XtroLiner

Class ‘O’ Modified PIR Insulation

Fire Performance

Thermal Conductivity

Extensive Range

Product Specifications

Class ‘O’ Modified PIR Insulation

Roofs

XO/PR

Pitched Roofs

Key Features

- Class ‘O’ Modified PIR
- Thermal Conductivity 0.021 W/mK
- HCFC/CFC Free Zero ODP
- Class ‘O’/Low Risk Fire Rating
- For New Build or Refurbishment

AS LOW AS X021 Xtratherm

Xtratherm®

More than insulation

www.xtratherm.com

XtroLiner

Product Specifications

XO Pitched Roofs

Our XtroLiner XO range of modified PIR offers excellent insulation performance with thermal conductivity of 0.021 W/mK and a Class 'O' fire rating. XtroLiner is CFC & HCFC free and is manufactured under the highest standards of ISO 9001 and 14001 Quality and Environmental Management Systems. The XtroLiner board has a core of modified polyisocyanurate (PIR) bonded to low emissivity textured aluminium foil facings.

Using Xtratherm XO/PR 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 XtroLiner 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 XtroLiner gives the maximum insulation values with minimal intrusion into the living area below.

The **Hybrid Roof** follows the same construction as the Ventilated 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.

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 insulate the thermal bridge through the joists is to place a layer of XtroLiner 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.

Specification Clause

The Pitched Roof insulation shall be Xtratherm XtroLiner XO/PR manufactured to BS EN ISO 9001: 2000 by Xtratherm, comprising of CFC/HCFC free Class 'O' rigid modified polyisocyanurate (PIR) with textured low emissivity foil facings. The XO/PR_ _ _mm to achieve a U-value of_ _ _W/mK for the roof element. To be installed in accordance with instructions issued by Xtratherm. Refer to NBS clause P10 140, K11 695, K11 55.

XtroLiner to the underside of the rafter provides a 'Robust Detail' and substantially improves the U-values achieved.

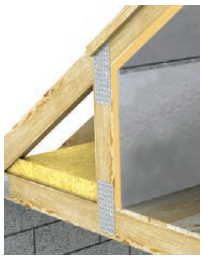
Property & Units
Compressive Strength >125 (kPa)
Water Vapour Resistivity >100 (MNs/gm)
Thermal Conductivity 0.021 (W/mK)
Service Temperature -20 to +100 (ºC)

XtroLiner XO/PR
Length (mm) 2400
Width (mm) 1200
Thickness (mm) 50, 60, 75, 80, 100, 120

XtroLiner XO/PR Typical R-values
50mm R-value: 2.38
60mm R-value: 2.86
75mm R-value: 3.57
80mm R-value: 3.81
100mm R-value: 4.76
120mm R-value: 5.71

Xtratherm®
More than insulation

Ventilated Roof



Allow for ventilation gaps normally 50mm. (May be reduced depending on breather membrane certification).

Cut XtroLiner boards to fit tightly between rafters flush with rafter bottom.

An additional 2nd layer should be added to the underside of the rafter.

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 U-values

Warm Roof

XtroLiner Thickness	Rafter Centres	
Between/Over Rafters	600mm	400mm
75mm/50mm	0.17	0.18
100mm/50mm	0.14	0.15

Insulation thickness only

Vented Roof

XtroLiner Thickness	Rafter Centres	
Between/Under Rafters	600mm	400mm
75mm/50mm	0.19	0.19
100mm/50mm	0.16	0.17

Insulation thickness only

Hybrid Roof

XtroLiner Thickness	Rafter Centres	
Between/Under Rafters	600mm	400mm
75mm/50mm	0.17	0.18
100mm/50mm	0.15	0.16

Insulation thickness only

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 XO/PR 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 Agrèment 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 a vapour control layer to the underside of the construction.

Current Building Regulations/Standards should be considered with regard to the requirements for and/or provision of fire stops.

Standards

Xtratherm XO range is manufactured to EN ISO 13165 under quality systems approved to EN ISO 9001:2000 quality management, EN ISO 14001:2004 environmental management and BS OHSAS 18001 Health and Safety Management System.

