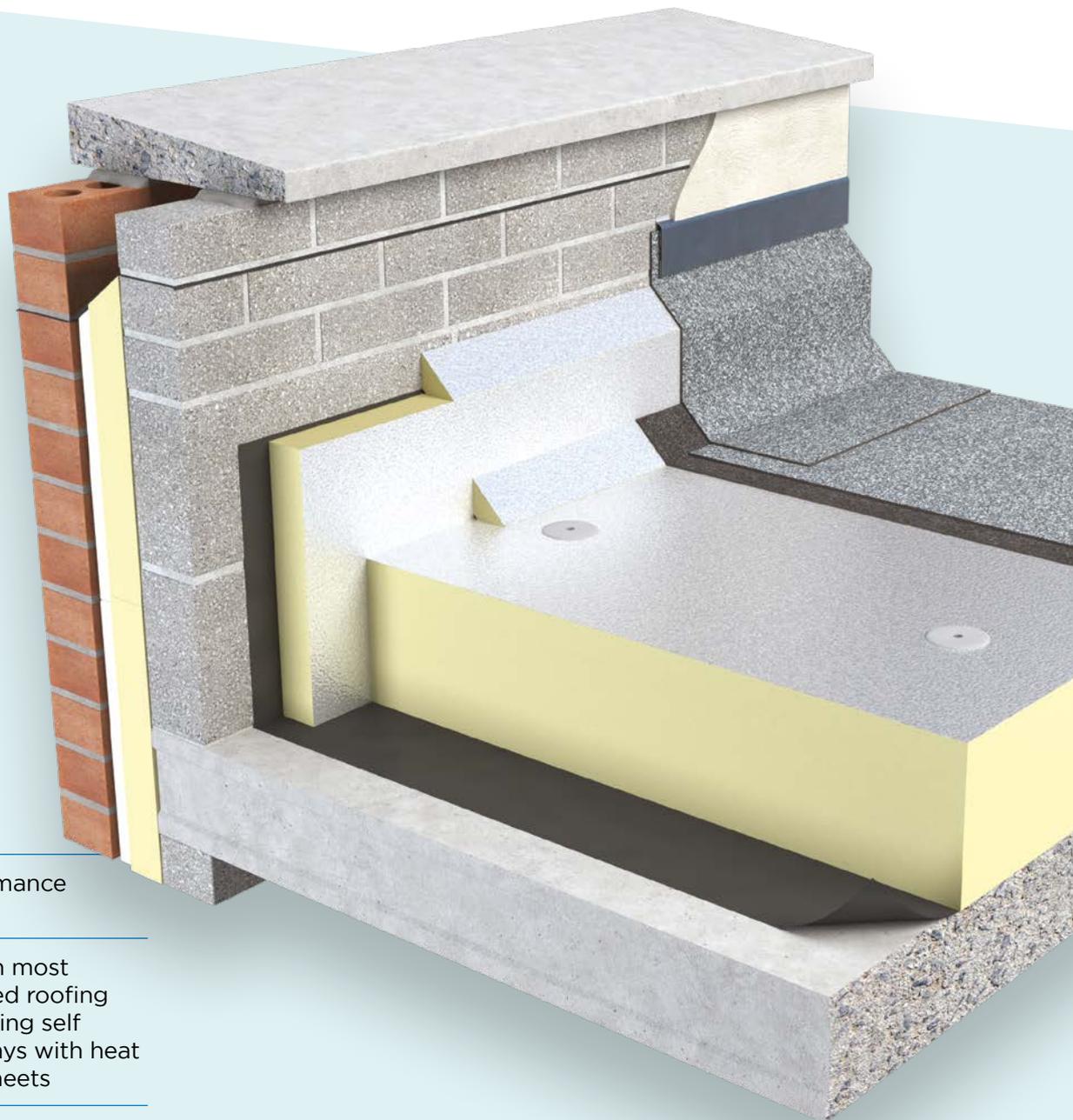


# FLAT ROOF TOTAL FLAT ROOF SOLUTIONS

XtroDeck Partially Bonded, Self Adhered Built-up Bituminous Felt Systems

XO/XD



Superior performance  
PIR Insulation

Compatible with most  
bituminous based roofing  
systems containing self  
adhered underlays with heat  
activated cap sheets

Reaction to Fire: C-s2, d0



**FLAT ROOF** TOTAL FLAT ROOF SOLUTIONS\*

**XtroDeck** Partially Bonded or Self Adhered Built-up Bituminous Felt Systems

**XO/XD**

XtroDeck is faced with an embossed aluminium facing on both sides. XtroDeck is part of Unilin's comprehensive range of high performance flat roof boards providing total solutions for flat roof projects.

