

# XtroLiner

Superior  
Performance  
PIR Insulation

## Soffit

**XO/STP**  
Insulation for  
Soffit Application



**Xtratherm**<sup>®</sup>  
More than insulation



12/4956

**XtroLiner XO/STP**  
 Superior Performance PIR Insulation  
 Insulation for Soffit Application

**XtroLiner Soffit XO/STP provides effective thermal and fire performance solutions in structural ceiling applications in commercial and residential buildings.**

The high performance modified PIR insulation board, with low emissivity textured aluminium foil facings, is bonded to impact resistant 6mm building panel which offers a secure finish for ease of maintenance to which a decorative finish may be applied.



**Specification Clause**

The soffit insulation shall be Xtratherm XtroLiner XO/STP \_\_\_mm manufactured to EN 13165 by Xtratherm, comprising a rigid modified Polyisocyanurate (PIR) core with Agrément declared Lambda value of 0.021 W/mK and textured robust low emissivity foil facings with 6mm building panel. To be installed in accordance with instructions issued by Xtratherm.

Xtratherm PIR achieves an A+ rating under the BRE Green Guide.

Refer to NBS clause P10 185, P10 217



**Thermal Resistances**

Thickness PIR	R-Value (m <sup>2</sup> K/W)
50	2.35
60	2.85
75	3.55
100	4.75
120	5.70

**Note:** 6mm building panel not included in thickness

**Resistance 'R' Values**

The resistance value of any thickness of Xtratherm insulation can be ascertained by simply dividing the thickness of the material (in metres) by its agrément declared lambda value, for example: Lambda 0.021 W/mk and thickness 75mm -> 0.075/ 0.021 -> R-Value = 3.55. In accordance with EN 13165, R-values should be rounded down to the nearest 0.05 (m<sup>2</sup>K/W).

High Impact Resistant 6mm  
building panel

Fire Classification B-s1, d0

Accepts Decorative Finish

Reduced Thermal Bridging

Lower Lambda Value for Improved U-Values

### 1

XO/STP can be fixed directly to the concrete slab, onto battens or used with proprietary fixing systems, to provide an even surface. The lightweight rigid product is convenient to handle and allows for fast and easy fixing.

### 2

The bonded facing of non combustible building panel is water and impact resistant providing a durable protection to which a decorative finish may be applied.



### 3

Using XO/STP on soffit areas, whether new build or refurbishment situations, provides the most efficient U-Values with minimal thickness of insulation. The product achieves a thermal conductivity as low as 0.021 W/mK and has an enhanced Euroclass B fire classification.

#### XO/STP

<b>Length (mm)</b>	2400
<b>Width (mm)</b>	1200
<b>Thickness (mm)</b>	56, 66, 81, 106, 120

Other thicknesses may be available depending on minimum order quantity and lead time.

#### Property & Units

<b>Thermal Conductivity</b>	0.021 (W/mK)
<b>Compressive Strength</b>	>120 (kPa)
<b>Reaction to Fire</b>	Euroclass B-s1, d0

Xtratherm CE Declaration of Performance (DoP) for this product is available for download from our website.

## Directly to Concrete

1. Where applicable, ensure cavity wall insulation has continued past the soffit insulation to reduce thermal bridging.
2. Install XO/STP onto the soffit ensuring all joints are supported. Ensure joints are tightly butted. Any gaps or service penetrations should be addressed with proprietary fillers and components in accordance with fire engineers specifications.
3. Fix XO/STP to soffit with approved fixings\*, ensuring the fixings penetrate the substrate by a minimum of 40mm. Generally 12 fixings (min shank diameter of 5.2mm) per board are required. Fixings should have a head diameter of at least 35mm. Distribute fixings evenly across the board, at max 600mm across and 800mm along.
4. Boards joints can be covered with a suitable cover strip (acrylic tape).

