

# Xtratherm® | Flat Roof Solutions

High performance PIR Flat Roof Insulation



## Single Ply Mechanically Fixed FR/ALU

### Key Features

High Performance Rigid Insulation

Thermal Conductivity 0.022W/mK

LPC/FM Approved

Compatible with Single Ply  
Waterproofing Systems

Non-deleterious Material

Manufactured without  
the use of CFC's/HCFC's

Zero ODP and Low GWP

Suitable for New Build and  
Refurbishment Projects

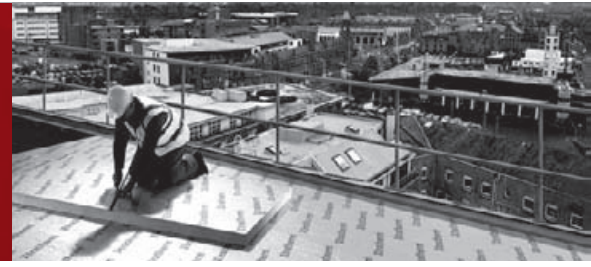


# Xtratherm®

More than insulation

## Flat Roof Board FR/ALU

Single Ply Mechanically Fixed



Xtratherm FR/ALU is a high performance Polyisocyanurate flat roof insulation with vapour-tight aluminium foil facings suitable for use with single ply membranes. FR/ALU is part of the comprehensive range of Xtratherm's high performance flat roof boards providing total solutions for flat roof projects.

High Thermal Performance

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

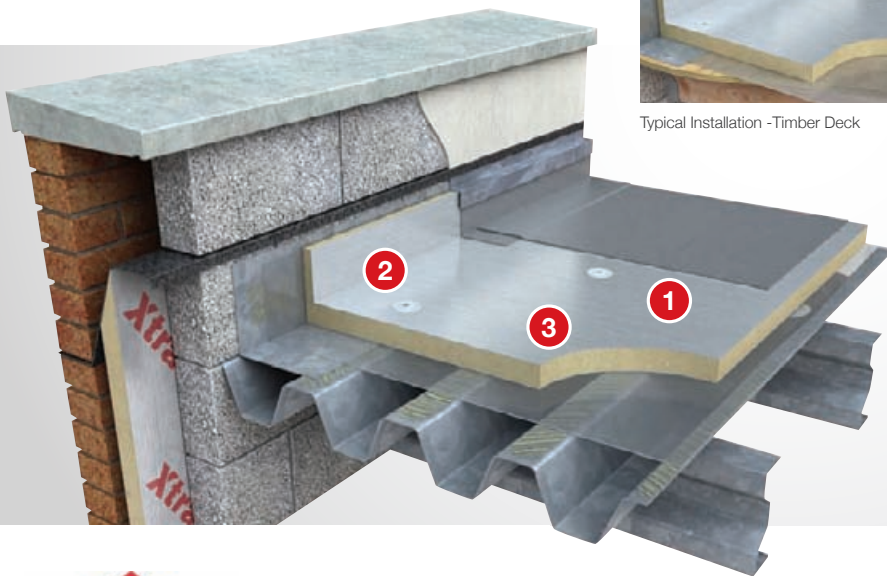
Vapour resistant foil facers



Typical Installation - Concrete Deck



Typical Installation - Timber Deck



### Roof Design

Consideration should be given to the recommendations of BS 4841: Part 3 1987 and those of the Single Ply Roofing Association.

### Falls

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

### Fire Performance

The fire rating when tested to BS 476 Part 3: 2004 'External Fire Exposure Roof Test' will be dependent upon waterproofing system specified.

### Xtratherm FR/ALU Sheet Size (mm)

Length

2400

Width

1200

Thickness

25, 50, 60, 70, 75, 80, 100, 110, 120

Other sizes are available subject to quantity and lead time.

#### 1

Xtratherm FR/ALU is faced with gas-tight foil.

Xtratherm FR/ALU foil faced roof boards are suitable for use below single ply mechanically fixed roof membranes.

**Note:** FR/ALU is not recommended for applications with built-up bitumen based roofing or mastic asphalt systems.

#### 2

Xtratherm FR/ALU insulation boards should be laid over the vapour control layer in a break bonded pattern. The long edges of the boards should be laid at right angles to the corrugations and all board joints must be fully supported by the deck. The FR/ALU insulation boards are secured by approved mechanical fixings.

