

EU ISSUE 1  
MARCH 2008

# Xtratherm®

## High performance PIR pitched roof insulation

### Pitched Roof XT/PR

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



More than insulation



Quality

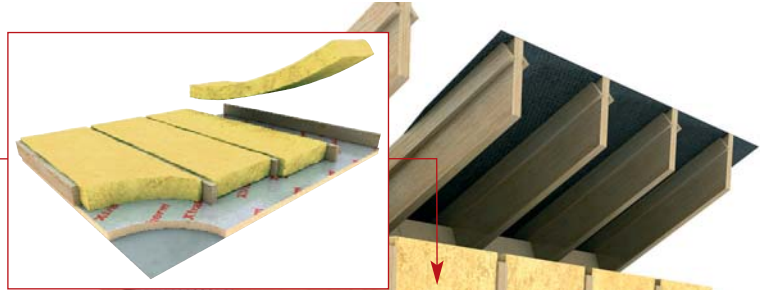
Environmental



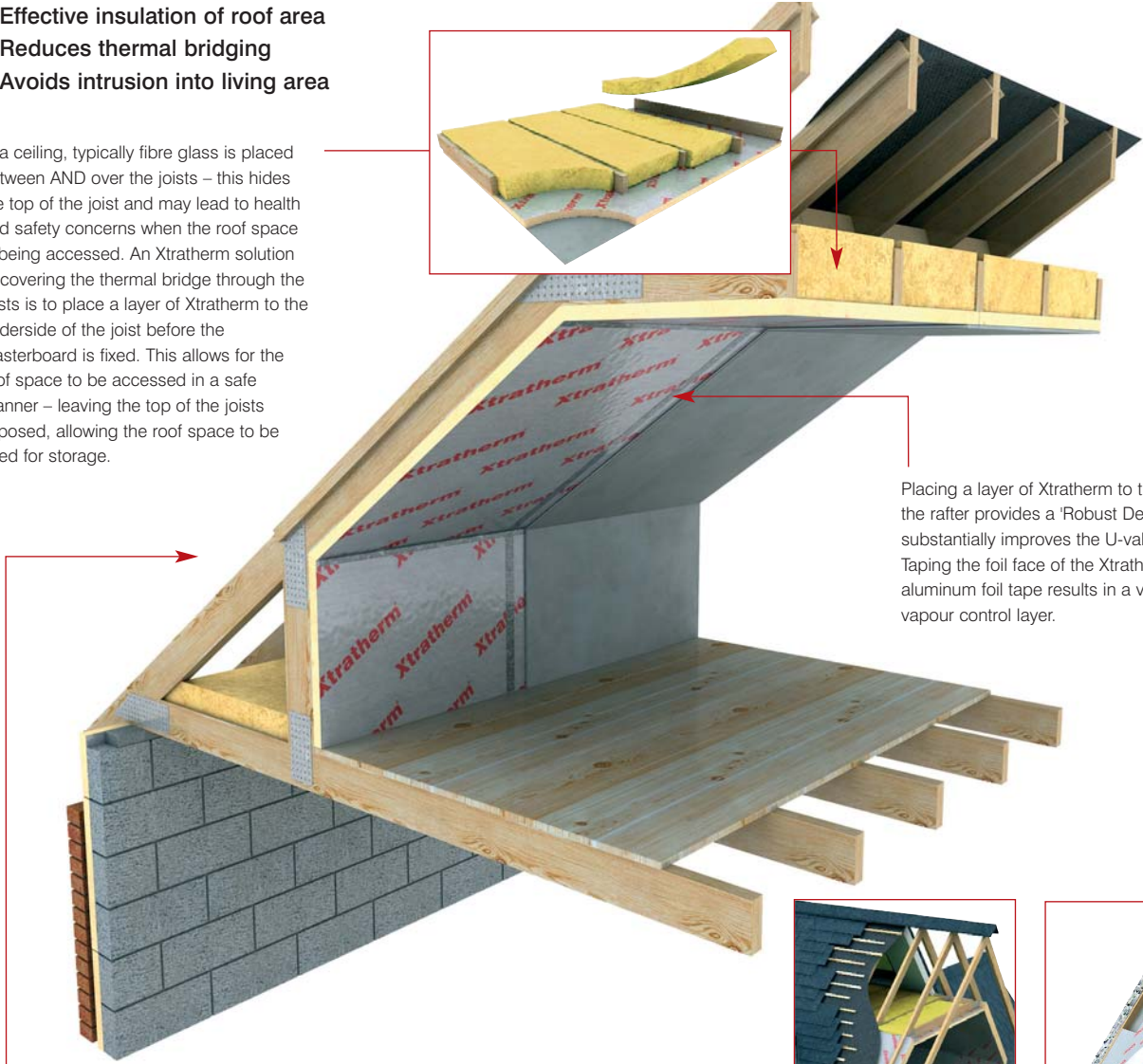
# Pitched Roof Board XT/PR

- Effective insulation of roof area
- Reduces thermal bridging
- Avoids intrusion into living area

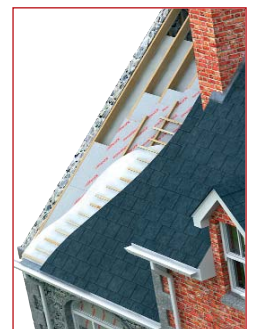
In a ceiling, typically fibre glass is placed between AND over the joists – this hides the top of the joist and may lead to health and safety concerns when the roof space is being accessed. An Xtratherm solution to covering the thermal bridge through the joists is to place a layer of Xtratherm to the underside of the joist before the plasterboard is fixed. This allows for the roof space to be accessed in a safe manner – leaving the top of the joists exposed, allowing the roof space to be used for storage.



Placing a layer of Xtratherm to the underside of the rafter provides a 'Robust Detail' and substantially improves the U-values achieved. Taping the foil face of the Xtratherm with aluminum foil tape results in a very efficient vapour control layer.



