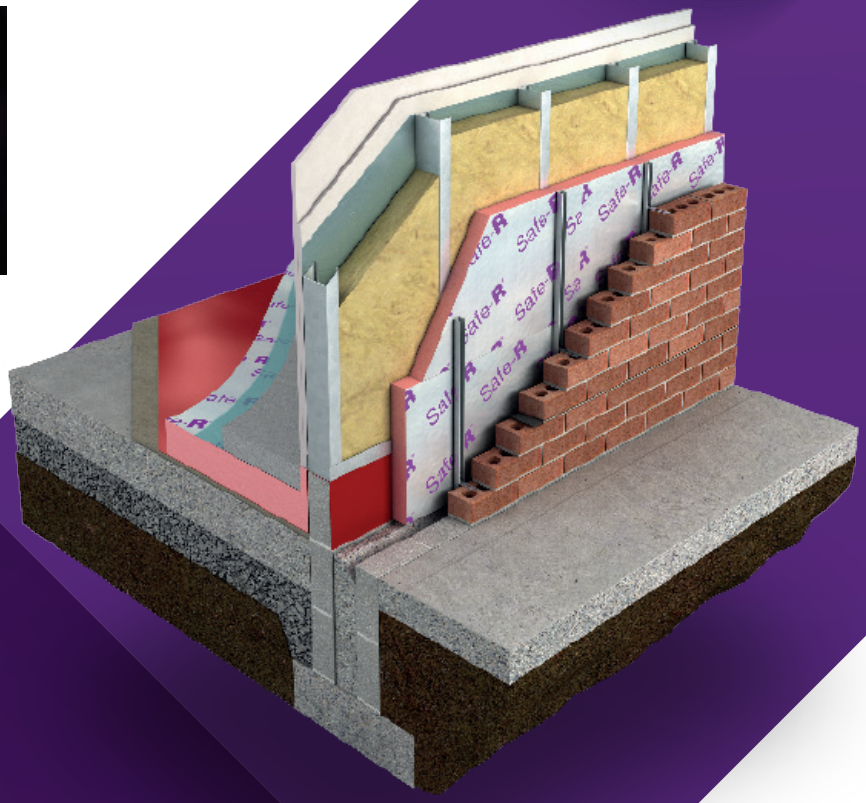
Safe-R

Superior Performance Phenolic Insulation

Walls

SR/FB
Insulation for
Steel and Timber Frame



X020 Xtratherm

Xtratherm®
More than insulation

BBA APPROVAL INSPECTION TESTING CERTIFICATION
10/4803

Data Sheet

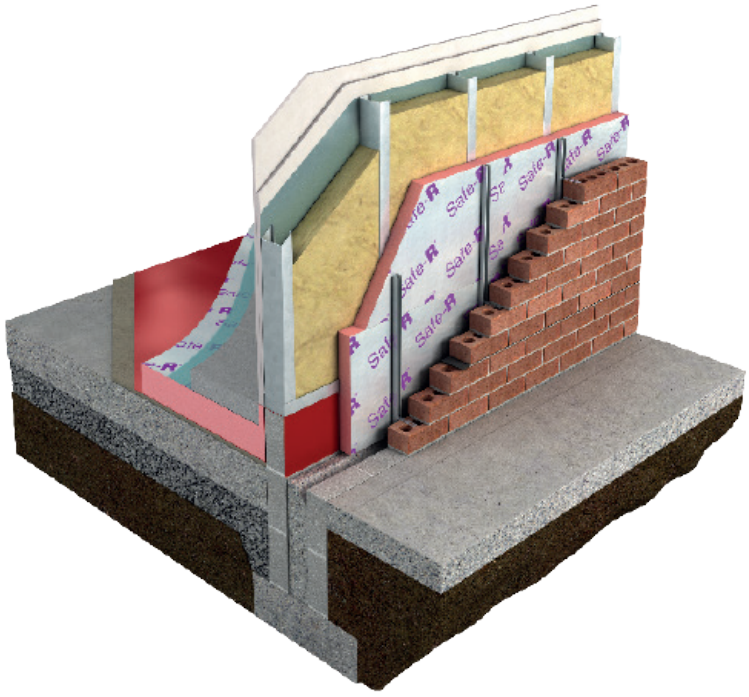
Safe-R

Superior Performance
Phenolic Insulation

SR/FB

Insulation for
Steel and Timber Frame

Safe-R Framing Board SR/FB is designed for use with steel or timber frame applications up to 18m in height. With a Euroclass B Fire Classification the framing board can be used between studs or as an insulated sheathing board. Using SR/FB provides excellent U-Values and improved thermal bridging detailing.



