THIN-R PIR INSULATION

Drylining Walls: Mechanically Fixed

XT/TL-MF

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 23/6997

- Insulation & drylining in one application
- Provides vapour control layer
- Reduced insulation thickness
- Suitable for a variety of wall types
- Solution in refurbishment and new build

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UNILIN INSULATION

Insulation & drylining in one application

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Thin-R Thermal Liner (Mechanically Fixed) is a composite insulated panel of Unilin PIR insulation core with a composite foil facing bonded to 12.5mm tapered edge plasterboard for internal walls, sloped roofs and ceilings. It is only suitable for mechanically fixed applications.

The composite foil facing on both sides of this board incorporates an integral vapour control layer, which helps to reduce the risk of condensation. This Mechanically fixed Thermal Liner is designed to provide high levels of thermal insulation and drylining in one operation, providing the solution of choice in new build and renovation.

Benefits

- Insulation & drylining in one application
- Provides continuous vapour control layer
- Reduced insulation thickness
- Suitable for a variety of wall types
- Solution in refurbishment and new build

Specification Clause

The insulated dry lining wall insulation shall be Thin-R XT/TL (MF) manufactured to EN 13950:2014 by Unilin Insulation, comprising of a rigid Polyisocyanurate (PIR) core between composite foil facings. The Thin-R XT/TL-MF _ _ _mm with an Agrément declared Lambda value of 0.022 W/mK (PIR only) bonded to 12.5mm plasterboard, achieving a U-Value of _ _ _W/m²K for the wall element. The insulated drylining plasterboard XT/TL-MF shall be mechanically fixed to battens, or proprietary system in accordance with instructions issued by Unilin Insulation.

An Environmental Product Declaration (EPD), certified by IGBC is available for the product insulation. Please contact technical support for further details.

Refer to NBS clause K10 205, K10 15, K10 25, K10 35, K10 155.
Uniclass 25 71 63 66.

Thermal Resistances

Thickness PIR (mm)	Thickness Plasterboard (mm)	Overall Thickness (mm)	R-Value (m²K/W)
25	12.5	37.5	1.20
40	12.5	52.5	1.85
50	12.5	62.5	2.30
60	12.5	72.5	2.75
80	12.5	92.5	3.70
100	12.5	112.5	4.60

Resistance 'R' Values

The resistance value of any thickness of material can be ascertained by dividing the thickness (in metres) by its Lambda value, for example: Lambda 0.022 W/mK and PIR thickness 50mm -> 0.050/ 0.022 -> R-Value = 2.27. This is then added to the 12.5mm plasterboard resistance (0.066) to calculate the overall resistance of the composite board (2.27 + 0.066) = 2.336. In accordance with EN 13950:2014, R-Values should be rounded down to the nearest 0.05 (m²K/W).

XT/TL-MF

1. Integral vapour control layer

The composite foil facing on this board provides a gas and vapour tight barrier, reducing the condensation risk. A continuous vapour control layer is created when the boards' joints are sealed and taped in accordance with drylining good practice.

2. Fire Stops

An important factor when drylining a wall is to provide fire stops along the top and bottom of each board and around all openings (doors, windows, etc.). These are provided by the battens/studs and prevent fire penetrating behind the insulation layer. This also helps to prevent thermal looping, leading to an overall improved U-Value for the wall element.

3. Service Void

The void created between the battens/studs can be used for accommodating services.

Note: Improved Overall U-Value

Thanks to its composite foil facings, this board facing into an unventilated air void between battens, will improve the U-Value of the wall.

XT/TL-MF

Length (mm)	2400
Width (mm)	1200
Thickness including plasterboard (mm)	37.5, 42.5, 52.5, 62.5, 72.5, 82.5. 92.5, 102.5, 112.5

Other thicknesses may be available depending on minimum order quantity and lead time.

Property & Units

Thermal Conductivity	0.022 (W/mK) (PIR only)
Reaction to Fire	Euroclass B s1 d0

Unilin Declaration of Performance (DoP) for this product is available for download from our website.

INSTALLATION GUIDELINES

XT/TL-MF

1. Ensure the wall is dry, clean and free of protrusions. Any existing wallpaper should be removed.
2. Fix metal frame system/timber battens to the wall in accordance with the manufacturer's instructions. Sections should be placed around all wall edges and around openings and services.

3. Fix the metal frame system/vertical timber battens at a maximum of 600mm centres (incorporating a vertical DPC behind timber battens). Ensure framing system/battens are wide enough to offer 20mm support to all four edges of the plasterboard. Pack battens, if necessary, to level the wall. Extra noggins may be required when the XT/TL-MF is unsupported by the battens/studs.

4. Lift the insulation board into position using wedges on the floor. Insulation should be cut back to accommodate an adjoining panel at external corners. Joints should be tightly butted.
5. Fix the Thermal Liner to the frame at 300mm centres using appropriate fixings e.g. drywall screws, at least 12mm in from the board edge. The fixings should penetrate at least 25mm into the battens/ studs. Fixings should be thermally broken where possible. For specific guidance contact fixing manufacturer.

6. Seal and tape the joints of the plasterboard to ensure a continuous vapour control layer is created Fill any gaps with foam filler or equivalent.

7. Plaster skim to finish.

Note
When upgrading existing properties, a professional should be engaged to assess the property for appropriate insulation treatments and effective detailing. Walls should be dry and decoration stripped back to the wall substrate. Appropriate ventilation strategies must be considered as part of the overall energy upgrade.

Guidance in PAS 2030:2023 'Specification for the installation of energy efficiency measures (EEM) in existing buildings and BS 8000-8:2023 - Workmanship on construction sites - Design and installation of dry lining systems. Code of practice should be consulted.

ACDs must be followed to ensure that installation is in accordance with current Building Regulations and accounted for in the energy calculation.

