as recommended in IMA information document ID/1/2009 (Mechanical fixings for rigid polyisocyanurate (PIR) and polyurethane (PUR) roofboards beneath single-ply waterproofing membranes). Where the specified vapour control layer is other than a bitumen membrane, eg polyethylene, any fixings which penetrate the vapour control layer should be telescopic tube fastenings.

The number of mechanical fixings required to fix Eco-Fix will vary with the geographical location of the building, the topographical data, and the height of the roof concerned.

BS EN 1991-1-4: 2005 + A1: 2010 (Eurocode 1. Actions on structures - General Actions - Wind Actions) should be consulted. It is essential that Eco-Fix boards are restrained over its full surface area. When installing 2.4 x 1.2 m boards a minimum of 6 mechanical fixings should be placed within the individual board area and be sited adjacent to the corners of the board. Any additional fixings needed should be evenly distributed over the full area of the board. Each fixing should incorporate a minimum 50 mm diameter countersunk washer. Fixings at board edges must be more than 50 mm but less than 150 mm away from the edge or corner of the board.

EcoTherm advises where possible thermally broken tube fixings should be used.

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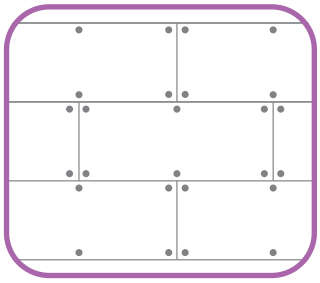
FOR FLAT ROOFS

LAYING PATTERN



Boards should be laid with edges butted and in a break bonded pattern laid at right angles to the edges of the roof or diagonally across the roof. The board is suited to a variety of laying patterns. However, it is recommended that whatever pattern is employed joints are always break-bonded.
On metal decks the long edges should be laid at right angles to the corrugations. All board joints should be fully supported by the deck.

HANDLING

- Do not drop boards
- To cut, use a fine toothed saw
- Wear appropriate hand and 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 a dust mask selected in accordance with BS EN 149: 2001 + A1: 2009 (Respiratory protective devices. Filtering half masks to protect against particles. Requirements, testing, marking) should be worn. Ensure accurate trimming to achieve close butt joints and continuity of insulation.

STORAGE

Store boards in a flat, dry area off the ground away from mechanical and water damage.
If temporary outdoor storage cannot be avoided then they must be completely protected by use of an opaque polythene sheet or tarpaulin.

Boards that have been allowed to get wet should not be used.

HEALTH & SAFETY

Eco-Fix is chemically inert. Product safety information is available to download from **www.ecotherm.co.uk**.

For the most up-to-date version of this brochure, please scan or click here.

To access pre-existing product information or information relating to previously sold/ discontinued products please email **literature@kingspaninsulation.co.uk.**

Kingspan Insulation Ltd.
Pembridge, Leominster, Herefordshire HR6 9LA.
tel: +44 (0) 1544 387 325
www.ecotherm.co.uk email: ecotherminfo@kingspan.com

EcoTherm Technical Services:
ecothermtechnical@kingspan.com