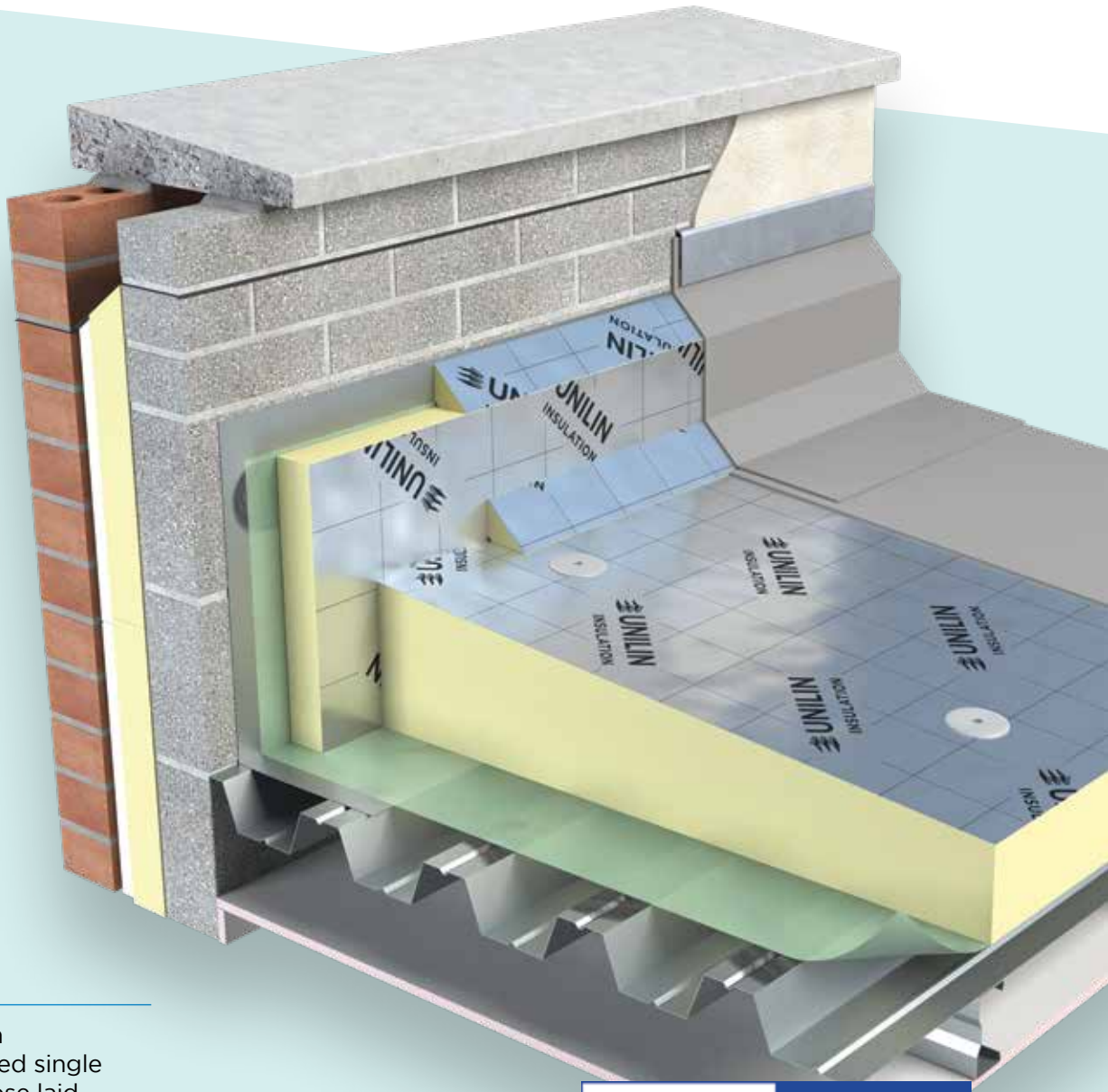
FLAT ROOF TOTAL FLAT ROOF SOLUTIONS

Mechanically Fixed Single Ply Waterproofing Systems

TR/ALU



Compatible with mechanically fixed single ply systems. Loose laid ballasted systems