THERMAL PERFORMANCE

XT/TL-MF

Typical U-Values

CERTIFICATE CS/6711-2
U Value Competency Scheme

Table 1
U-Value calculations to EN ISO:6946 2017
XT/TL-MF Drylined
On battens

Thickness (mm)

Wall Type	37.5mm	42.5mm	52.5mm	62.5mm	72.5mm	82.5mm	92.5mm	102.5mm	112.5mm
215mm Hollow Block (External Render)	0.47	0.42	0.36	0.31	0.27	0.24	0.22	0.20	0.18
300mm Clear Cavity Wall Block & Block	0.44	0.40	0.34	0.29	0.26	0.23	0.21	0.19	0.18
Solid Brick	0.46	0.42	0.35	0.30	0.26	0.24	0.21	0.19	0.18
Cavity Wall Pumped Block & Block*	0.20	0.19	0.18	0.17	0.15	0.14	0.14	0.13	0.12

*100mm Pumped Bead @ 0.033 W/mK

HANDLING, CUTTING & STORAGE

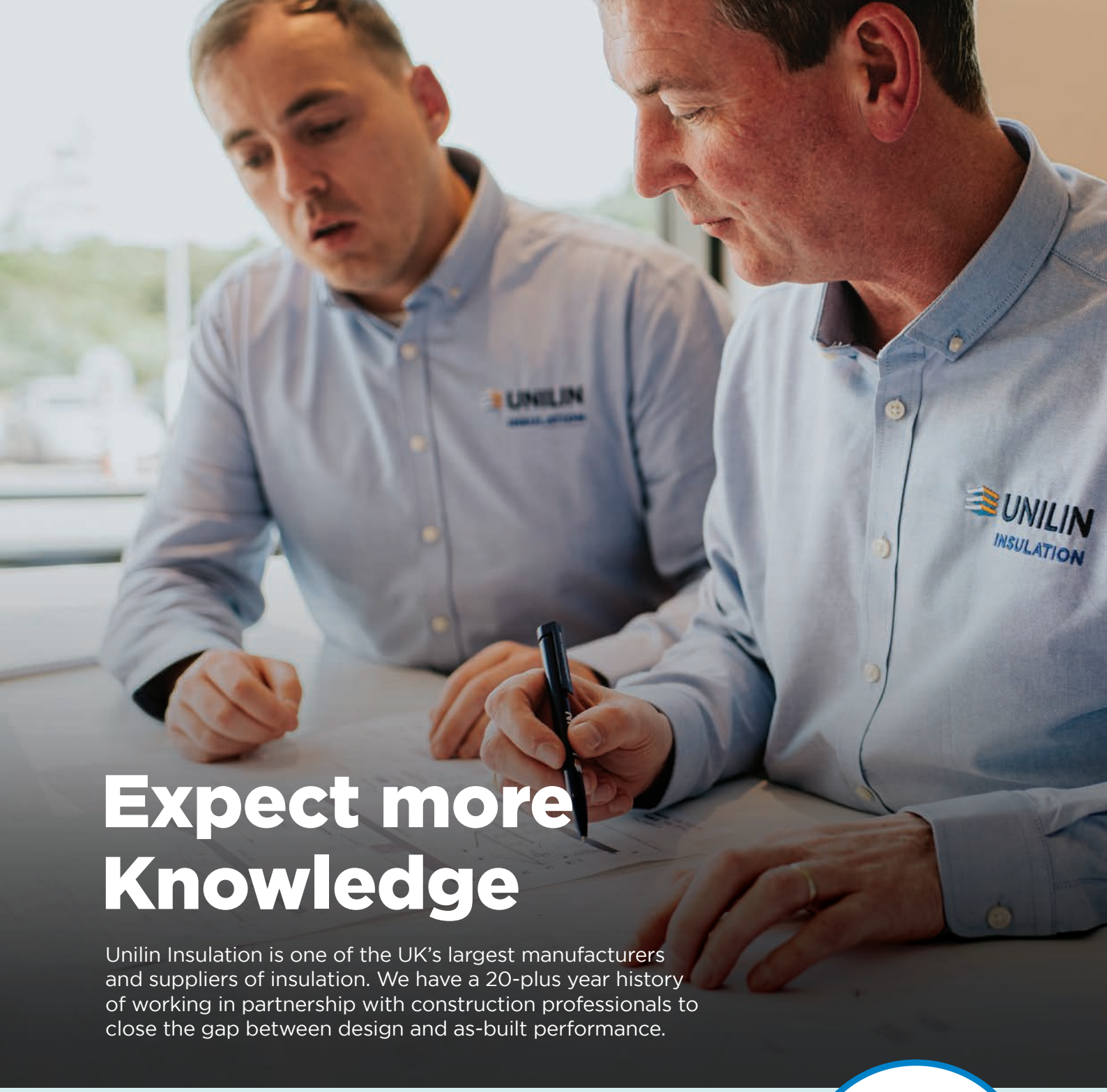
Unilin insulation should be stored off the ground, on a clean, flat surface and must be stored under cover. The polythene wrapping is not considered adequate protection for outside exposure. Care should be taken to protect the insulation in storage and during the build process.

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 and each pallet is labelled with details of grade/type, size and number of pieces per pallet.

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 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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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 14001:2015+A1:2024 certified Environmental Management System.

Environmental Product Declaration (EPD)

An Environmental Product Declaration or EPD for a construction product indicates a transparent 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 14025:2010 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 15804:2012+A2:2019 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 14001:2015+A1:2024, 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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ISO 45001:2023+A1:2024	Occupational Health & Safety Management Systems
ISO 9001:2015+A1:2024	Quality Management Systems
ISO 14001:2015+A1:2024	Environmental Management Systems

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