

Product Data Sheet

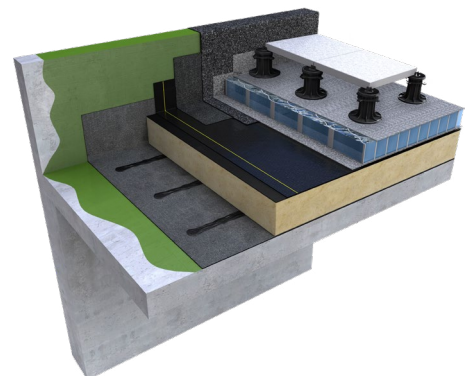
HYTHERM BF Insulation

Durable, lightweight PIR insulation for warm roofs (flat board or tapered)

Hytherm BF PIR insulation board is designed to provide optimum stability and structural integrity in warm roof constructions with hot applied bitumen waterproofing systems, including torch-on, and bitumen compatible single-ply systems.

The board comprises a fibre-free, rigid polyisocyanurate (PIR) core with a coated glass tissue facing on one side and bitumen glass tissue with polypropylene fleece on the other.

Hytherm BF is available in both flat and tapered boards, for use on new roofs, refurbished roofs or for upgrading the thermal performance of existing roofs.



Key benefits

- Excellent thermal performance - 0.026W/mK lambda (dependent on thickness).
- Compression strength >150kPa at 10% compression.
- Manufactured to ISO 14001 and ISO 9001.
- Compatible with most bituminous based roof systems.
- Fleece finished bitumen/glass fibre facings.
- An Environmental Product Declaration (EPD), is available for this product.
- Easy handling and installation.
- Board size: 1200mm x 600mm; thicknesses available 25mm -140mm.
- BBA approved.

Dimensions

	Flat Boards	Tapered boards
Width	600mm	Tapered scheme details are confirmed on a project by project basis
Length	1200mm	
Thickness	25/50/60/70/80/90/100/110/120/130/140mm*	
Density (Foam Core)	32kg/m ³	

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

Roof waterproofing system

Hytherm BF is suitable for use with most bitumen based, partially bonded Axter waterproofing systems typically including a BS EN 13707:2013 (Flexible sheets for waterproofing). Reinforced bitumen sheets for roof waterproofing type 3G perforated base layer or proprietary system. Guidance in regard to moisture and condensation should be in accordance with BS 8217 (Reinforced bitumen membranes for roofing).

The Hytherm BF boards should be protected from rain during breaks in construction.

With fully bonded applications additional care is required to ensure that the construction remains free from moisture. Failure to protect will result in blistering of the waterproof layer. When using single ply membranes, Hytherm BF should be installed fleece side down.

Thermal Conductivity

Thickness (mm)	Thermal conductivity / (W·m ⁻¹ ·K ⁻¹)
<80	0.027 W/m.K
80 to 120	0.025 W/m.K
≥120	0.024 W/m.K

The given U-values are indicative only. The effect of fixings has been assumed to have had no effect on the U-value. For comprehensive calculations on all deck types, please contact Axter Ltd. *Thermal conductivity is dependent on facings and product thickness.

Compressive Strength

Typically exceeds **150kPa at 10%** compressions when tested to BS EN 826 Thermal insulating products for building applications. Determination of compressive behaviour.

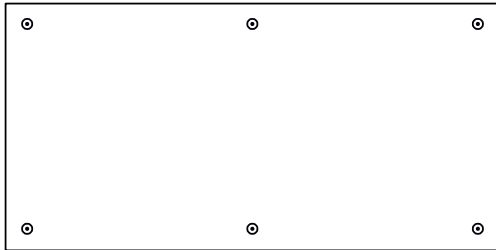
TYPICAL U-VALUES		
Construction	Thickness (mm)	U-Value (W/m ² K)
Concrete deck ¹	150mm	0.15
Metal deck ²	160mm	0.15
Timber deck ³	150mm	0.15
Concrete deck ¹	125mm	0.18
Metal deck ²	130mm	0.18
Timber deck ³	120mm	0.18
Concrete deck ¹	120mm	0.19
Metal deck ²	120mm	0.20
Timber deck ³	110mm	0.19

1. 200mm Concrete deck with suspended ceiling below.
2. 0.7mm metal deck with suspended ceiling below.
3. 18mm timber deck with joists and plasterboard below.

The given U-Values are indicative only. Default fixings have been used to calculate the U-Value. For comprehensive calculations on all deck types, please contact Axter Ltd.