In a conventional ventilated roof a 50mm clear ventilation gap should be maintained between the insulation and the roofing felt. In certain instances when a vapour permeable membrane is used instead of standard roofing felt, the ventilation gap may be dispensed with (See Hybrid Roof Construction)



## XTRATHERM XT/PR SHEET SIZE

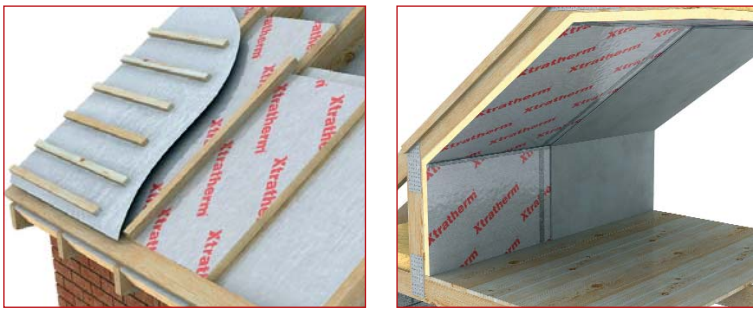
DIMENSIONS	SIZE (mm)
Length	2400
Width	1200
Thickness*	30/40/50/60/70/80/90/100/110/120/ 125/140/150/160/165

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

## Xtratherm XT/PR

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

### Pitched Roof



#### Installation Guidelines

##### Warm Roof

- Ensure cavity wall insulation has continued to roof height to engage with roof insulation.
- Fix a timber stop rail to end of rafter at eaves.
- Lay Xtratherm insulation stagger jointed over rafters ensuring joints are supported by rafters.
- Ensure boards are tightly butted fill any gaps with expanding foam.
- A vapour permeable underlay should be fitted; refer to manufacturers Technical Agreement certification.
- Providing an unvented void under the membrane can improve the thermal performance.
- Fix counter batten with approved fixings.
- Ventilation may have to be provided subject to certification.
- A second layer of insulation may be added between the rafters.
- Provide vapour control layer to underside.
- Finish with 12.5mm plasterboard.

