

# XtroLiner

Class 'O' Modified PIR Insulation

Fire Performance

Thermal Conductivity

Extensive Range

Product Specifications

## Class 'O' Modified PIR Insulation

# Floors

## XO/UF

Solid & Suspended  
Systems

### Key Features

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Class 'O' Modified PIR

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Thermal Conductivity  
0.021 W/mK

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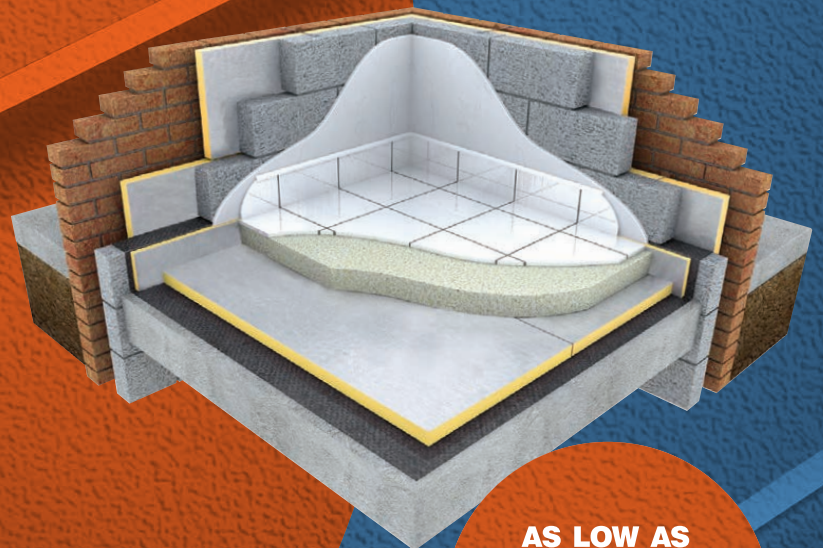
HCFC/CFC Free Zero ODP

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Class 'O'/Low Risk Fire Rating

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For New Build or Refurbishment



AS LOW AS  
**X021**  
Xtratherm®



XtroLiner XO range of modified PIR offers excellent insulation performance with a 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 is a modified polyisocyanurate (PIR) bonded to low emissivity textured aluminium foil facings.

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.

XtroLiner can be positioned below the slab or between the slab and the screed.

All ground supported floors including XtroLiner boards should include a suitable damp-proof membrane laid in accordance with CP 102: 1973. (Code of practice for protection of buildings against water from the ground) and BRE Good Practice Guides 104 & 145.

The DPM should extend up, meet and seal with the DPC.

### Specification Clause

The floor insulation shall be Xtratherm XtroLiner XO/UF 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/UF \_\_\_mm to achieve a U-value of \_\_\_W/mK for the floor element. To be installed in accordance with instructions issued by Xtratherm. Refer to NBS clause E20 200, E20 30