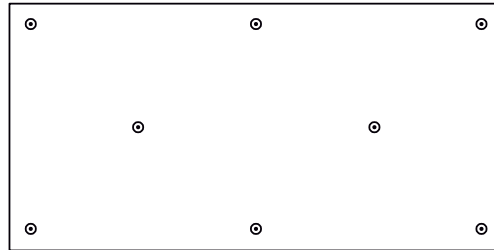
Fixing

The specification for fixing Hytherm BF boards will vary with the location, roof height/width and topographical data. Architectural specification should be consulted. Generally, with 1200mm x 600mm boards, a minimum of 4 fixings per board are adequate, located between 50mm and 150mm from all edges. Additional fixings may be placed along the centre line. Counted sunk washers, 50mm in diameter should be used with each fixing. However, BS 6399 Part 2, or BS EN 1991-1.4: 2005+ A1: 2010 (National Annex to Eurocode 1. Actions on structures. General Actions. Wind Actions) should always be consulted. In two layer systems, all layers should be fixed in accordance with fixing manufacturers instructions.



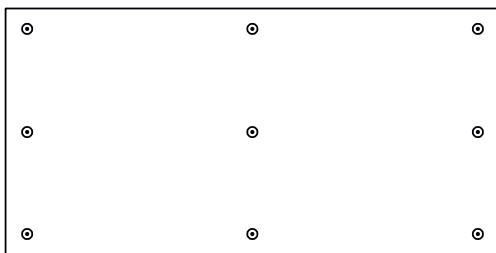
6 fixings per board

Recommended fixing pattern for 6 fixing per board (2400m x 1200m board - 2.08 fixings/m²)



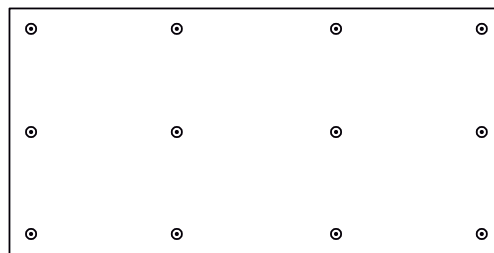
8 fixings per board

Recommended fixing pattern for 8 fixing per board (2400m x 1200m board - 2.77 fixings/m²)



9 fixings per board

Recommended fixing pattern for 9 fixing per board (2400m x 1200m board - 3.13 fixings/m²)



12 fixings per board

Recommended fixing pattern for 12 fixing per board (2400m x 1200m board - 4.16 fixings/m²)

Handling, Cutting and Storage

Hytherm BF insulation should be stored off the ground, on a clean, flat surface and must be stored under cover. The polythene wrapping is not considered adequate protection for outside exposure. Care should be taken to protect the insulation in storage and during the build process.

The insulation boards can be readily cut using a sharp knife or fine toothed saw. Ensure tight fitting of the insulation boards to achieve continuity of insulation. Appropriate PPE should be worn when handling insulation. Please refer to Safety Data Sheet (SDS) for Hytherm BF.

The boards are wrapped in polythene packs and each pack is labelled with details of grade/type, size and number of pieces per pack.

Resistance to Solvents

Hytherm BF resists attack from alkalis, dilutes acids, mineral oil and petrol. The insulation core is not resistant to ketonic solvents. Damaged boards should not be used.

Durability

PIR insulation is rot proof and durable, stable (will not sag or shrink), resists attack by mould and microbial growth and will not provide any food value to vermin. It will remain effective as an insulation system for at least the lifetime of the waterproof covering.

Durability is dependent on the application method, the supporting structure and conditions of use.

Environmental

The insulation core of Hytherm BF is manufactured with a blowing agent that is CFC / HCFC free, zero ODP and <5 GWP. Hytherm BF has a 2008 Green Guide Summary Rating of A as certified by BRE, and is manufactured to ISO 1400 and ISO 9001.

Fire Performance

The fire rating of any roof containing Hytherm insulation boards will depend heavily on the type of deck and waterproofing system installed. The designation of the roof covering must meet or satisfy the requirements of national Building Regulations.

For further details, contact Axter Ltd.

Roof loading

Hytherm BF is suitable for roof decks exposed to limited maintenance foot traffic, depending on the waterproofing system being used. A walkway should be provided on a roof where there is regular pedestrian access. 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.

Design considerations

Consideration should also be given to BS 5250:2021 Code of Practice for control of condensation in buildings and BS 6229: 2018 Flat roofs with continuously supported flexible waterproof coverings – Code of Practice.

Standards and Approvals

BBA approved

Manufactured to ISO 14001, ISO 9001

Wind loading

Wind loads should be assessed in accordance with BS EN 1991-1-4:2005 + A1: Eurocode 1, Actions on structures, General Actions, Wind Actions and the UK national Annex. For information on wind uplift calculations please call Axter.

Axter Ltd reserves the right to modify and update this data at any time without prior notice. Only the latest version of this document is valid, available for download at www.axter.co.uk/downloads. Once downloaded, documents are uncontrolled. Users should always confirm they are referring to the latest version prior to use. Further assistance is available from Axter Ltd's Technical Support Team, email: technical@axterltd.co.uk, telephone: 01473 935008.

The intended use of this product should be verified with Axter Ltd prior to adoption to ensure its suitability and compliance with specifications, project requirements, industry regulations, legislation, good practice, installation techniques and all other relevant guidance. Axter Ltd accepts no liability for non-compliant use of this product.