##### Ventilated Roof

- Fix positioning battens to inner face of rafters.
- Allow for ventilation gaps normally 50mm. (May be reduced depending on breather membrane certification).
- Cut boards to fit tightly between rafters flush with rafter bottom.
- Additional 2nd layer should be added to the rafter underside.
- Run second layer transverse to the first.
- Temporarily fix with nails.
- Provide vapour control layer (Aluminium tape joints).
- Finish with 12.5mm plasterboard fixed with drylining screws.
- Screw fix every 150mm, 12mm from edge of boards.
- All board edges should be supported.

#### TYPICAL PHYSICAL CHARACTERISTICS

PROPERTY	UNITS
Density (Foam Core)	>30 Kg/m <sup>3</sup>
Compressive Strength	>150 kPa
Thermal Conductivity	0.023 W/mK
Service Temperature	-50°C to +110°C
Reaction to Fire	Euroclass E

Using Xtratherm on sloped roof areas can provide the most efficient U-values with minimal intrusion into valuable living space. **Warm Roof** construction is a particularly effective way of insulating complex roofs. Insulating above and between the roof timbers ensures that the structure is kept at, or near the internal environmental conditions, reducing thermal stress and condensation risk.

Placing Xtratherm XT/PR between and/or below the rafter creates a **Ventilated Roof**. A continuous 50mm ventilation space is required between the insulation and the roof tile underlay to allow any moisture to be vented out of the construction. The high performance to thickness ratio of Xtratherm gives the maximum insulation values with minimal intrusion into the living area below.

The **Hybrid Roof** follows the same construction as the Vented Roof - but an approved Vapour Permeable underlay is used above the rafter allowing the 50mm ventilation space to be dispensed with. A 25mm unvented void should be maintained; Agrément certification covering the membrane should be consulted.

#### TYPICAL 'U' VALUES and 'R' VALUES

XT/PR Pitched Roof Insulation Board		
Thickness (mm)	Ud-Value (W/m <sup>2</sup> K)	Rd-Value (m <sup>2</sup> K/W)
50	0.46	2.17
60	0.38	2.60
70	0.32	3.04
80	0.28	3.47
90	0.26	3.91
100	0.23	4.34
120	0.20	5.21
140	0.17	6.08

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

#### TOLERANCE

DIMENSIONS	SIZE (mm)	TOLERANCE
Length	2400	+/- 5mm
Width	1200	+/- 3mm
Thickness	<60	+/- 2 mm
	≥60	+/- 3 mm

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

## Thin-R® Pitched Roof



### XT/PR

Effective insulation of sloped roof area  
Reduced insulation thickness  
Reduces thermal bridging  
Minimizes intrusion into living area

*Suitable for insulating:*  
**Ventilated Pitched Roof**  
**Warm Pitched Roof**  
**Hybrid Pitched Roof**

## Thin-R® Pitched Roof

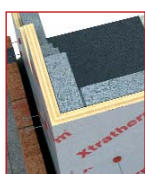


### XT/RL

Effective insulation of Rafter area  
Width Variable  
Reduced fitting time  
Minimizes intrusion into living area

*Suitable for insulating:*  
**Ventilated Pitched Roof**  
**Warm Pitched Roof**  
**Hybrid Pitched Roof**

## Thin-R® Cavity Wall



### XT/CW

Robust tongue & groove jointing  
Clear cavity maintained  
Corner & reveal panels  
Low emissivity foil facings  
High thermal performance

*Suitable for insulating:*  
**Partial Fill Cavity Walls**

## Thin-R® Thermal Liner

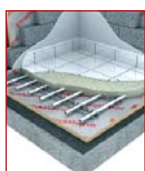


### XT/TL Plasterboard

High thermal performance  
Drylining & insulation in one fix  
Shorter drying time  
Responsive insulation system

*Suitable for insulating:*  
**Masonry Walls**  
**Sloped Rafters**  
**Ceilings**

## Thin-R® Under Floor



### XT/UF

High thermal performance  
Suitable for under floor heating  
Reduced insulation thickness  
High compressive strength

*Suitable for insulating:*  
**Solid Concrete Floors**  
**Suspended Concrete Floors**  
**Suspended Timber Floors**

### 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](http://www.xtratherm.eu)**  
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