**Benefits**

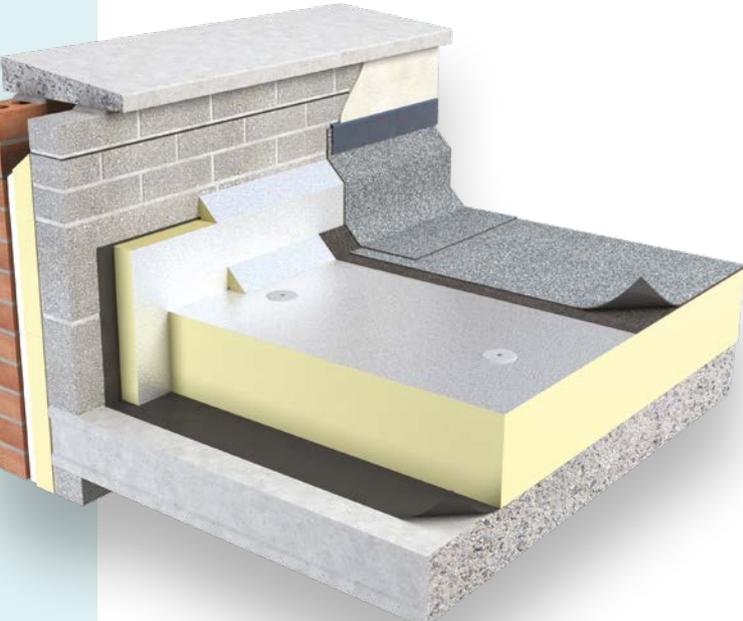
- Superior Performance PIR Insulation
- Compatible with most bituminous based roofing systems containing self adhered underlays with heat activated cap sheets
- Reaction to Fire: C-s2, d0
- An Environmental Product Declaration (EPD), certified by IGBC is available for this product. Please contact technical support for further details



**Roof Design**

XtroDeck is suitable for use with most bitumen based, partially bonded water proofing systems typically including a BS EN 13707: 2013 (Flexible sheets for waterproofing. Reinforced bitumen sheets for roof waterproofing) self adhered base layer or proprietary system. XtroDeck may also be fully bonded. Guidance in regard to moisture and condensation should be in accordance with BS 8217 (Reinforced bitumen membranes for roofing).

- During the construction process, the construction should be protected from rain penetration during breaks in the process.
- 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.
- With used fully bonded applications, testing certification, guidance on installation and system components must be sought from the system provider.
- This product is not suitable for use with torch on underlays.



**Specification Clause**

The flat roof insulation shall be Unilin Insulation XtroDeck XO/XD \_\_\_mm thick manufactured to EN 13165 by Unilin Insulation comprising of a rigid modified Polyisocyanurate (PIR) core between textured foil facings with a declared Lambda of 0.021 W/mK. The flat roof insulation shall be installed in accordance with instructions issued by Unilin Insulation.

Refer to NBS clause J41 420, J41 10, J41 430, J42 430. Uniclass 25 71 63 66.

**Falls**

The fall on a flat roof should be designed to ensure that rainfall does not pond.

**Fire Performance**

The fire rating for the roof system, when tested to TS 1187 and classified to EN 13501-5, will be dependent upon the system specified.

**Vapour Control Layer (VCL)**

Decks should be primed before the application of the vapour control layer. Reference should be made to BS 8217 when applying the vapour control layer. Carry the VCL past the insulation and seal with the parapet wall.

**Roof Finish**

Built up roofing systems should be finished with a suitable reflective layer such as chippings. Advice should be sought from system manufacturer.

**Loadings**

XtroDeck is suitable for use on roof decks that are subject to limited maintenance foot traffic. Walkways should be provided on roofs requiring regular pedestrian access. When the roof is complete, protective boarding should be laid if additional site work is to be carried out.

**Laying (Timber Deck)**

On plywood decks, XtroDeck should be fully bedded in PU Adhesive over a continuous vapour control layer which has been bonded to the deck. The boards can also be mechanically fixed or adhered with adhesive approved by the system provider. Fixing heads should be sealed.

**Laying (Metal Deck)**

On metal decks, XtroDeck should be adhered in a PU glue over the vapour control layer. The boards can also be mechanically fixed or adhered with adhesive approved by the system provider. Fixing heads should be sealed.

**Note:** XtroDeck can also be used in mechanically fastened or loose laid ballasted bituminous roofing systems.

\*The reference to superior performance relates to the product or range's thermal conductivity or fire performance or a combination of both.



FLAT  
ROOF

## XO/XD

### Laying (Concrete Deck)

Ensure concrete decks are laid to provide correct falls to outlets and are clean, dry, without projections. Primer should be laid in accordance with the manufacturer's instructions. The vapour control layer should be fully bonded to the deck and the XtroDeck should be laid into PU adhesive on the vapour control layer in a break bonded pattern. The boards can also be mechanically fixed or adhered with other suitable adhesive approved by the system provider. Fixing heads should be sealed.

