

# XTROLINER

SUPERIOR PERFORMANCE  
PIR INSULATION

## Soffit Application

XO/STP

High impact resistant  
6mm building panel

Fire Classification B-s1, d0

Accepts a decorative finish

Reduced Thermal Bridging

Lower lambda value for  
improved U-Values



# XTROLINER SUPERIOR PERFORMANCE PIR INSULATION

## Soffit Application

### XO/STP

**XtroLiner Soffit Plus** 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 an impact-resistant 6mm building panel which offers a secure finish for ease of maintenance to which a decorative finish may be applied.

#### Benefits

- High impact resistant 6mm building panel
- Fire Classification B-s1, d0
- Accepts a decorative finish
- Reduced Thermal Bridging
- Lower lambda value for improved U-Values

#### Specification Clause

The soffit insulation shall be XtroLiner XO/STP \_\_ \_\_mm manufactured to EN 13165 by Unilin Insulation, comprising a rigid modified Polyisocyanurate (PIR) core with a 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 Unilin Insulation.

An Environmental Product Declaration (EPD), certified by IGBC is available for this product. Please contact technical support for further details.



Refer to NBS clause P10 185, P10 217.



#### Thermal Resistances

Thickness (mm)	R-Value (m²K/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 Unilin 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 80mm -> 0.080/ 0.021 -> R-Value = 3.80. In accordance with EN 13165, R-Values should be rounded down to the nearest 0.05 (m²K/W).



## XO/STP

1. XtroLiner Soffit Plus 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 the non combustible building panel is water and impact resistant, providing a durable protection to which a decorative finish may be applied such as an acrylic based render.



3. Using XtroLiner Soffit Plus 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 of 0.021 W/mK and has a Euroclass B fire classification.

## XO/STP

Length (mm)	2400
Width (mm)	1200
Thickness (mm)	56, 66, 81, 86, 106, 126

Other thicknesses may be available depending on minimum order quantity and lead time. Thickness includes 6mm building panel.

## Property & Units

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

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

# INSTALLATION GUIDELINES

## XO/STP

### Directly to Concrete

1. Where applicable, ensure cavity wall insulation has continued past the soffit insulation to reduce Thermal Bridging.
2. Install XtroLiner Soffit Plus onto the soffit ensuring all joints are supported. The boards should be tightly butt jointed, laid staggered in a break bonded pattern and fitted tightly at edges and around any service penetrations. Any gaps or service penetrations should be addressed with propriety fillers and components in accordance with fire engineers specifications.
3. Fix XtroLiner Soffit Plus 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. It is recommended to seek advice from the fixing manufacturer for specific guidance.
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 XtroLiner Soffit Plus 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 fire retardant 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 below for indicative purposes. It is recommended to seek advice from the fixing manufacturer for specific guidance.
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.

# THERMAL PERFORMANCE

## XO/STP

### Typical U-Values



**Table 1**  
U-Value calculations to EN ISO:6946  
**XO/STP** Insulation for Soffit Application

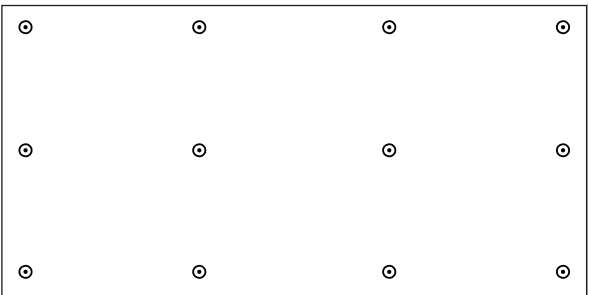
**Build up:**

- 200mm concrete
- XO/STP (Including 6mm building panel)

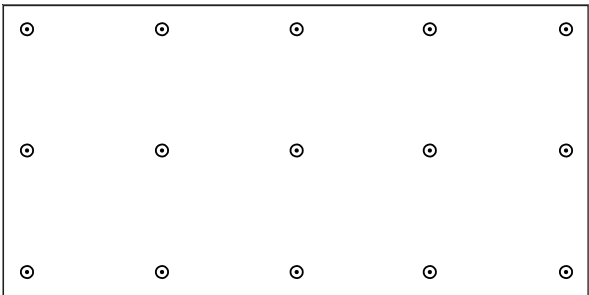
	Thickness					
XO/STP	56	66	81	86	106	126
Solid Concrete 200mm	0.37	0.32	0.26	0.24	0.20	0.17

Thickness includes 6mm building panel

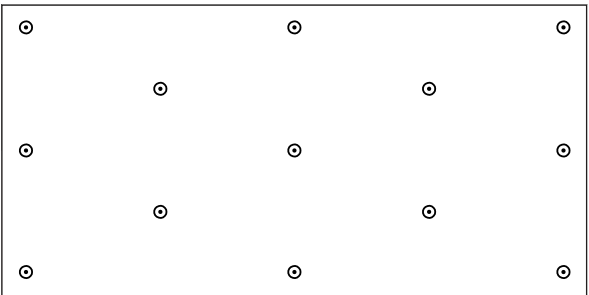
### Typical Fixings Patterns



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



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



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



## HANDLING, CUTTING & STORAGE

Unilin 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**

Unilin Insulation products are stable, rot proof, provide no food value to vermin and will remain effective for the lifetime of the building, depending 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.





# Expect more Knowledge

Unilin Insulation, formerly Xtratherm, is one of the UK's largest manufacturers and suppliers of insulation. We have a 20-plus year history of working in partnership with construction professionals to close the gap between design and as-built performance.

Higher standards of fabric performance call for greater adherence to best practice detailing. To achieve this and to 'close the gap' between design and build, we provide a dedicated Technical Team, all qualified to the highest standards of competency in U-Value calculation and condensation risk analysis.

#### Here to support you

- BRE listed Thermal Bridging Detailing
- BRE Trained Modelling
- BBA/TIMSA calculation competent
- Warranted Calculations available
- Immediate technical response
- SAP Qualified
- Insulation systems to deliver real onsite performance

#### Get in touch

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**FREE**  
One-to-one  
advice



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**ISO 45001** Occupational Health & Safety Management Systems

**ISO 9001** Quality Management Systems

**ISO 14001** Environmental Management Systems

**The Sustainable Solution**

Specifying Unilin Insulation is a real commitment to minimising energy consumption, harmful CO<sub>2</sub> 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.

**Environmental Product Declaration (EPD)**

An Environmental Product Declaration or EPD for a construction product indicates a transparent, robust and credible step in the pursuit and achievement of real sustainability in practice, it is a public declaration of the environmental impacts associated with specified life cycle stages of that product. Unilin EPDs have been independently verified in accordance with EN 15804+A2:2019 and ISO 14025 accounting for stages of the LCA from A1 to A3, with options A4-A5 and modules C1-C4 and D included. The process of creating and EPD allows us to improve performance and reduce resource wastage through improvements in product design and manufacturing efficiency. They play a crucial role in manufacturing and construction and are increasingly asked for by industry.

**EPDs and BREEAM**

BREEAM is primarily trying to encourage designers to take EPDs into consideration when specifying products. BREEAM requires EPDs to be verified by a third-party. For the Mat 02 category, points are awarded based on whether EPDs are generic, manufacturer-specific, or product-specific. Non 3rd party verified EPDs to EN 15804 cannot be accepted. All of Unilin EPDs are externally verified.

**Responsible Sourcing**

Unilin 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.

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 Unilin Insulation Technical Support. Unilin technical literature, Agrément certifications and Declarations of Performance are available for download on the Unilin Insulation 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 Unilin Insulation.