Storage

Xtratherm XO/PR should be stored off the ground, on a clean, flat surface and must be stored under cover. The polythene wrapping is not considered adequate protection for outside exposure.

Cutting

Xtratherm XO/PR Boards can be readily cut using a sharp knife or fine toothed saw. Ensure tight fitting of the insulation boards to achieve continuity of insulation as asked for in accredited details.

Packaging

Xtratherm XO/PR is wrapped in polythene packs and each pack is labelled with details of grade/type, size and number of pieces per pack.

Availability

Xtratherm products are available through builder's merchants and specialist distributors throughout the UK and Ireland. For the location of your nearest stockist contact Xtratherm.

CFC/HCFC Free

Xtratherm XO/PR is manufactured without the use of CFC's or HCFC's and has Zero Ozone Depletion Potential and a GWP of less than 5.

Durability

Xtratherm XtroLiner products are stable, rot proof and will remain effective for the life span of the building, dependent on specification and installation. Care should be taken to avoid contact with acids, petrol, alkalis and mineral oil, when contact is made, clean materials in a safe manner before installation. Solvent based adhesive containing methyl ethyl keytone, should not be used.

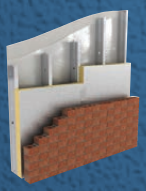
XtroLiner

Class ‘O’ Modified PIR Insulation

XO/CW

Cavity Wall
Partial Fill

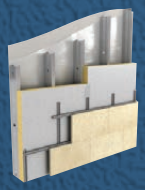
XtroLiner XO/CW is an insulation for cavity walls where a residual cavity has to be maintained. The excellent thermal performance of the XtroLiner allows for very good U-values to be achieved whilst minimizing overall cavity wall thickness. XO/CW can be combined with Xtrathem Thermal Liner Boards to achieve U-values down to Zero Carbon fabric standards in traditional wall thicknesses.



XO/FB

Framing Board

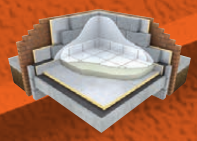
XtroLiner can be installed as a lining for timber or steel framing systems. The XtroLiner can be used to externally or internally line the frame and will dramatically cut thermal bridging.



XO/RS

Rainscreen

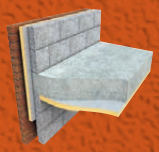
Xtratherm have developed the XtroLiner Rainscreen insulation board to bring the thermal performance of external Rainscreen cladding constructions methods towards the Zero Carbon standards aspired to in building regulations.



XO/UF

Floors
Solid & Suspended Systems

XtroLiner XO/UF under floor insulation boards are used to reduce the thermal transmittance of ground supported and suspended concrete floors. XtroLiner boards can also be used in suspended timber floors between the joists.



XO/ST

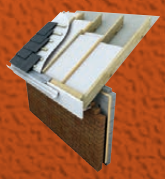
Soffit

XtroLiner Soffit is for use in concrete soffit applications in exposed floors such as underground car parks with habitable space above.

XO/STP

Soffit Plus

XtroLiner Soffit Plus has an additional layer of 6mm magnesium silicate board auto-adhesively bonded to the insulation offering a facing with enhanced impact resistance with a surface that can be decorated.



XO/PR

Roofs
Pitched Roofs

Using Xtratherm XO/PR on sloped roof areas can provide the most efficient U-values with minimal intrusion into valuable living space. Creating a Warm Roof by placing XO/PR over the rafters is a particularly effective way of insulating roofs to the higher performance levels required for Zero Carbon targets.

Rigid Insulation
Flexible Solutions

Xtratherm UK Limited
Park Road Holmewood
Chesterfield Derbyshire
S42 5UY

Tel
+ 44 (0) 371 222 1033
Fax
+ 44 (0) 371 222 1044

Xtratherm Limited
Liscarton Industrial Estate
Kells Road, Navan
Co.Meath, Ireland

Tel
+ 353 (46) 906 6000
Fax
+ 353 (46) 906 6090

Contact
info@xtratherm.com

www.xtratherm.com

UIBXOPRA4-1