Vapour resistant foil facers

CCPI
003600089/0726
Thin-R

UNILIN INSULATION

Thinnest solution for mechanically fixed flat roofs

FLAT ROOF TOTAL FLAT ROOF SOLUTIONS

Mechanically Fixed Single Ply Waterproofing Systems

TR/ALU

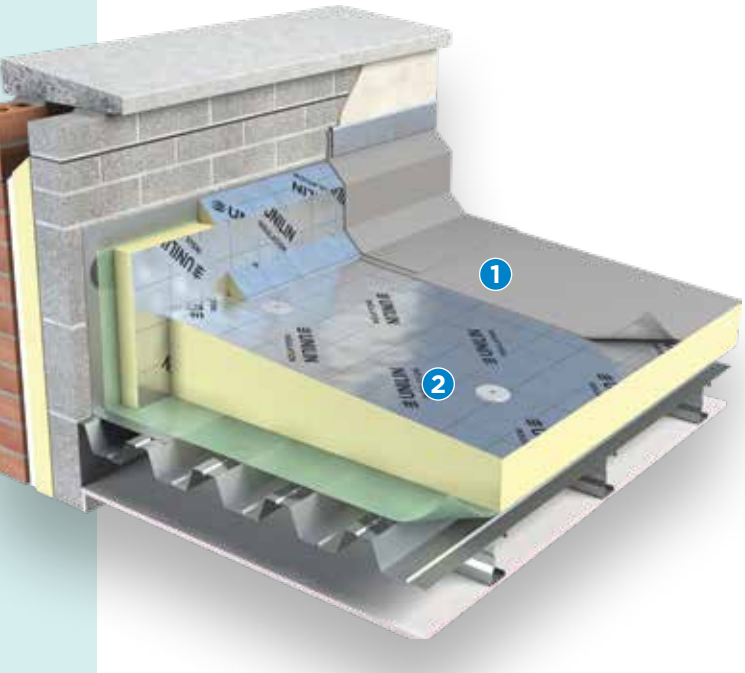
Tapered Roof ALU is the tapered version of Flat Roof ALU. It is faced on both sides with composite gas tight foil facings autohesively bonded to a Polyisocyanurate (PIR) core during manufacture.

Roof Design
Consideration should be given to the recommendations of the Single Ply Roofing Association (SPRA).

Fire Performance
The fire performance, when tested to TS 1187 2012 and classified to EN 13501-5:2016, will be dependent upon the waterproofing system specified.

Vapour Control Layer (VCL)
This tapered insulation should be laid over a separate vapour control layer. The requirements for this vapour control layer should be assessed in accordance with BS 6229:2018. Typically a 1000 gauge polythene layer should be used with all joints lapped and sealed.

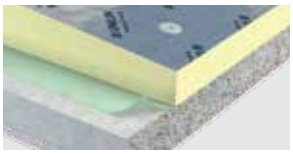
The joints should be butted and care taken to ensure that all joints are supported by the deck. Mechanical fixings with washers are normally used to secure both the insulation and waterproof membranes. Fixings that penetrate the vapour control layer must be of the self sealing type.



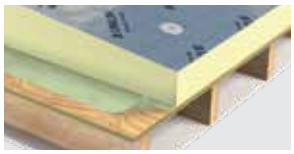
Specification Clause
The tapered roof insulation shall be Unilin Insulation Thin-R TR/ALU manufactured to EN 13165:2012+A2:2016 by Unilin Insulation, comprising of a rigid Polyisocyanurate (PIR) core between composite foil facings. The TR-ALU_ _ _mm with a Agrément declared Lambda value of 0.022 W/mK to achieve a U-Value of _ _ _W/m²K for the roof element. To be installed in accordance with instructions issued by Unilin Insulation.