The requirement for a separate water vapour control layer should be assessed in accordance with BS 6229:1982. Any fixings that penetrate it must be of the self sealing type that fuses to the vapour control layer during applications.

#### 3

Xtratherm FR/ALU foil faced insulation boards are suitable for use on roof decks that are subject to maintenance traffic. 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.



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## Flat Roof Insulation

### Vapour Control Layer

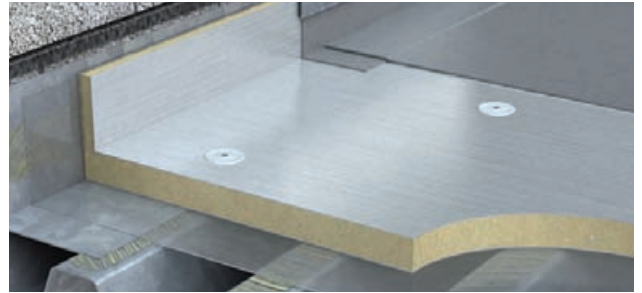
The water vapour control layer should be laid with 150mm laps, which are turned up at any vertical upstand. When the insulation boards have been positioned the laps are turned over and sealed, prior to the roof finish being completed.

### Laying (Metal/Timber Deck)

Xtratherm FR/ALU foil faced boards should be laid over the vapour control layer in a break bonded pattern. The long edges of the boards should be laid at right angles to the corrugations and all board joints must be fully supported by the deck. The FR/ALU insulation boards are generally secured by approved mechanical fixings.

### Laying (Concrete Deck)

Xtratherm FR/ALU boards are laid over the vapour control layer in a break bonded pattern and secured with approved mechanical fixings, or secured under ballasted system.



Care should be taken to ensure that the concrete deck is graded to the correct falls, dry, clean and free from any projections or gaps.

### Fixing

The specification for fixing Xtratherm roof boards will vary with the location, roof height/area and topographical data. Architectural specification should be consulted.

Generally with 1200mm x 600mm boards, a minimum of 4 fixings are adequate, located between 50mm and 150mm from all edges, additional fixings may be placed along the centre line. 11 fixings per 2.4m x 1.2m sheet is recommended. Counter sunk washers, 50mm in diameter should be used with each fixing. However, BS 6399: Part 2 1995 should always be consulted. During the construction process, the construction should be protected from rain penetration during breaks in the process.

## Typical Physical Characteristics

Property	Units
Density (Foam Core)	32 kg/m <sup>3</sup>
Compressive Strength	>150kPa @ 10% Compression
Water Vapour Resistivity	>100MN/gm
Thermal Conductivity	0.022W/mK

## Typical U-values

Typical U-values		Spanning	
FR/ALU Over Concrete Deck		Xtratherm FR/ALU insulation boards laid over metal decks should be in accordance with BS 4841: Part 3	
FR/ALU (mm)	U-value (W/m <sup>2</sup> K)	FR/ALU	Trough Openings
80	0.26	25	≤ 75
90	0.24	30	76-100
100	0.21	35	101-125
120	0.18	40	126-150
140	0.16	45	151-175
		50	176-200



**ISO 9001** | Quality Management Systems  
**ISO 14001** | Environmental Management  
**OHSAS 18000** | Occupational Health & Safety

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 Xtratherm Technical Support.

# Xtratherm® | Flat Roof Solutions

High performance PIR Flat Roof Insulation

The Xtratherm range of high performance flat roof boards provides the complete solution for new build and refurbishment.

## TAPERED ROOF INSULATION

### Tapered Insulation for Mechanically Fixed Single Ply Waterproofing Systems

#### TR/ALU



- High Performance Rigid Insulation
- Thermal Conductivity 0.022W/mK
- Practical Solution to Water Ponding with Insulation and Drainage in a Single System
- LPC/FM Approved
- Compatible with Single Ply Waterproofing Systems
- Non-deleterious Material
- Manufactured without the use of CFC's/HCFC's
- Zero ODP and Low GWP
- Suitable for New Build and Refurbishment Projects

### Tapered Insulation for Single Ply Fully Adhered

#### TR/MG



- High Performance Rigid Insulation
- Thermal Conductivity as Low as 0.024W/mK
- Suitable for Fully Bonding with Approved Adhesive Systems
- Compatible with Adhesively Bonded Single Ply Roofing Membranes laid on Mechanically Fixed Boards
- Practical Solution to Water Ponding with Insulation and Drainage in a Single System
- LPC/FM Approved
- Non-deleterious Material
- Manufactured without the use of CFC's/HCFC's
- Zero ODP and Low GWP
- Suitable for New Build and Refurbishment Projects

