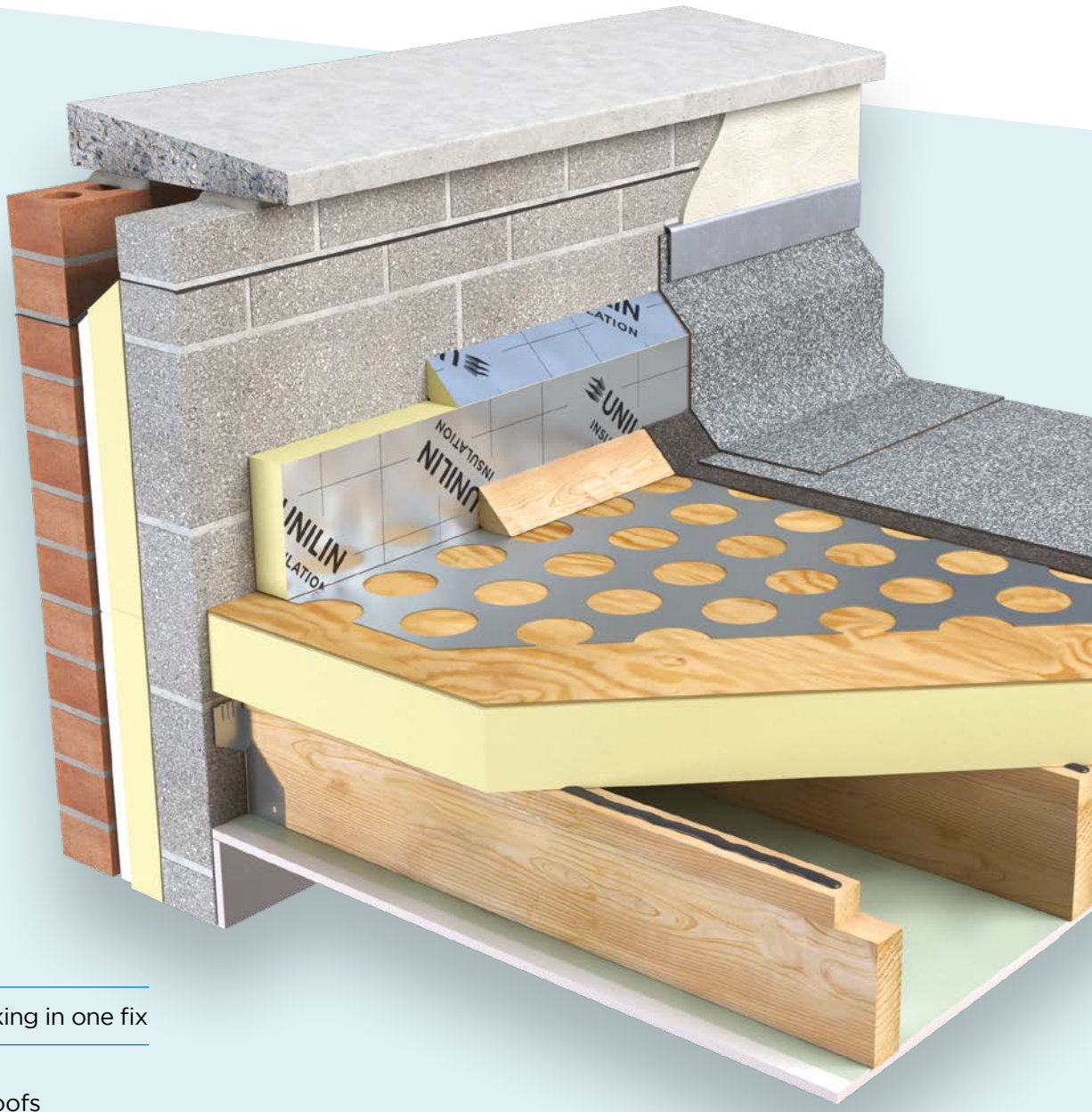
FLAT ROOF TOTAL FLAT ROOF SOLUTIONS

Thermal Ply High Performance PIR and Plywood Composite

FR/TP



Insulation & decking in one fix

For new & refurbishment roofs

Rapid weather proofing

UNILIN INSULATION

Insulation & decking in one fix

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Thermal Ply High Performance PIR and Plywood Composite

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Thermal Ply is a composite insulated panel of Unilin Polyisocyanurate core with a composite foil face, bonded to 6mm WBP grade plywood. It is designed to provide high levels of thermal insulation and decking in one operation for new and refurbishment flat roof applications.

