

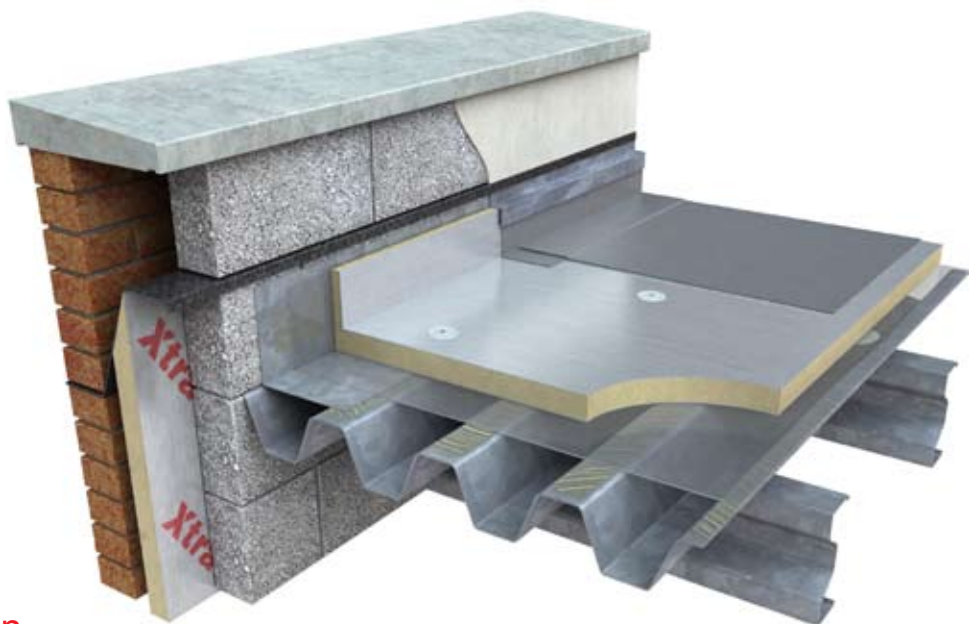
JUNE 2009

Xtratherm®

High performance PIR flat roof insulation

Insulation for Mechanically Fixed
Single Ply Waterproofing Systems
FR-ALU

www.xtratherm.com



More than insulation





Flat Roof Board FR-ALU

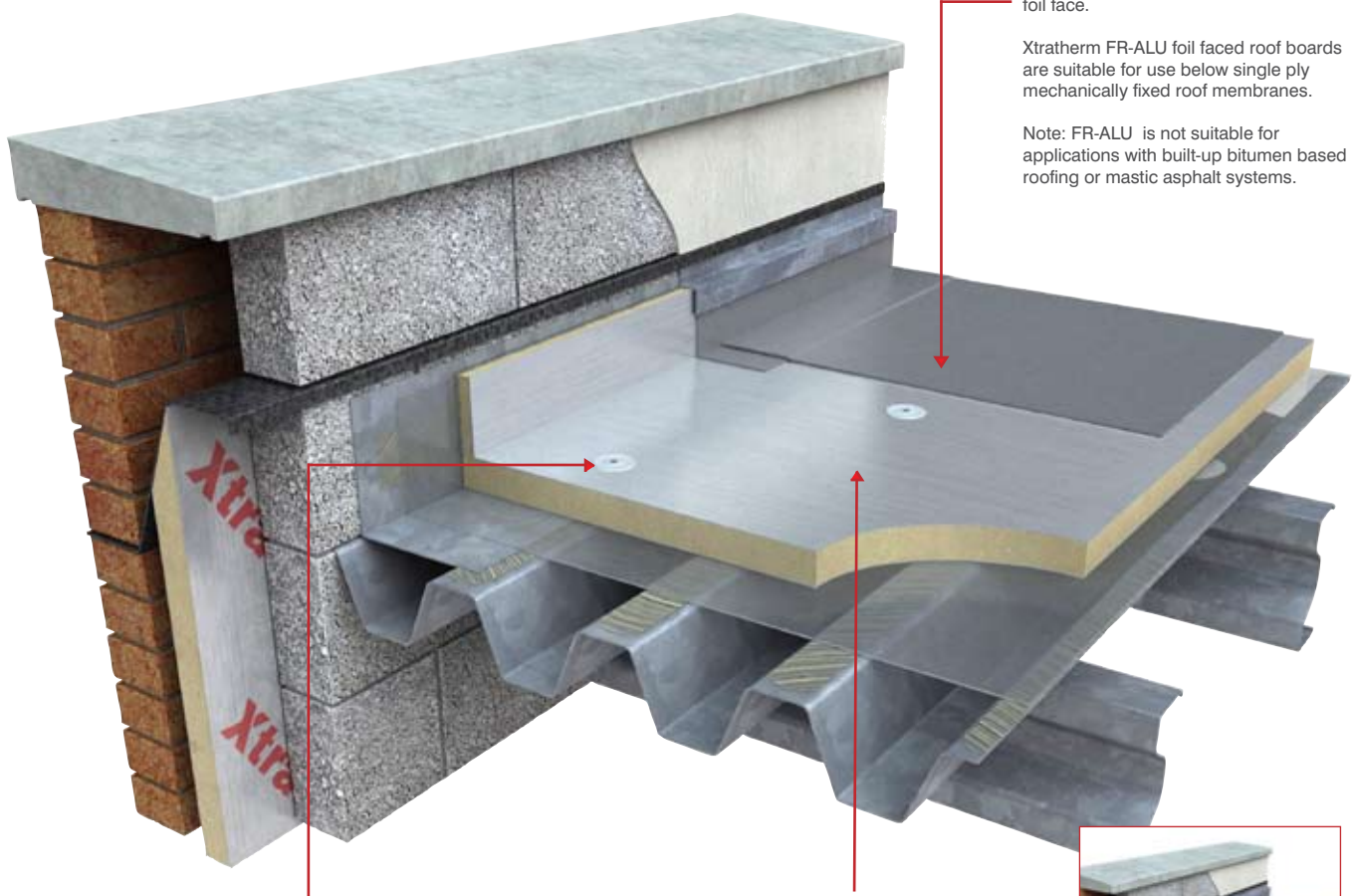
Single Ply Mechanically Fixed

- High Thermal Performance
- Compatible with - mechanically fixed single ply systems - Loose laid ballasted systems
- Vapour resistant foil facers

XTRATHERM FR-ALU SHEET SIZE

DIMENSIONS	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.