### Property & Units

**Compressive Strength**  
>125 (kPa)

**Water Vapour Resistivity**  
>100 (MNs/gm)

**Thermal Conductivity**  
0.021 (W/mK)

**Service Temperature**  
-20 to +100 (°C)

### XtroLiner XO/UF

**Length (mm)**  
2400

**Width (mm)**  
1200

**Thickness (mm)**  
50, 60, 75, 80, 100, 120

*\*Other sizes available subject to quantity and lead time.*

### XtroLiner XO/UF

Typical R-values

**50mm**  
R-value: 2.38

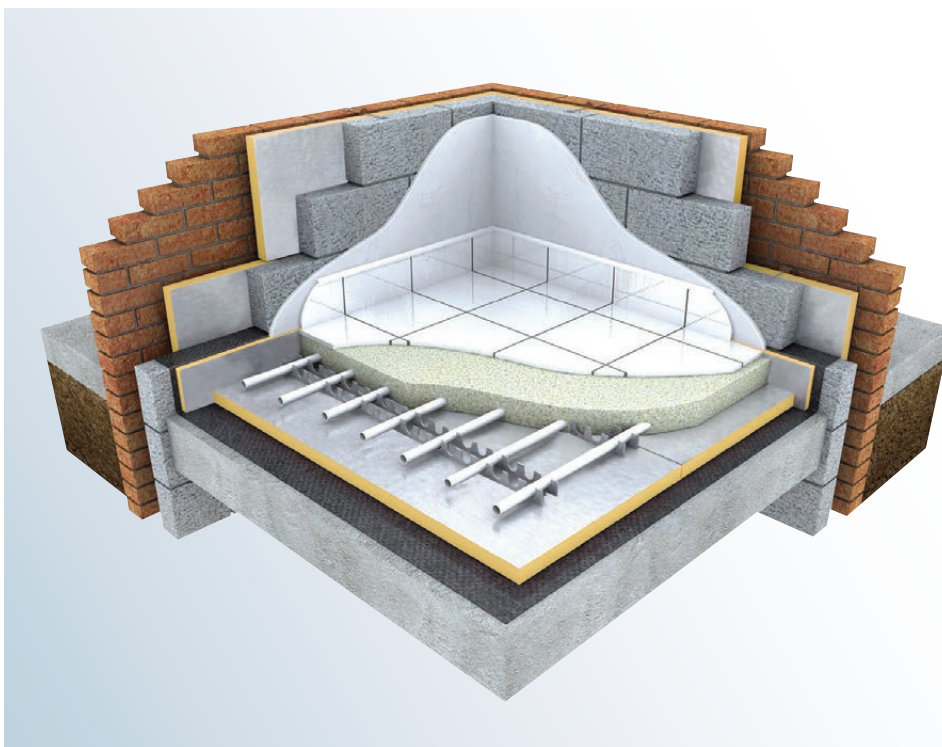
**60mm**  
R-value: 2.86

**75mm**  
R-value: 3.57

**80mm**  
R-value: 3.81

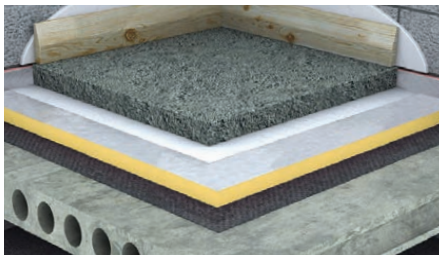
**100mm**  
R-value: 4.76

**120mm**  
R-value: 5.71



## General

Vertical upstands of insulation 25mm thick should be placed at the floor perimeter to minimise thermal bridging. Care should be taken to avoid damage to the insulation or damp proof membranes as the slab is being poured and operatives should make use of barrow runs and walk ways whilst installation progresses.



## Typical U-values

Solid Concrete Floor (UK)					
XtroLiner Thickness Required (mm)					
Perimeter/Area (P/A)					
	0.5	0.6	0.7	0.8	0.9
50	0.25	0.26	0.27	0.28	0.29
60	0.22	0.23	0.24	0.25	0.25
75	0.19	0.20	0.21	0.21	0.21
80	0.18	0.19	0.20	0.20	0.20
100	0.16	0.16	0.17	0.17	0.17
120	0.14	0.14	0.14	0.15	0.15

## 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/UF 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/UF 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/UF 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/UF is manufactured without the use of CFC's or HCFC's and has Zero Ozone Depletion Potential with 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 ketone, should not be used.

## Installation Guidelines

### Laying Below Floor Slab

Where XtroLiner XO/UF Insulation is used below the floor slab, lay the hardcore in layers; min 150mm-max 225mm; each layer should be well compacted, with the surface blinded with quarry dust or sand to provide suitable surface for laying DPM.

A damp proof membrane e.g. 1200 gauge polythene or radon barrier subject to site conditions (architects specifications) should be laid over blinding with joints taped to prevent passage of ground moisture. The damp proof membrane should be carried up the wall until it meets and seals with the DPC.

XtroLiner XO/UF should be laid with closely butted joints, laid staggered with a break bonded pattern and fitted tightly at edges and around any service penetrations.

Boards can be cut using a trimming knife. In accordance with good practice, a polythene vapour control layer, minimum 0.125mm thick, should be laid over the boards with 150mm laps.

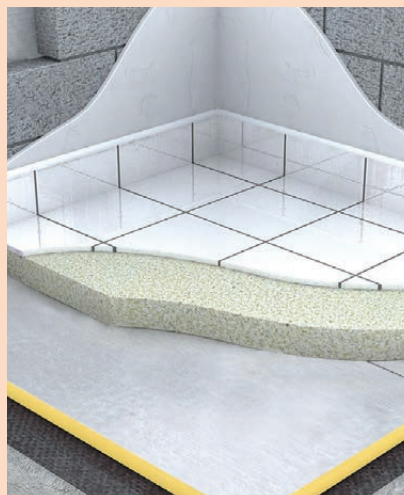
The concrete slab is laid to the correct thickness.

### Laying Below Floor Screed

Where XtroLiner XO/UF insulation is used below the floor screed, the same procedure should be followed ensuring that the floor slab onto which the insulation is being laid is level.

The concrete floor over which the insulation is to be laid should be left as long as possible to maximise drying out, in accordance with BS8203:1996 Section 3.1.2.

The minimum thickness of sand and cement screed is 65mm for domestic construction and 75mm for most other buildings. However, architectural specifications should be consulted.



XtroLiner XO/UF Layed Below Floor Screed



# XtroLiner

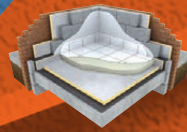
Class 'O' Modified PIR Insulation



## XO/CW

### Cavity Wall Partial Fill

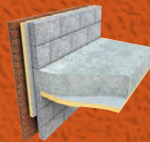
XtroLiner XO/CW is an insulation for cavity walls where a residual cavity has to be maintained. The excellent thermal performance of the XtroLiner allows for very good U-values to be achieved whilst minimizing overall cavity wall thickness. XO/CW can be combined with Xtratherm Thermal Liner Boards to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



## XO/UF

### Floors Solid & Suspended Systems

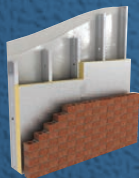
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## XO/ST

### Soffit

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



## XO/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/STP

### Soffit Plus

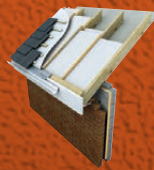
XtroLiner Soffit Plus has an additional layer of 6mm magnesium silicate board auto-adhesively bonded to the insulation offering a facing with enhanced impact resistance with a surface that can be decorated.



## XO/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/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

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Good workmanship and appropriate site procedures are necessary to achieve expected thermal and airtightness performance. The example calculations are indicative only. Default values for components and cavities have been used, for specific U-value calculations contact Xtratherm Technical Support. Comprehensive guidance on installation should be consulted. Xtratherm technical literature and Agrément certification is available for download on the Xtratherm website. 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.