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

NBS Plus



Typical Installation
Concrete Deck



Typical Installation
Timber Deck

The boards are faced with a gas-tight foil face and are suitable for use below single ply mechanically fixed roof membranes. **Note:** This product is not suitable for applications with built-up bitumen based roofing or mastic asphalt systems.

Roof Finish
Tapered Roof ALU is suitable for use under single ply mechanically fixed roof membranes. Tapered Roof ALU insulation systems have been designed to provide solutions to design issues that arise in new and refurbishment roofs. Tapered Roof ALU systems address most flat roof failures i.e. ponding of rainwater caused by an inability to shed rainwater on the surface whilst providing a high level of thermal insulation performance.

Loadings
These foil faced insulation boards are suitable for use on roof decks that are subject to maintenance traffic only. Walk ways 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. The completed roof should not be used for storage of heavy materials or air conditioning plant.

Laying (Timber Deck)
The tapered boards should be laid over the vapour control layer in a break bonded pattern. The boards are generally secured by approved mechanical fixings. The waterproofing is also mechanically fixed in accordance with the respective manufacturer's instructions.

TAPERED ROOF

TR/ALU

Laying (Over Metal Deck)
These tapered boards should be laid over the vapour control layer with all joints fully supported by the deck. They are secured by mechanical fixings with washers. The waterproofing is also mechanically fixed in accordance with the respective manufacturer's instructions.

Laying (Over Concrete Deck)
The tapered boards should be fitted over the vapour control layer that has been laid on a prepared deck that is clear, dry and level without gaps. They are secured by mechanical fixings with washers. The waterproofing is also mechanically fixed in accordance with the respective manufacturers instructions.

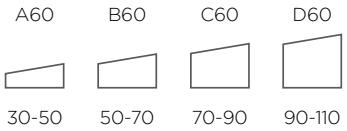
Fixings
The specification for fixing of Unilin roof boards will vary with the location, roof height/width and topographical data, architectural specification should be consulted. Generally with 1200mm x 1200mm boards, a minimum of 6 fixings per board are adequate, located between 50mm and 150mm from all edges. If more than one layer of insulation is being used, the flat board packers should be mechanically fixed with a minimum of one fixing before fixing profiled boards as detailed. Additional fixings around roof perimeter of the roof may be required. Counter sunk washers, 50mm in diameter, should be used with each fixing. However, 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.

Daily Working Practice
The facing of these boards should not be considered as temporary waterproofing, when work is interrupted or at the end of each day, a night joint must be made to prevent water penetration. Unilin tapered boards should be waterproofed as soon as possible after fixing.

The Unilin XtraFall pre-fabricated system
Unilin pre-fabricated single layer tapered roofing panels provide the most flexible solution that can be designed to meet a wide range of criteria in new and refurbished flat roofs. Unilin offers bespoke solutions with a range of thickness from 30mm to 400mm, which enables faster installation and reduces site generated waste (see XtraFall brochure).

SCAN HERE TO VIEW XTRAFALL BROCHURE

TR/ALU Tapered 1:60
1200 x 1200



Flat
2400 x 1200

Note: 1:40 and 1:80 subject to quantity & lead time.
As prefabricated only.

Alternative tapers available on request.

TR/ALU

Length (mm)	1200
Width (mm)	1200
Thickness (mm)	30 (minimum)

Other sizes are available subject to quantity and lead time.

Note: Unilin Insulation UK Ltd. reserves the right to amend product specifications without prior notice.