Specification Clause

The wall insulation shall be Xtratherm Safe-R SR/FB _ _ _mm manufactured to EN 13166 by Xtratherm, comprising a rigid Phenolic core between low emissivity foil facings. The SR/FB ___mm with Agrément declared Lambda value as low as 0.020 W/mK to achieve a U-Value of___W/m²K for the wall element. To be installed in accordance with instructions issued by Xtratherm.

Refer to NBS clause F30 12, F30 155, K10 15, K10 205, K10 25, P10 180

Thermal Resistances

Thickness (mm)	R-Value (m² K/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 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 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 (m²K/W).

Xtratherm®

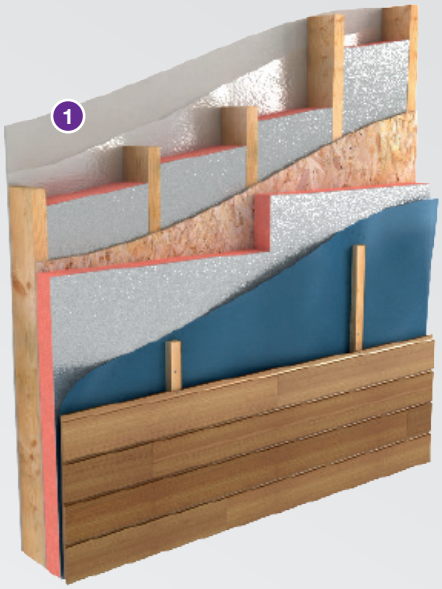
Suitable for use in Steel and Timber Frame Systems up to 18m in height

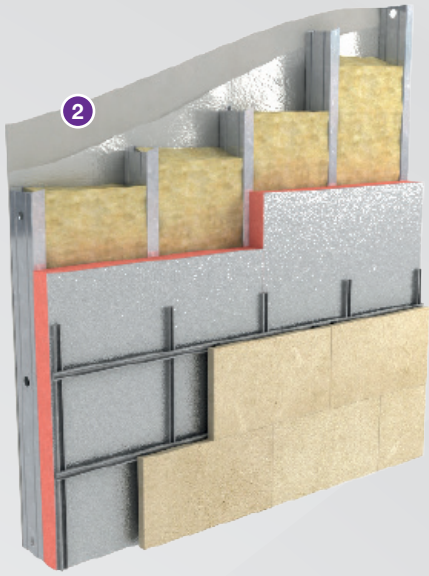
Lower Lambda Value for Improved U-Values

Fire Classification B-s1, d0

Reduced Thermal Bridging

Superior Performance Phenolic Insulation





1

Timber Framed System

Placing a lining of SR/FB into the traditional cavity of the construction, and effectively insulating the thermal bridging caused by the timber studding drastically improves the insulation value of the walls over the traditional method of insulating between studds only.

2

Steel Framed System

Buildings constructed using a steel framed system are insulated on the outer side of the construction create a 'Warm Frame', reducing the risk of condensation.

Note:

The low emissivity foil facing on SR/FB improves the thermal performance of the wall within an unventilated cavity. The unventilated cavity, or residual cavity, is the most effective method of preventing wind-driven rain penetrating a wall from the outside.

SR/FB	
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	>100 (kPa)
Reaction to Fire	Euroclass B-s1, d0

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

Installation Guidelines

Timber Framed System

1. Cut glass fibre insulation or SR/FB to fit snugly between the timber studding. Allow slight oversize of cut to achieve 'friction fit' and seal any gaps with expanding foam.
2. If partially filling, ensure the insulation is securely held in place by treated timber battens in order to prevent framing board moving within the cavity. Ensure boards are closely butted.
3. When using SR/FB as a sheathing board, fix the insulation outside of any breather membrane or timber sheathing on the external surface (a second breather membrane may be added at this point for further protection) and temporarily fix with large headed clout nails. Ensure boards are closely butted and stagger jointed.
4. Place a sealed vapour control layer of polythene with lapped and sealed joints over the internal stud face.
5. Install cavity barriers into the cavity as required under building regulations.
6. Apply the internal finish as normal using fixings as recommended by timber frame supplier.

