EU ISSUE 1
MARCH 2008

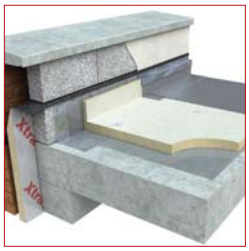
Xtratherm®

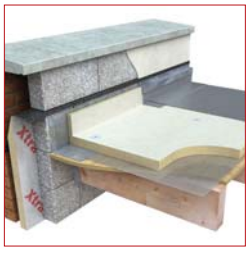
High performance PIR flat roof insulation

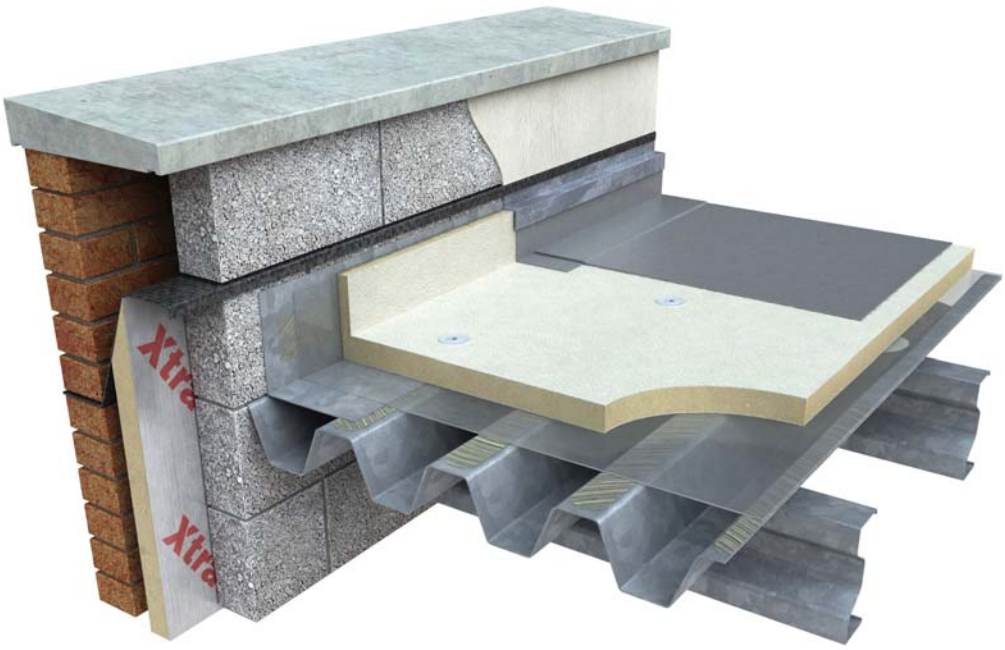
Fully Adhered Roofing

XT/FR MG

www.xtratherm.eu







More than insulation

Zero ODP
Zero Ozone Depletion Potential

NBS Plus

BRE Certification Limited

CE

Quality

Environmental

Flat Roof Board XT/FR MG

Single Ply Fully Adhered

- High Thermal Performance
- Suitable for fully bonding with approved adhesive systems
- Compatible with adhesively bonded single ply roofing membranes laid on mechanically fixed boards

Typical installation - Concrete Deck

Typical installation - Timber Deck

Xtratherm XT/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 direction of the substrate and all edges must be fully supported by the deck. The XT/FR MG insulation boards are secured by approved mechanical fixings or sufficiently bonded. The requirement for a separate water vapour control layer should be assessed in accordance with National Regulations.

Xtratherm XT/FR MG 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.

Xtratherm XT/FR MG mineral coated glass faced boards are suitable for use below most single ply fully adhered and mechanically fixed roof membrane systems or loose laid ballasted roofing systems.

Vapour control layer:

Mechanically fixed boards. A 1000 gauge polythene layer lapped and sealed with double sided tape should be used below the insulation.

Bonded boards. The insulation boards are embedded in a layer of bitumen on a reinforced type felt to EN 13707 (Reinforced bitumen sheets for roofing. Specification) that has been adhered to the deck. (Xtratherm recommend that all boards should have local mechanical fixings included)

Roof Design: Consideration should be given to the recommendations of the local Roofers Association and those of the local Waterpoofing Manufacturers Associations.

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 1-80 to rain water outlets.

Fire: The fire rating when tested to ENV 1187 'External Fire Exposure Roof Test' will be dependent upon waterproofing system specified. XT/FR MG will typically achieve Euroclass E Fire Rating.

XTRATHERM XT/FR MG SHEET SIZE

DIMENSIONS	SIZE (mm)	
Length	2400	1200
Width	1200	1000
Thickness	50/60/70/80/90/100/120/140	

Other sizes are available subject to quantity and lead time. Optional boards can be supplied with T&G edge finish.

Xtratherm®

Thin-R

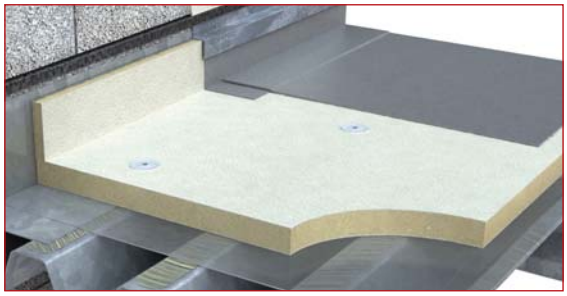
Xtratherm XT/FR MG

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

Flat Roof

Xtratherm XT/FR MG mineral coated glass faced boards are suitable for use below single ply fully adhered roof waterproofing systems.

