

# SAFE-R PHENOLIC INSULATION

## Soffit Application

SR/ST

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Fire classification C-s1, d0

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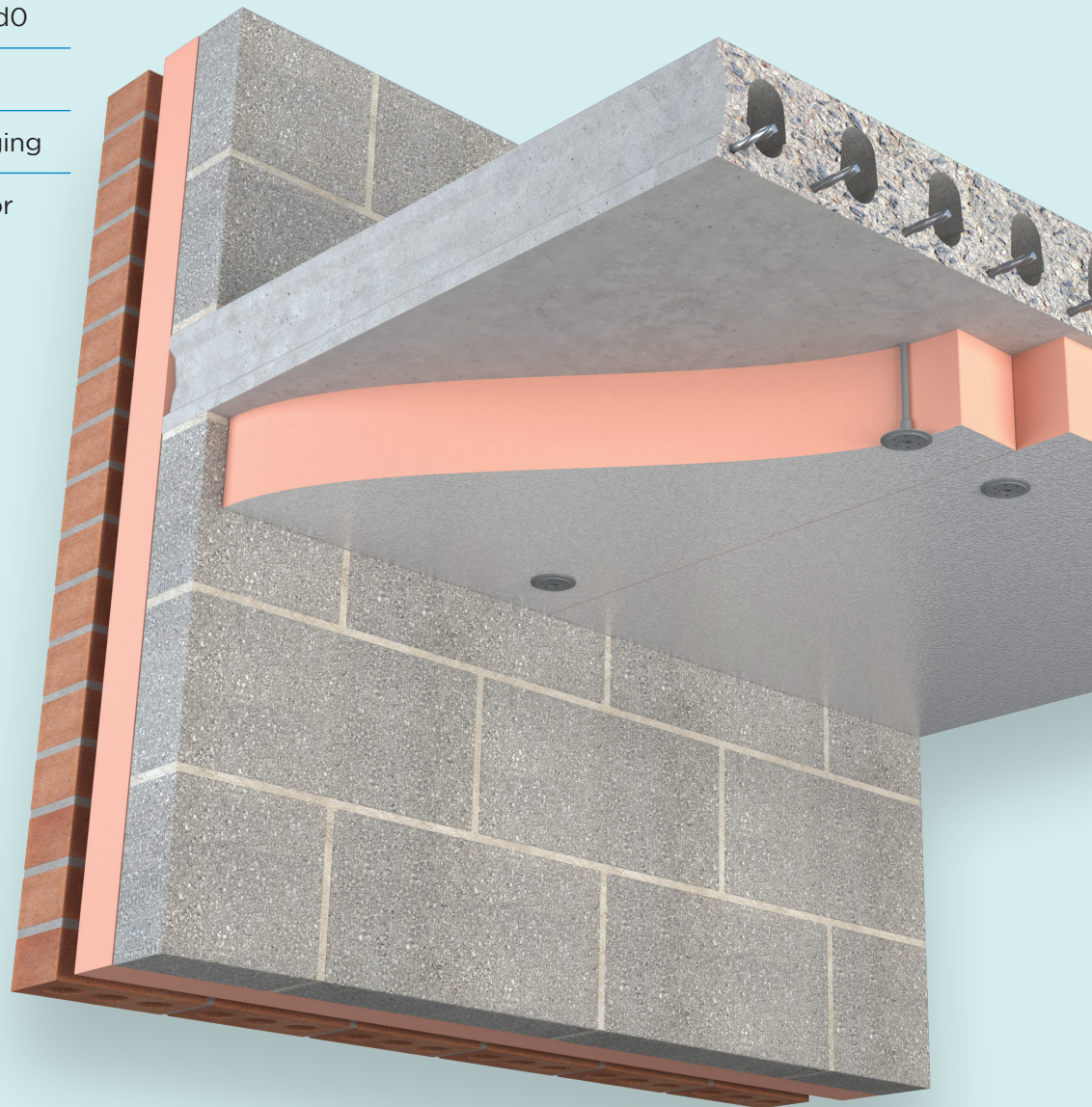
Foil Faced Finish

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Reduced Thermal Bridging

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Lower Lambda Value for improved U-Values



# SAFE-R PHENOLIC INSULATION

## Soffit Application

### SR/ST

**Safe-R Soffit** board provides effective thermal and fire performance solutions in structural ceiling applications in commercial and residential buildings. This high performance phenolic insulation board is faced with low emissivity foil facings.

Safe-R Soffit Board is supplied as a performance, rather than decorative product. Refer to Safe-R Soffit Plus, a high performance laminate that offers low maintenance and security protection with a surface that will accept a decorative finish.