Steel Framed System

1. As with timber framing, SR/FB should be fixed to the outer face of the steel frame ensuring that vertical joints meet over a metal stud. Fixings should be in accordance with the steel system manufacturers recommendations and Agrément approved. Ensure boards are closely butted.
2. Place a sealed vapour control layer with lapped and sealed joints over the inner stud face.
3. Install cavity barriers into the cavity as required under building regulations.
4. Apply the internal finish as normal.
5. Fix wall ties as recommended by steel frame supplier.

Ventilated Cladding

1. Fix treated battens or propriety framing system vertically to the wall through the insulation layer, ensuring that the system is fixed securely to the substrate.
2. Fixings should be appropriate for the weight of the cladding system, seek advice from the fixing manufacturer.
3. Horizontal tiling battens can be fixed to the vertical battens if the cladding system is to be tile hung, or the cladding fixed directly to the vertical battens.
4. An approved breather membrane may be required as part of the design.
5. Cladding system should be fixed in accordance with the manufacturer's recommendations.

Requirement for buildings over 18m in height must meet specific targets under Building Regulations - SR/FB is suitable only for buildings under 18m. Contact Xtratherm Technical Support for information on insulation requirements for buildings over 18m

ACDs must be followed to ensure that installation is in accordance with current Building Regulations and accounted for in the energy calculation.

Handling, Cutting and Storage

Xtratherm

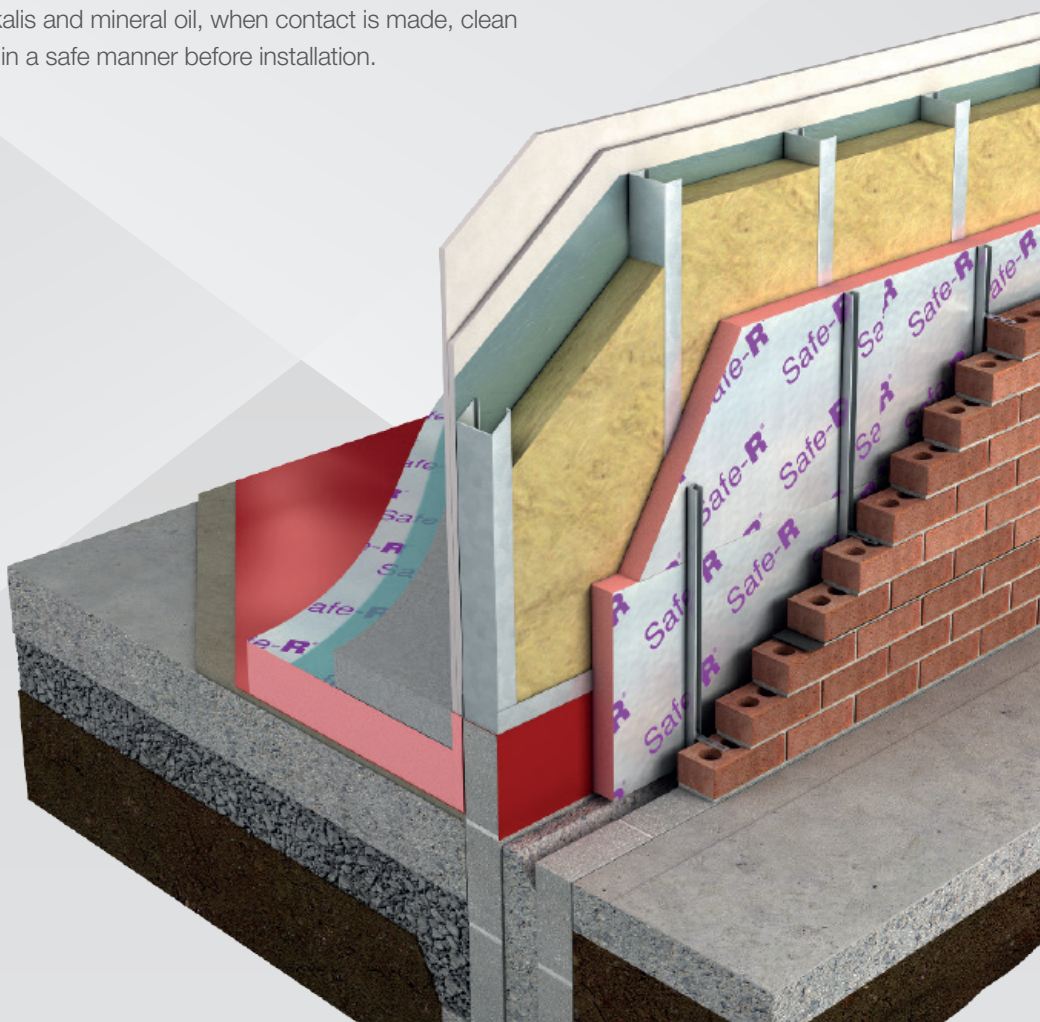
Xtratherm insulation should be stored off the ground, on a clean flat surface and must be stored under cover. The polythene wrapping is not considered adequate protection for outside exposure. Care should be taken to protect the insulation in storage and during the build process.

