

# Xtratherm® Flat Roof Solutions

## Xtratherm FR/MG Sheet Size (mm)

Length (IRL sizes)	Length (UK sizes)
1200	1200
Width (IRL sizes)	Width (UK sizes)
1200	600

### Thickness

25, 30, 40, 50, 60, 70, 80, 100, 110, 120

Other sizes are available subject to quantity and lead time.

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

## Vapour Control Layer

A continuous approved vapour control layer should be used below the insulation. (Unless over a sealed metal deck system). For mechanically fixed boards, a minimum vapour control layer of a 1000 gauge polythene layer lapped and sealed with double-sided tape should be used below the insulation. At vertical upstands and penetrations, the VCL should be turned up and sealed to encapsulate the insulation layer prior to the roof finish being completed. (A comprehensive U-value calculation and condensation risk analysis should be carried out for all projects).

## Bonding boards to the vapour control layer

The minimum vapour control layer should consist of a 3B type felt to BS747 Reinforced bitumen sheets for roofing. Specification or BS8747. Reinforced bitumen membranes (RBMs) for roofing. Guide to selection and specification. Other proprietary systems may be used subject to approval.

Where the vapour control layer is to be bonded separately, sufficient adhesion to the substrate should be made to ensure correct resistance to wind uplift. Contact the system manufacturer for details.

## Membrane Systems

Please contact Xtratherm Technical Support for advice on membrane and adhesive system compatibility. Technical guidance from the appropriate waterproofing manufacturer should be sought.

## Loadings

Xtratherm FR/MG boards are suitable for use on roof decks that are subject to maintenance traffic. Walkways 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.

# Flat Roof Board FR/MG

Insulation for Single Ply Fully Adhered / Partially Bonded Built-Up Felt Systems

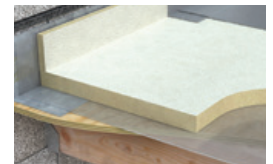
Xtratherm FR/MG is a high performance Polyisocyanurate with mineral coated glass facers suitable for use below single ply fully adhered roof membranes, single ply waterproofing systems and partially bonded built-up felt.

## High Thermal Performance

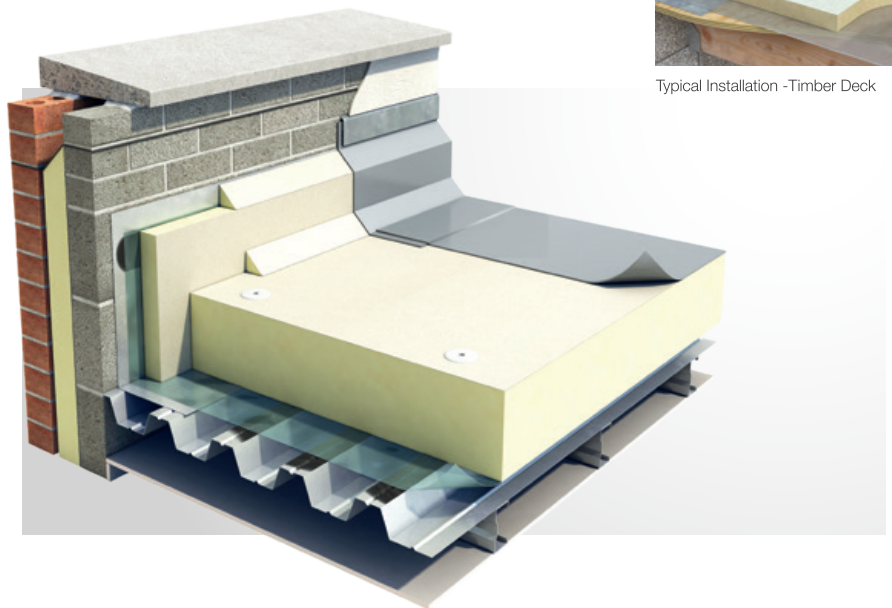
Compatible with adhesively bonded single ply roofing membranes laid on mechanically fixed or adhered boards.



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.

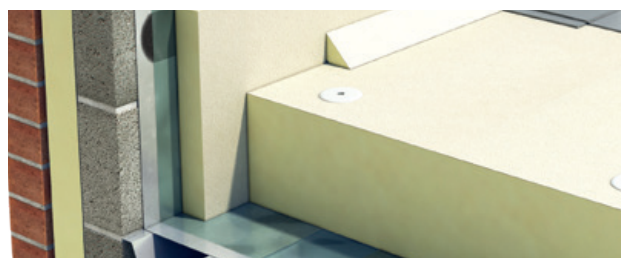
## Falls

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.

Xtratherm’s comprehensive range of agrément certified high performance flat and tapered roof insulation boards provide a guaranteed quality solution to flat roof specification.



## Flat Roof Insulation

### Laying (Metal Deck)

Xtratherm FR/MG 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.

### Laying (Concrete Deck)

Decks should be dry and clean of debris, and laid to correct fall. The boards can be secured using approved mechanical fixings and washers, with boards laid with a break-bonded pattern. Joints should be closely butted.

Alternatively the boards can be adhered to the decking with approved adhesive systems.

### Partially Bonded Built Up Systems

Partially bonded built-up felt waterproofing should be laid, where in accordance with BS 8217 (Reinforced bitumen membranes for roofing. Code of practice).

### Fully Adhered Systems

Xtratherm FR/MG is suitable for use with most fully adhered single-ply waterproofing membranes. Board joints and abutments should be taped subject to the approved adhesive system being used. A fleeced backed membrane might be required with the system being used, check with the system manufacturer.

### Fixings

Depending on the fixings specification chosen, quantity and pattern of fixings will vary with the location, roof height/width 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. Additional fixings around roof perimeter may be required. 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 insulation should be protected from rain penetration during breaks in the process.

## Typical Physical Characteristics

Property	Units
Density (Foam Core)	32kg/m <sup>3</sup>
Compressive Strength	>150kPa @ 10% Compression
Thermal Conductivity*	0.024 - 0.027 W/mK

## Typical U-values

FR/MG Over Timber Deck	
FR/MG (mm)	U-value (W/m <sup>2</sup> K)
80	0.27
90	0.25
100	0.22
120	0.19
60+80 (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.