Property & Units

Compressive Strength	150kPa @ 10% Compression
Thermal Conductivity	0.022 W/mK
Reaction to Fire	Euroclass E

Contact our Technical Team
T: +44 (0) 371 222 1055
E: tech.ui@unilin.com

HANDLING, CUTTING & STORAGE

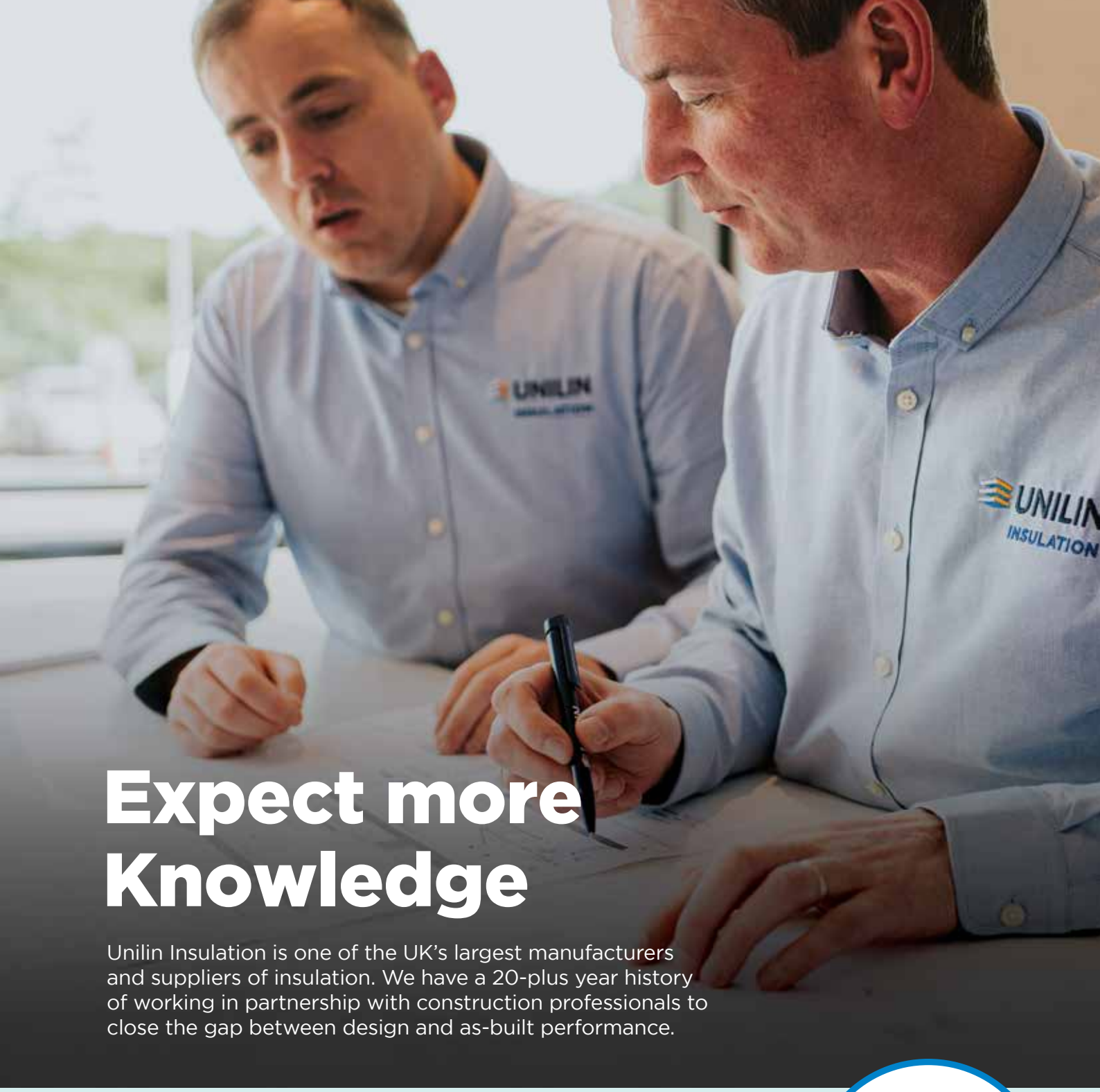
Unilin insulation should be stored off the ground, on a clean, flat surface and must be stored under cover. The polythene wrapping is not considered adequate protection for outside exposure. Care should be taken to protect the insulation in storage and during the build process.

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 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
- 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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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

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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