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.



Thermal Performance

Typical U-Values

BBA CERTIFICATE CS/nnnn-n U Value Competency Scheme

Table 1

U-Value calculations to EN ISO:6946
SR/FB

Timber Frame (Masonry)

- Plasterboard
- Vapour Control Layer
- SR/FB between Frame
- SR/FB lining Frame
- Low emissivity unventilated cavity
- Masonry

Timber Frame – Masonry Facing
Thickness of Sheathing (mm)

Between Studs	50	60	75	80	100
75	0.16	0.15	0.13	0.13	0.11
100	0.14	0.13	0.12	0.12	0.10
120	0.13	0.12	0.11	0.11	0.10

Breather membrane not included in calculation

Table 2

U-Value calculations to EN ISO:6946
SR/FB

Timber Frame (Ventilated)

- Plasterboard
- Vapour Control Layer
- SR/FB between Frame
- SR/FB lining Frame
- Well ventilated cavity

Timber Frame – Ventilated
Thickness of Sheathing (mm)

Between Studs	50	60	75	80	100
75	0.17	0.16	0.14	0.14	0.12
100	0.16	0.14	0.13	0.13	0.11
120	0.14	0.13	0.12	0.12	0.10

Breather membrane not included in calculation

Table 3

U-Value calculations to EN ISO:6946
SR/FB

Steel Frame (Masonry)

- Plasterboard
- Vapour Control Layer
- SR/FB between Frame
- SR/FB lining Frame
- Low emissivity unventilated cavity
- Masonry

Steel Frame – Masonry Facing
Thickness of Sheathing (mm)

Between Studs	50	60	75	80	100
75	0.18	0.16	0.14	0.14	0.12
100	0.16	0.15	0.13	0.13	0.11
120	0.16	0.15	0.13	0.13	0.11

Breather membrane not included in calculation

Table 4

U-Value calculations to EN ISO:6946
SR/FB

Steel Frame (Ventilated)

- Plasterboard
- Vapour Control Layer
- SR/FB between Frame
- SR/FB lining Frame
- Well ventilated cavity

Steel Frame – Ventilated
Thickness of Sheathing (mm)

Between Studs	50	60	75	80	100
75	0.20	0.18	0.16	0.15	0.13
100	0.18	0.17	0.15	0.14	0.12
120	0.18	0.16	0.14	0.14	0.12

Breather membrane not included in calculation

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

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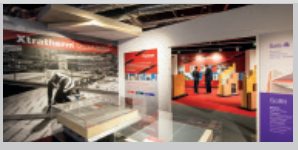
The **Xtratherm** Innovation Centre

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

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

Xtratherm®
More than insulation

The Sustainable Solution

Specifying Xtratherm is a real commitment to minimising energy consumption, harmful CO^2 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.

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ISO 9001 | Quality Management Systems

ISO 14001 | Environmental Management Systems

Xtratherm, part of UNILIN group.