Benefits

- Insulation & decking in one fix
- For new & refurbishment roofs
- Rapid weather proofing
- An Environmental Product Declaration (EPD), certified by IGBC is available for this product insulation. Please contact technical support for further details

Roof Design

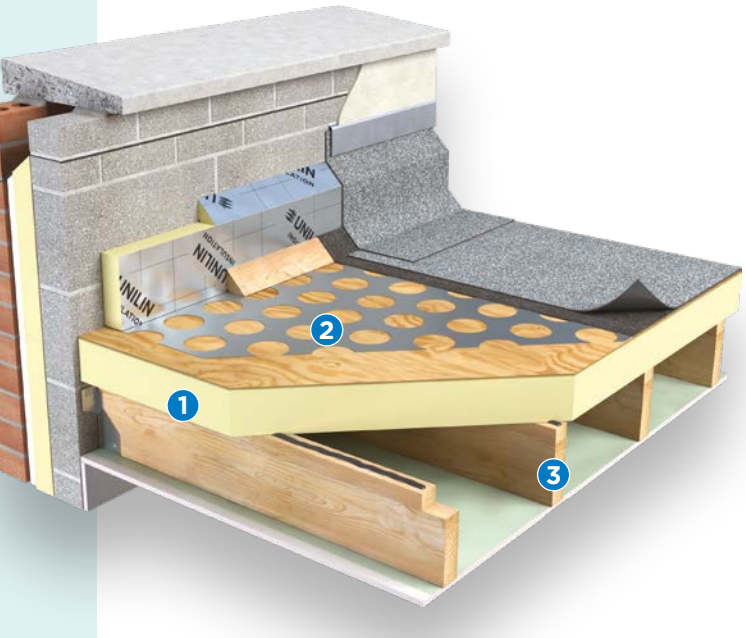
Consideration should be given to the recommendations of BS 4841: Part 3 and the certification of the chosen membrane manufacturer.

Falls

The fall on a flat roof should be constant and steep enough to ensure that rainfall does not pond.

Fire Performance

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



Specification Clause

The flat roof insulation shall be Unilin Insulation Thin-R FR/TP manufactured to EN 13165 by Unilin Insulation, comprising of a rigid Polyisocyanurate (PIR) core between composite foil facings bonded onto 6mm WBP Plywood. To be installed in accordance with instructions issued by Unilin Insulation.

Refer to NBS clause J41 10, J41 420, J21 420, J21 10, J21 5, J42 430. Uniclass 25 71 63 66.

Typical Installation - Timber Deck

Unilin Thermal Ply is faced to the under side with a gas-tight foil facer, bedding the panel onto a bed of mastic creates a continuous vapour control layer. It provides a high level of thermal insulation and decking in one application.

Vapour Control Layer (VCL)

A second layer may be added between the joists to increase the thermal performance of the roof or to allow a reduction in the thickness of material over the joists. Where there is insulation between and over the joists the insulation placed over the joists must have a higher thermal performance than that of the insulation between. If using insulation between joists the VCL should be placed to the underside of the joists. Contact technical support for further guidance.

FLAT ROOF

FR/TP

Fixings

The boards should be fixed to a minimum of 50mm thick joists at 400mm or 600mm centres max with the plywood uppermost.

Boards should be staggered and butted. Each edge should have a minimum bearing of 20mm on joist.

All edges should be supported - add noggings where necessary. Stagger fixings where boards are butted.

Boards should be embedded in vapour resistant mastic to provide a vapour control layer in conjunction with foil facing.

Mastic should be laid wide enough to facilitate 2 panel edges and be continuous around all edges.

The boards should be fixed with low profile screw fixings, placed at 200mm centres around the perimeter of the boards and at 300mm centres along any intermediate supports.

All fixings should penetrate the joists by a minimum of 35mm and be placed 12mm from the edge of the insulation, and no further than 50mm from any corners.

Care should be taken to ensure that the heads of any fixings are flush with the plywood surface and not over-driven.

The roof should be fire protected to the underside by plasterboard or other approved material.

Thermal Ply is suitable for maintenance traffic loadings only.

FR/TP

Length (mm)	2400
Width (mm)	1200
Thickness* (mm)	56, 76, 86, 96, 106, 116, 126, 146

*Thickness includes 6mm plywood

Property & Units

Compressive Strength	150kPa @ 10% Compression
Thermal Conductivity	0.022 W/mK

Typical U-Values

Construction	Thickness (mm)	U-Value (W/m²K)
Timber deck	146mm*	0.15
Timber deck	116mm*	0.18
Timber deck	106mm*	0.20

*6mm plywood included in thickness
Installed over joists and plasterboard below - all edges supported.

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 Unilin Technical Support.

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 the UK's largest manufacturers and suppliers of insulation. We have a 20-plus year history of working in partnership with construction professionals to close the gap between design and as-built performance.

FREE
One-to-one advice

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 Trained Modelling
- BBA/TIMSA calculation competent
- Warranted Calculations available
- Immediate technical response
- SAP Qualified
- Insulation systems to deliver real onsite performance

Get in touch

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UNILIN INSULATION

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ASSOCIATE MEMBER SPRA Single Ply Roofing Association

LRWA Liquid Roofing and Waterproofing Association

NFRC THE NATIONAL FEDERATION OF ROOFING CONTRACTORS LIMITED

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ISO 45001 Occupational Health & Safety Management Systems
ISO 9001 Quality Management Systems
ISO 14001 Environmental Management Systems

The Sustainable Solution

Specifying Unilin Insulation is a real commitment to minimising energy consumption, harmful CO_2 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 02 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.

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