### Bitumen Based Built Up Roofing Systems

Technical guidance from the appropriate bitumen waterproofing manufacturer should be sought as to assure proper installation of the bonded built up roofing system. Not suitable for use with torch on underlays.

### Fixings

The specification for fixing Unilin roof boards will vary with the location, roof height/width and topographical data. Architectural specification should be consulted. Generally with 2400mm x 1200mm boards, a minimum of 6 fixings per board are adequate, located between 50mm and 150mm from all edges, additional fixings may be placed along the centre line. Counter 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. It is recommended to seek advice from the fixing manufacturer for specific guidance. During the construction process, the construction should be protected from rain penetration during breaks in the process.

### Fire

Each project should be assessed for suitability of torch on applications. The suitability of materials, substrates and specifications should be assessed before commencement. Application of the torch on system applied to the underlay component of this detail, should be undertaken only by fully trained personnel with appropriate fire precautions and fire extinguishing equipment available at hand. All timber roof components, and most insulation materials are combustible, and will be vulnerable to a naked flame. These materials may be hidden from view. Due attention should be given and all precautions taken. This is the responsibility of the operatives.

## XTRODECK

<b>Length (mm)</b>	1200	2400
<b>Width (mm)</b>	1200	1200
<b>Thickness (mm)</b>	25, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140	

Other sizes are available subject to quantity and lead time. Note: Unilin Insulation reserves the right to amend product specifications without prior notice.

### Property & Units

<b>Compressive Strength</b>	150kPa @ 10% Compression
<b>Thermal Conductivity*</b>	0.021 W/mK
<b>Reaction to Fire</b>	C-s2, d0

## Typical U-Values

Construction	Thickness (mm)	U-Value (W/m <sup>2</sup> K)
Concrete deck <sup>1</sup>	130mm	0.15
Metal deck <sup>2</sup>	140mm	0.15
Timber deck <sup>3</sup>	125mm	0.15
Concrete deck <sup>1</sup>	110mm	0.18
Metal deck <sup>2</sup>	120mm	0.17
Timber deck <sup>3</sup>	110mm	0.17
Concrete deck <sup>1</sup>	100mm	0.20
Metal deck <sup>2</sup>	110mm	0.19
Timber deck <sup>3</sup>	100mm	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. Adhered application has been used to calculate the U-Value. For comprehensive calculations on all deck types, please contact Unilin Insulation Technical Support.

# INSULATION FIXING TABLE

Minimum area of stress plate, number of fixings and layout

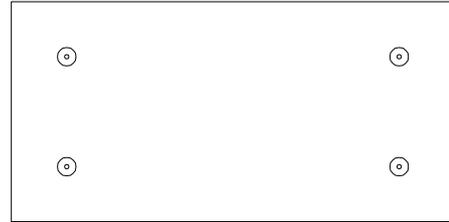
## Minimum Recommended Fixing Patterns

For comprehensive guidance and details on fixing patterns, please refer to guidance from the following bodies.

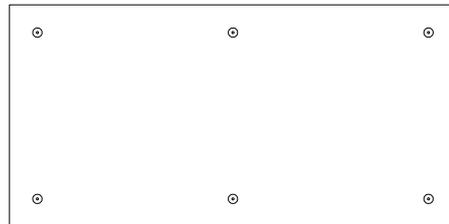
- “SPRA: SINGLE PLY DESIGN GUIDE”
- Insulation Manufacturers Association Information document ID/1/2009, published by IMA
- Liquid Roofing and Waterproofing Association, Technical Guidance

Distribute mechanical fixings evenly across the board, at a minimum of 50mm from the board edge and a maximum of 150mm. Refer to fixing patterns below for indicative purposes.

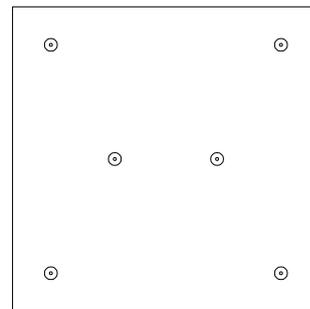
The required number of fixings shown is the minimum only. Regardless of the water proofing system attachment method, wind load calculations should be undertaken in order to determine actual fixing requirements in corner, perimeter and field roof areas. These areas should be clearly defined, especially where different numbers of fixings are required for each zone.