Xtratherm FR-ALU is faced with a gas-tight foil face.

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.

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 BS6229 1982. When a vapour control layer is necessary, 1000 gauge polythene should be used. Any fixings that penetrate it must be of the self sealing type that fuse to the vapour control layer during applications.

Roof Finishes: Consideration should be given to the recommendations of BS4841: 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. Care must be taken to provide adequate falls ie not less than 1-80 to rain water outlets.

Fire: The fire rating when tested to BS 476 Part 3: 1968 'External Fire Exposure Roof Test' will be dependent upon waterproofing system specified. Xtratherm FR-ALU will typically achieve FAB rating.

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



Typical installation - Concrete Deck



Typical installation - Timber Deck

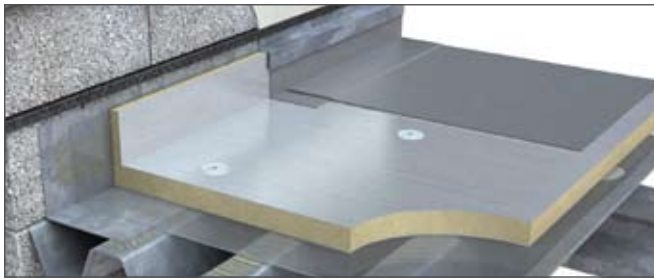
Xtratherm FR-ALU

Xtratherm XT product range is CFC/HCFC free (Zero Ozone Depletion Potential)

Flat Roof

Xtratherm FR-ALU foil faced boards are suitable for use below PVC, TPO or EPDM single ply roof membranes and loose laid ballasted roofing.

Note: FR-ALU is not suitable for direct hot contact applications with built-up bitumen based roofing or mastic asphalt systems.



Installation Guidelines

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, is dry, clean and free from any projections or gaps.

Fixing

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

Generally with 1200 x 600 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 2.4 x 1.2m sheet is recommended. Counter sunk washers, 50mm in diameter should be used with each fixing. However, BS6399 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 ³
Compressive Strength	> 150 kPa @ 10%
Water Vapour Resistivity	> 100 MNs/gm
Thermal Conductivity	0.023 W/mK
Service Temperature	-20°C - +100°C

SPANNING

Xtratherm FR-ALU insulation boards laid over metal decks should be in accordance with BS 4841: Part 3

mm	TROUGH OPENING (mm)	
25		75
30	>75	100
35	>100	125
40	>125	150
45	>150	175
50	>175	200

TYPICAL 'U' VALUES

FR-ALU Over Concrete Deck	
THICKNESS (mm)	U-Value (W/m ² K)
50	0.36
60	0.32
70	0.28
80	0.25
100	0.21
105	0.20
120	0.17

U-values given 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 contact Xtratherm technical support.

TOLERANCE

DIMENSIONS	SIZE (mm)	TOLERANCE
Length	2400	+/- 5mm
Width	1200	+/- 3mm
Thickness	<60	+/- 2 mm
	≥ 60	+/- 3 mm
Diagonals	Do not differ more than	0.3%

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

Thin-R Flat Roof Single Ply Mechanically Fixed



FR-ALU

High Thermal Performance
Compatible with mechanically fixed single ply roofing membranes

Vapour resistant foil facers

Suitable for insulating:

New
Refurbishment
Metal, Concrete or Timber Decks

Thin-R Flat Roof Single Ply Fully Adhered/ Partially Bonded Built-Up Felt Systems



FR-MG

High Thermal Performance
Compatible with fully adhered single ply roofing membranes

Mineral coated glass tissue facings

Suitable for insulating:

New
Refurbishment
Metal, Concrete or Timber Decks

Thin-R Flat Roof Built Up



FR-BG

High Thermal Performance
Compatible with most bituminous based roofing systems

Fleece finished bitumen/glass fibre facings

Suitable for insulating:

New
Refurbishment
Metal, Concrete or Timber Decks

Thin-R Flat Roof Thermal Ply



FR-TP

Insulation & decking in one fix
For new & refurbishment roofs
Rapid weather proofing

Suitable for insulating:

New
Refurbishment

Technical Support

The Xtratherm Technical Support team provide a single point of contact to offer assistance on a wide range of issues for both the Designer and Builder and can be contacted by phone, fax or email. Full details of all Xtratherm products, along with full technical literature can be downloaded from the website at:

www.xtratherm.com

Good workmanship and appropriate site procedures are necessary to achieve expected performance. 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. Xtratherm reserve the right to change the content of this publication without prior notice.

Xtratherm[®]



Zero Ozone
Depletion Potential

Xtratherm Limited

Kells Road, Navan
County Meath, Ireland
Tel: +353 (0) 46 90 66000
Fax: +353 (0) 46 90 66090
Email: info@xtratherm.com

Xtratherm UK Ltd

Park Road, Holmewood
Chesterfield, Derbyshire
S42 5UY
Tel: 0371 222 1033
Fax: 0371 222 1044
Email: info@xtratherm.com