## Fixing to Timber Battens/ Proprietary Systems

1. Treated timber battens may be used to provide an even surface when direct fixing to the soffit is not possible. Battens should be treated timber.
2. The battens, measuring minimum 50mm x 40mm, should be mechanically fastened at minimum 600mm centres.
3. Fix XO/STP to the timber battens with approved fixings\*, ensuring the fixings penetrate the substrate by a minimum of 40mm. Ensure joints are tightly butted and fill any gaps with expanding foam. Generally 12 fixings (min shank diameter of 5.2mm) per board are required. Fixings should have a head diameter of at least 35mm. Distribute fixings evenly across the board, at max 600mm across and 800mm along, at a minimum of 50mm from the board edge and a maximum of 150mm. Refer to fixing patterns above for indicative purposes.
4. When using proprietary metal grid systems refer to manufacturer for fixing instructions. Board joints can be covered with a suitable cover strip (acrylic tape).

*\* Fixing type and specification should be verified by the fixing manufacturers design, to take account of topographical and fire considerations. Account should be taken of any thermal bridging through the fixings as should the effect of any supporting beams. Fixing manufacturers: Ejot or Fischer.*

## Handling, Cutting and Storage

# Xtratherm®

Xtratherm insulation 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. Care should be taken to protect the insulation in storage and during the build process.

The insulation 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 within the ACDs. Appropriate PPE should be worn when handling insulation. Please refer to Health & Safety data sheets on our website.

The boards are wrapped in polythene packs and each pack is labelled with details of grade/type, size and number of pieces per pack.



## Durability

Xtratherm 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.



## Typical U-Values

**Table 1**

U-Value calculations to EN ISO:6946

**XO/STP** Insulation for Soffit Application

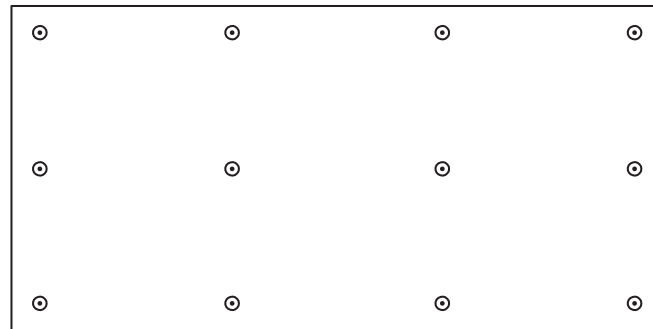
- 200mm Concrete Soffit

- XO/STP - Modified PIR insulation bonded to 6mm building panel

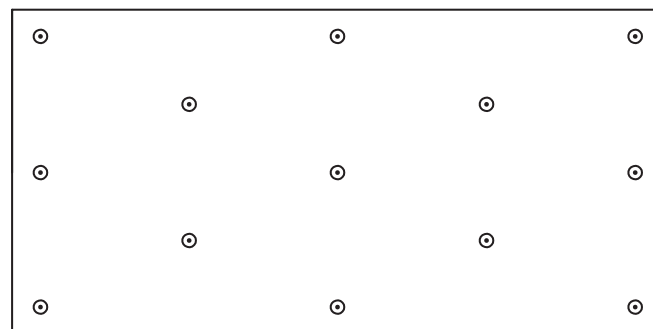
XO/STP	56	66	81	86	106	126
<b>Solid Concrete 200mm</b>	0.36	0.31	0.25	0.25	0.20	0.17

Thickness includes 6mm building panel

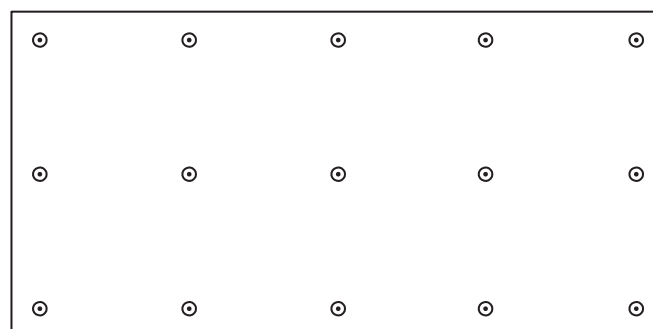
### Typical Fixings Patterns - XO/STP



12 fixings per board  
(4.16 fixings / m<sup>2</sup>)



13 fixings per board  
(4.51 fixings / m<sup>2</sup>)



15 fixings per board  
(5.20 fixings / m<sup>2</sup>)

# Expect More **KNOWLEDGE**

At Xtratherm we understand the importance of giving our customers the best technical advice.

