

# Xtratherm® Flat Roof Solutions

## Xtratherm FR/ALU Sheet Size (mm)

Length  
2400

Width  
1200

Thickness  
25, 30, 40, 50, 60, 70, 75, 80, 90, 100,  
110, 120, 125, 130, 140, 150

Other sizes are available subject to quantity and lead time.

Note: Xtratherm Ltd. reserves the right to amend product specifications without prior notice

### 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 suitable 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. Typically a 1000 gauge polythene should be used with all joints lapped and sealed. Any fixings that penetrate it must be of the self sealing type that fuses to the vapour control layer during application.

### 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.

## Flat Roof Board FR/ALU

Insulation for Mechanically Fixed  
Single Ply Waterproofing Systems

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

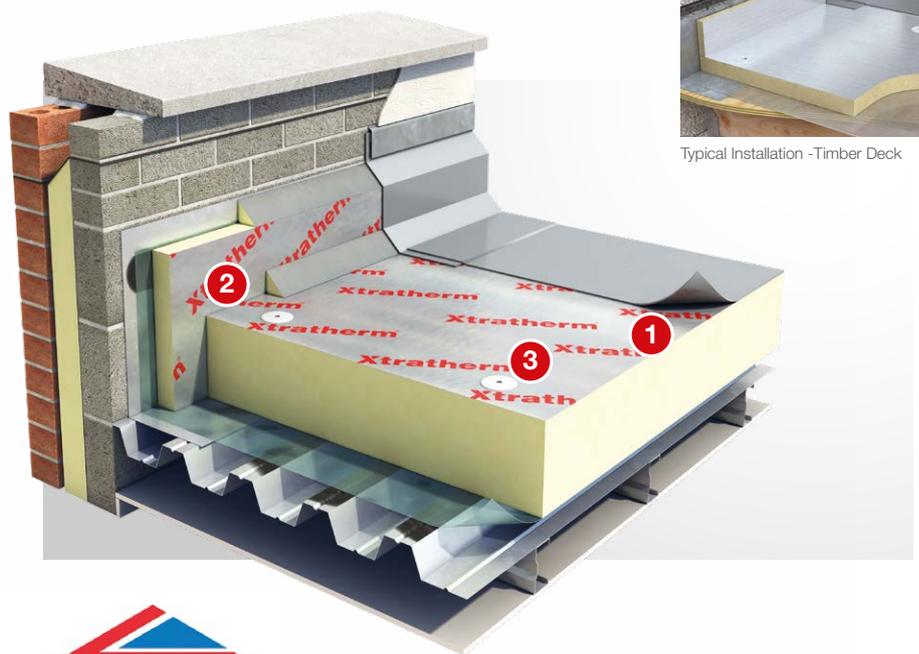
### Vapour resistant foil facers



Typical Installation - Concrete Deck



Typical Installation - Timber Deck



### Roof Design

Consideration should be given to the recommendations of BS 4841: Part 3 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 EN 13501-5 and BS 476 Part 3 'External Fire Exposure Roof Test' will be dependent upon waterproofing system specified

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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 a 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 2400mm x 1200mm boards, a minimum of 6 fixings are adequate, located between 50mm and 150mm from all edges, additional fixings may be placed along the centre line. Additional fixings around roof perimeter may be required. 11 fixings per 2400mm x 1200mm sheet is recommended. Counter sunk washers, 50mm in diameter should be used with each fixing. However, BS 6399: Part 2 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
Thermal Conductivity	0.022 W/mK

## Typical U-values

FR/ALU Over Concrete Deck	
FR/ALU (mm)	U-value (W/m <sup>2</sup> K)
80	0.26
90	0.23
100	0.21
120	0.18
140	0.16

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

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. \*Thermal conductivity is dependent on facings and product thickness.