Note: XT/FR MG is not intended for bonded applications with built-up bitumen based roofing or mastic asphalt systems but can be used in mechanically fixed and loose laid ballasted roofing 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 - Concrete Deck
Decks should be dry and clean of debris, without projections, free of gaps and laid to correct fall.

The boards should be secured using approved mechanical fixings and washers, with boards laid with a break–bonded pattern, all joints must be supported by the decking. Joints should be closely butted.

Alternatively the boards can be embedded in a layer of bitumen.

Laying - Metal/Timber Deck
Xtratherm XT/FR MG should be laid break bonded onto the vapour control layer. On metal decks, boards shall be positioned with length direction perpendicular to the corrugation ensuring all edges of the boards are supported. In practise the XT/FR MG boards are secured by approved mechanical fixings.

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 1000 boards, a minimum of 5 fixings (500 N/fastener) are required, located between 50mm and 150mm from sides or edges, additional fixings may be placed along the centre line. Minimum 11 fixings per 2.4 x 1.2m sheet is recommended. Counter sunk washers, >70mm in diameter should be used with each fixing. However, National Regulations should always be consulted. During the construction process, the construction should be protected from rain penetration during breaks in the process.

Single Ply Fully Adhered
Please contact Xtratherm Technical Support for advise on membrane and adhesive system compatibility. Technical guidance from the appropriate waterproofing manufacturer should be sought.

TYPICAL PHYSICAL CHARACTERISTICS

PROPERTY	UNITS
Density (Foam Core)	>30 Kg/m³
Compressive Strength	>150 kPa @ 10%
Thermal Conductivity*	0.025 - 0.027 W/mK
Service Temperature	-50°C to +110°C
Reaction to fire	Euroclass E

**Thermal conductivity is dependent on product thickness.*

SPANNING

Xtratherm XT/FR MG insulation boards laid over metal decks should be in accordance with UEAtc Guide par. 4.5.2		
THICKNESS (mm)	THROUGH OPENING (mm)	
25		75
30	>75	100
35	>100	125
40	>125	150
45	>150	175
50	>175	200

TYPICAL 'U' VALUES and 'R' VALUES

XT/FR MG Flat Roof Insulation Board		
THICKNESS (mm)	Ud-Value (W/m²K)	Rd-Value (m²K/W)
50	0.54	1.85 (27)
60	0.45	2.22 (27)
70	0.39	2.59 (27)
80	0.33	3.07 (26)
90	0.29	3.46 (26)
100	0.26	3.84 (26)
120	0.21	4.80 (25)
140	0.18	5.60 (25)

Rd and Ud values given are for insulation material only, for comprehensive calculations on all deck types and including any fixings contact Xtratherm Technical Support.

TOLERANCE

DIMENSIONS	SIZE (mm)	TOLERANCE
Length	2400, 1200	+/- 5mm
Width	1200, 1000	+/- 3mm
Thickness	<60	+/- 2 mm
	≥60	+/- 3 mm
Diagonals	Do not differ more than	0.3%

Thin-R® T&G

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

Thin-R® Flat Roof Mechanically Fastened or Ballasted

XT/FR ALU

High Thermal Performance
Compatible with mechanically fixed single ply roofing and loose laid ballasted roofing systems.
Vapour resistant foil facers

Suitable for insulating:
New Flat Roof
Refurbished Flat Roof

Thin-R® Flat Roof Fully Adhered

XT/FR MG

High Thermal Performance
Compatible with fully adhered single ply roofing and mechanically fastened or loose laid ballasted roofing systems.

Suitable for insulating:
New Flat Roof
Refurbished Flat Roof

Thin-R® Flat Roof Built Up Bonded

XT/FR BG

High Thermal Performance
Compatible with bonded bituminous based roofing systems and mechanically fastened or loose laid ballasted bitumen roofing systems.

Suitable for insulating:
New Flat Roof
Refurbished Flat Roof

Thin-R® Flat Roof Thermal Ply

XT/TP Plywood

Insulation & decking in one fix
High Thermal Performance
Vapour Resistant Foil Facer
Rapid weather proofing

Suitable for insulating:
New Flat Roof
Refurbished Flat Roof

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 e-mail. Full details of all Xtratherm products, along with full technical literature can be downloaded from the website or requested by e-mail at:

www.xtratherm.eu
info@xtratherm.eu

Xtratherm®

Xtratherm Limited
Kells Road, Navan
County Meath, Ireland
Tel: +353 (0) 46 90 66000
Fax: +353 (0) 46 90 66090

Xtratherm UK Ltd
Park Road, Holmewood
Chesterfield, Derbyshire
S42 5UY
Tel: +44 (0) 871 2221033
Fax: +44 (0) 871 2221044

Xtratherm B.V.
Lange Voorhout 82, 2514 EJ
Den Haag,
The Netherlands
Tel: +31 (0) 878 760012
Fax: +31 (0) 878 760011