### Tapered Insulation for Partially Bonded, Torched-on, Built-up Bituminous Felt Systems

#### TR/BGM



- High Performance Rigid Insulation
- Thermal Conductivity as Low as 0.024W/mK
- Compatible with most Bituminous Based Roofing Systems
- Practical Solution to Water Ponding with Insulation and Drainage in a Single System
- Non-deleterious Material
- Manufactured without the use of CFC's/HCFC's
- Zero ODP and Low GWP
- Suitable for New Build and Refurbishment Projects

## Rigid Insulation Flat Roof Solutions

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## FLAT ROOF INSULATION

### Single Ply Mechanically Fixed

#### FR/ALU



- High Performance Rigid Insulation
- Thermal Conductivity 0.022W/mK
- LPC/FM Approved
- Compatible with Single Ply Waterproofing Systems
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### Insulation for Single Ply Fully Adhered

#### FR/MG



- High Performance Rigid Insulation
- Thermal Conductivity as low as 0.024W/mK
- Suitable for Fully Bonding with Approved Adhesive Systems
- Compatible with Adhesively Bonded Single Ply Roofing Membranes laid on Mechanically Fixed Boards
- LPC/FM Approved
- Non-deleterious Material
- Manufactured without the use of CFC's/HCFC's
- Zero ODP and Low GWP
- Suitable for New Build and Refurbishment Projects

### Insulation for Partially Bonded, Torched-on, Built-up Bituminous Felt Systems

#### FR/BGM



- High Performance Rigid Insulation
- Thermal Conductivity as Low as 0.024W/mK
- Compatible with most Bituminous Based Roofing Systems
- Non-deleterious Material
- Manufactured without the use of CFC's/HCFC's
- Zero ODP and Low GWP
- Suitable for New Build and Refurbishment Projects

### Thermal Ply

#### FR/TP



- High Performance Rigid Insulation
- Thermal Conductivity 0.022W/mK
- Insulation and Decking in a Single Fix
- Compatible with most Waterproofing Systems
- Non-deleterious Material
- Manufactured without the use of CFC's/HCFC's
- Zero ODP and Low GWP
- Suitable for New Build and Refurbishment Projects

## Standards

Xtratherm Flat Roof range is manufactured to EN ISO 13165 under quality systems approved to EN ISO 9001:2008 quality management, EN ISO 14001:2004 environmental management and BS OHSAS 18001 Health and Safety Management System.

## Storage

Xtratherm insulation boards must be protected from weather conditions, (preferably in dry storage) on the site and during installation. The polythene wrapping on packs is not a suitable weather protection. If internal storage is not possible, boards must be protected by secured waterproof sheeting vented to the underside to avoid condensation build-up.

## Cutting

Xtratherm FR/ALU 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 in accredited details.

## Packaging

Xtratherm FR/ALU is wrapped in polythene packs and each pack is labelled with details of grade/type, size and number of pieces per pack.

## Availability

Xtratherm products are available through builder's merchants and specialist distributors throughout the UK and Ireland. For the location of your nearest stockist contact Xtratherm.

## CFC/HCFC Free

Xtratherm FR/ALU is manufactured without the use of CFC's or HCFC's and has Zero Ozone Depletion Potential.

## Durability

Xtratherm PIR Flat Roof insulation products are stable, rot proof and will remain effective for the life span of the building, depending on specification and installation. Care should be taken to avoid contact with acids, petrol, alkalis and mineral oil. Should contact be made, clean materials in a safe manner before installation. Solvent based adhesive containing methyl ethyl ketone should not be used.

Contact  
info@xtratherm.com

[www.xtratherm.com](http://www.xtratherm.com)

Good workmanship and appropriate site procedures are necessary to achieve expected thermal and airtightness performances. The example calculations are indicative only. Default values for components and cavities have been used. For specific U-value calculations please contact Xtratherm Technical Support. Comprehensive guidance on installation should be consulted. Xtratherm technical literature and Agrément certification is available for download on the Xtratherm website. The information contained in this publication is, to the best of our knowledge, true and accurate but any recommendations or suggestions which may be made are without guarantee since the conditions of use are beyond our control.