We have taken the unique industry step of training every one of our technical team that deals directly with our customers, to the highest industry standards of competency in U-value calculation and condensation risk analysis. We have Thermal Bridging covered also under the BRE/NSAI Thermal modelling competency scheme, using the most comprehensive 3D software available.

**Our team and products are certified in the UK and Ireland and through the following certifications bodies:**

- BRE Thermal bridging modelling competency certification
- NSAI Thermal modelling competency scheme
- TIMSA-BBA competency scheme for U-value calculation and condensation risk analysis
- BBA and NSAI certification of the Xtratherm insulation boards
- SAP and DEAP energy assessment

**Our technical team can also provide:**

- Thermal calculations
- Technical advice on building regulations in the UK and Ireland
- Technical papers on a variety of topics
- Certified CPDs
- BIM modelling
- NBS Specifications
- Educational resources for technical secondary and tertiary colleges

**Please refer to the Resources section of our website for more details**



The **Xtratherm** Innovation Centre

The Xtratherm exhibition space and training academy has been developed to assist construction professionals in understanding the principles of specifying and achieving on-site, best practice insulation standards for new dwellings, commercial envelope solutions and refurbishment projects.



**Get in touch**

Dedicated  
Technical Team:  
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**ROI: 046 906 6050**

Thermal Calculations, Technical  
Advice or to arrange a technical visit:  
**info@xtratherm.com**

Request a CPD:  
**cpd@xtratherm.com**

# Xtratherm®

More than insulation

## The Sustainable Solution

Specifying Xtratherm is a real commitment to minimising energy consumption, harmful CO<sup>2</sup> emissions and their impact on the environment. Using our products is one of the most effective ways to reduce energy consumption – in fact, after just eight months the energy they save far outweighs the energy used in their production. In addition, our manufacturing facilities operate to an ISO 14001 certified Environmental Management System.

## The BRE Green Guide

The 2008 Green Guide to Specification produced by the BRE gives Xtratherm Insulation products a rating of A or A+. Green Guide ratings are used to gain credits in BREEAM (BRE Environmental Assessment Method) for non-residential buildings, and under 'Mat 4 – Insulation' the first credit requires the building to have an Insulation Index of 2 or greater – only achievable if the weighted average rating of the insulation is A or A+. This shows that all our products have been made with materials that have been responsibly sourced. The standard sets out organisational governance, supply chain management and environmental and social aspects that are verified and ensure responsible sourcing of materials.

## Responsible Sourcing

Xtratherm has BES 6001 certification for responsible sourcing. The second BREEAM credit under that category is based on responsibly-sourced materials – at least 80% of the total insulation used in roofs, walls, ground floors and services must meet any of tier levels 1 to 6 in the BREEAM table of certification schemes. Our Environmental Management System is certified under EN ISO 14001, and our raw materials come from companies with similarly-certified EMS (copies of all certificates are available for BREEAM assessments). This level of responsible sourcing meets tier level 6 in the BREEAM table.

## Global Warming and Ozone Depletion

All Xtratherm Insulation products use CFC-and HCFC-free materials, and are manufactured using a blowing agent with a low GWP and zero ODP.

Good workmanship and appropriate site procedures are necessary to achieve expected thermal and airtightness performance. Installation should be undertaken by professional tradespersons. The example calculations are indicative only, for specific U-Value calculations contact Xtratherm Technical Support. Xtratherm technical literature, Agrément certifications and Declarations of Performance are available for download on the Xtratherm website. The information contained in this publication is, to the best of our knowledge, true and accurate at the time of publication but any recommendations or suggestions which may be made are without guarantee since the conditions of use are beyond our control. Updated resources may be available on our websites. All images and content within this publication remain the property of Xtratherm.



PLATINUM  
SERVICE

Specifying products supported by the Xtratherm Platinum Service gives you the highest level of assistance from design stage to delivery of real performance on site, through the assurance of a validation process from calculation to installation.

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ISO 9001 | Quality Management Systems

ISO 14001 | Environmental Management Systems



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