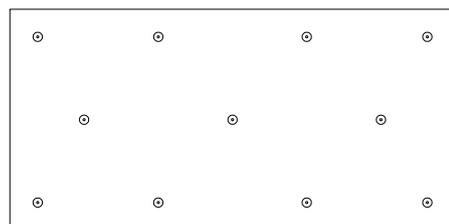
**4 fixings per board**  
Recommended fixing pattern  
for 4 fixing per board  
(1200mm x 600mm board - 5.56 fixings/m<sup>2</sup>)



**6 fixings per board**  
Recommended fixing pattern  
for 6 fixing per board  
(2400mm x 1200mm board - 2.1 fixings/m<sup>2</sup>)



**6 fixings per board**  
Recommended fixing pattern  
for 6 fixing per board  
(1200mm x 1200mm board - 4.17 fixings/m<sup>2</sup>)



**11 fixings per board**  
Recommended fixing pattern  
for 11 fixings per board  
(2400mm x 1200mm size board -  $11/2.88 = 3.82$  fixings/m<sup>2</sup>)

## HANDLING, CUTTING & STORAGE

Unilin 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 as asked for within the ACDs. Appropriate PPE should be worn when handling insulation. Please refer to Health & Safety data sheets on our website.

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

### Durability

Unilin Insulation products are stable, rot proof, provide no food value to vermin and will remain effective for the lifetime of the building, depending on specification and installation. Care should be taken to avoid contact with acids, petrol, alkalis and mineral oil. When contact is made, clean materials in a safe manner before installation.





# Expect more Knowledge

Unilin Insulation, formerly Xtratherm, is one of Ireland's largest manufacturers and suppliers of insulation. We have a 30 plus year history of working in partnership with construction professionals to close the gap between design and as-built performance.

Higher standards of fabric performance call for greater adherence to best practice detailing. To achieve this and to 'close the gap' between design and build, we provide a dedicated Technical Team, all qualified to the highest standards of competency in U-Value calculation and condensation risk analysis.

#### Here to support you

- BRE listed Thermal Bridging Detailing
- BRE/NSAI Trained Modelling
- BBA/TIMSA calculation competent
- Warranted Calculations available
- Immediate technical response
- DEAP Qualified
- Insulation systems to deliver real onsite performance

#### Get in touch

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**unilininsulation.ie**



**ISO 9001** Quality Management Systems  
**ISO 14001** Environmental Management Systems

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### **The Sustainable Solution**

Specifying Unilin Insulation is a real commitment to minimising energy consumption, harmful CO<sub>2</sub> emissions and their impact on the environment. Using our products is one of the most effective ways to reduce energy consumption – in fact, after just eight months the energy they save far outweighs the energy used in their production. In addition, our manufacturing facilities operate to an ISO 14001 certified Environmental Management System.

### **Environmental Product Declaration (EPD)**

An Environmental Product Declaration or EPD for a construction product indicates a transparent, robust and credible step in the pursuit and achievement of real sustainability in practice, it is a public declaration of the environmental impacts associated with specified life cycle stages of that product. Unilin EPDs have been independently verified in accordance with EN 15804+A2:2019 and ISO 14025 accounting for stages of the LCA from A1 to A3, with options A4-A5 and modules C1-C4 and D included. The process of creating an EPD allows us to improve performance and reduce resource wastage through improvements in product design and manufacturing efficiency. They play a crucial role in manufacturing and construction and are increasingly asked for by industry.

### **EPDs and BREEAM**

BREEAM is primarily trying to encourage designers to take EPDs into consideration when specifying products. BREEAM requires EPDs to be verified by a third-party. For the Mat O2 category, points are awarded based on whether EPDs are generic, manufacturer-specific, or product-specific. Non 3rd party verified EPDs to EN 15804 cannot be accepted. All of Unilin EPDs are externally verified.

### **Responsible Sourcing**

Unilin has BES 6001 certification for responsible sourcing. The second BREEAM credit under that category is based on responsibly-sourced materials – at least 80% of the total insulation used in roofs, walls, ground floors and services must meet any of tier levels 1 to 6 in the BREEAM table of certification schemes. Our Environmental Management System is certified under EN ISO 14001, and our raw materials come from companies with similarly certified EMS (copies of all certificates are available for BREEAM assessments). This level of responsible sourcing meets tier level 6 in the BREEAM table.

Good workmanship and appropriate site procedures are necessary to achieve expected thermal and airtightness performance. Installation should be undertaken by professional tradespersons. The example calculations are indicative only, for specific U-Value calculations contact Unilin Insulation Technical Support. Unilin technical literature, Agrément certifications and Declarations of Performance are available for download on the Unilin Insulation website. The information contained in this publication is, to the best of our knowledge, true and accurate at the time of publication but any recommendations or suggestions which may be made are without guarantee since the conditions of use are beyond our control. Updated resources may be available on our websites. All images and content within this publication remain the property of Unilin Insulation.