#### Benefits

- Fire classification C-s1, d0
- Foil Faced Finish
- Reduced Thermal Bridging
- Lower Lambda Value for improved U-Values

#### Specification Clause

The soffit insulation shall be Safe-R SR/ST \_\_mm manufactured to EN 13166 by Unilin Insulation, comprising a rigid Phenolic core between low emissivity foil facings. The Safe-R SR/ST \_\_mm with Agrément declared Lambda value as low as 0.020 W/mK to achieve a U-Value of \_\_W/m²K for the soffit element. 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 42, P10 185, P10 180.



#### Thermal Resistances

| Thickness PIR (mm) | R-Value (m²K/W) |
|--------------------|-----------------|
| 50                 | 2.35            |
| 60                 | 2.85            |
| 75                 | 3.55            |
| 80                 | 3.80            |
| 100                | 5.00            |
| 120                | 6.00            |

#### 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 lambda value, for example: Lambda 0.021 W/mk and thickness 80mm -> 0.080/ 0.021 -> R-Value = 3.80. In accordance with EN 13166, R-Values should be rounded down to the nearest 0.05 (m² K/W).



## SR/ST

1. Safe-R Soffit 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. Safe-R Soffit is finished with a foil facer which can be taped using a proprietary foil tape. (Please contact the Unilin Technical team for guidance).



3. Using Safe-R Soffit 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 0.020 W/mK and has a Euroclass C fire classification.

## SR/ST

|                |                          |
|----------------|--------------------------|
| Length (mm)    | 2400                     |
| Width (mm)     | 1200                     |
| Thickness (mm) | 50, 60, 75, 80, 100, 120 |

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

## Property & Units

|                      |                      |
|----------------------|----------------------|
| Thermal Conductivity | 0.020 - 0.021 (W/mK) |
| Compressive Strength | >120 (kPa)           |
| Reaction to Fire     | Euroclass C-s1, d0   |

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

# INSTALLATION GUIDELINES

## SR/ST

### Directly to Concrete

1. Where applicable, ensure cavity wall insulation has continued past the soffit insulation to reduce Thermal Bridging.
2. Install Safe-R Soffit 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 Safe-R Soffit 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, 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. Boards joints can be covered with a suitable cover strip.

### 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 Safe-R Soffit 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. 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.

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\*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

## SR/ST

### Typical U-Values



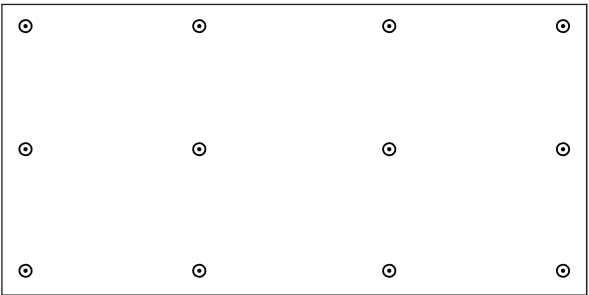
**Table 1**  
U-Value calculations to EN ISO:6946  
SR/ST Insulation for Soffit Application

**Build up:**

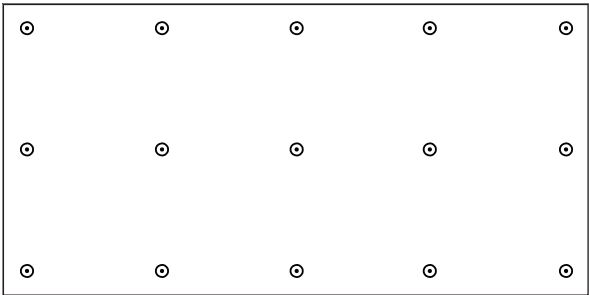
- 200mm Concrete Soffit
- SR/ST

|         | Thickness (mm) |      |      |      |       |       |
|---------|----------------|------|------|------|-------|-------|
|         | 50mm           | 60mm | 75mm | 80mm | 100mm | 120mm |
| U-Value | 0.37           | 0.32 | 0.26 | 0.25 | 0.19  | 0.16  |

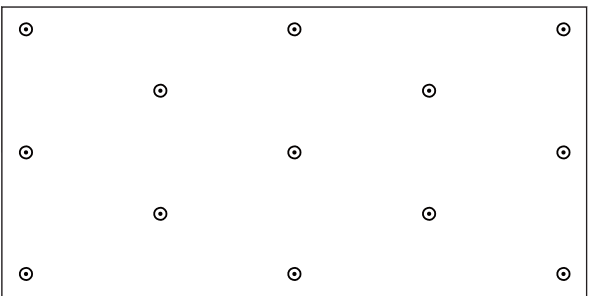
### Typical Fixings Patterns



**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, 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.







# Expect more Knowledge

Unilin Insulation, formerly Xtratherm, is one of Ireland's largest manufacturers and suppliers of insulation. We have a 30 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/NSAI Trained Modelling
- BBA/TIMSA calculation competent
- Warranted Calculations available
- Immediate technical response
- DEAP 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 9001 Quality Management Systems  
ISO 14001 Environmental Management Systems

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#### 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 an 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.