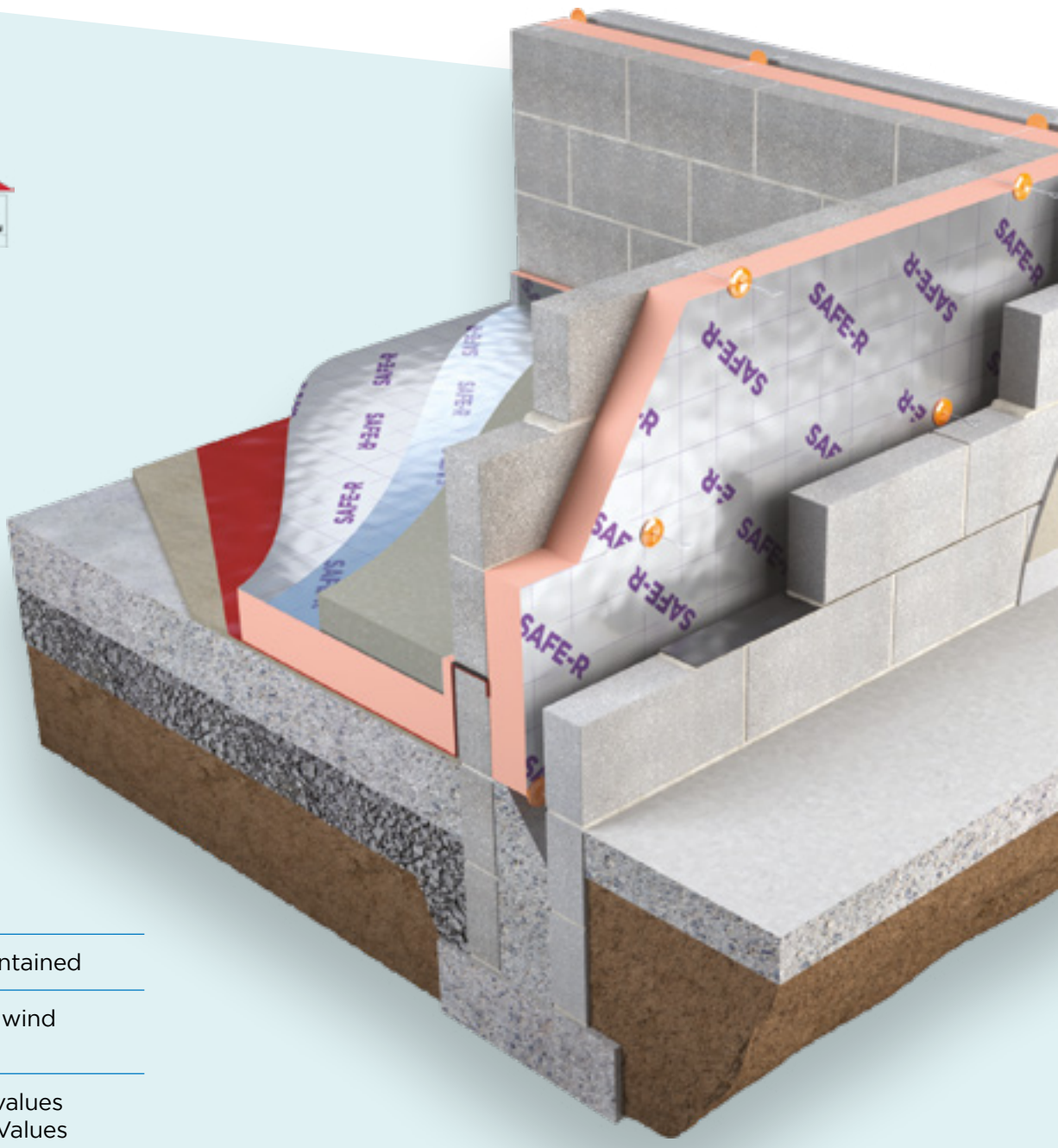
SAFE-R PHENOLIC INSULATION

Partial Fill Cavity Walls

SR/CW



- Clear cavity maintained
- Protection from wind driven rain
- Lower Lambda values for improved U-Values

UNILIN INSULATION

Lower Lambda values for improved U-Values

SAFE-R PHENOLIC INSULATION

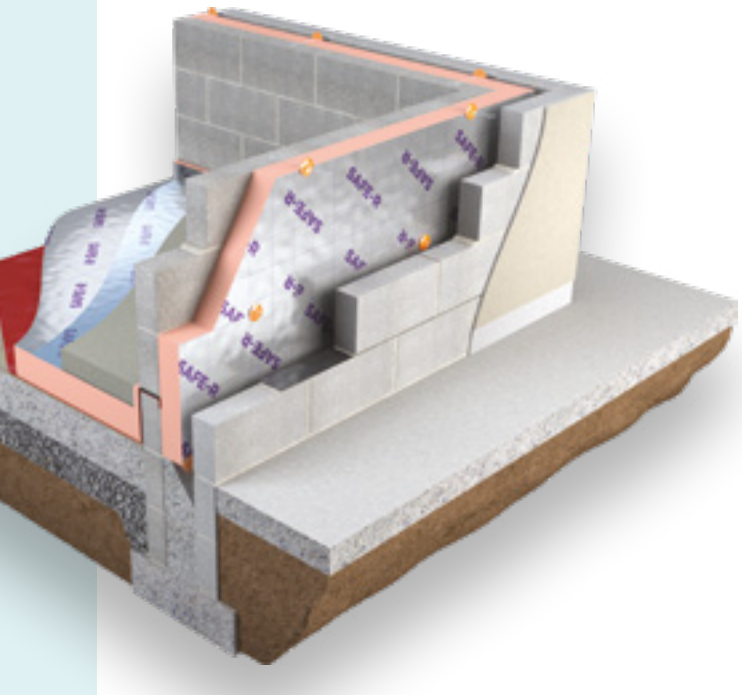
Insulation for Partial Fill Cavity Walls

SR/CW

Safe-R SR/CW Partial Fill cavity insulation for traditional masonry walls, achieves improved U-Values whilst maintaining a residual cavity, offering protection from wind driven rain.

Benefits

- Phenolic Insulation
- Clear cavity maintained
- Protection from wind driven rain
- Lower Lambda values for Improved U-Values



Specification Clause

The partial fill cavity wall insulation shall be Safe-R SR/CW _ _ _mm manufactured to EN 13166:2012+A2:2016 by Unilin Insulation, comprising of a rigid Phenolic core between composite foil facings. The SR/CW _ _ _mm with Agrément declared Lambda value as low as 0.021 W/mK to achieve a U value of _ _ _W/m2K for the wall 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.

The use of this product (in all available thicknesses from 50mm) is covered by BBA Certificate 23/6884

Refer to NBS clause F30 12, F30 155
Uniclass Pr 25 71 63 59

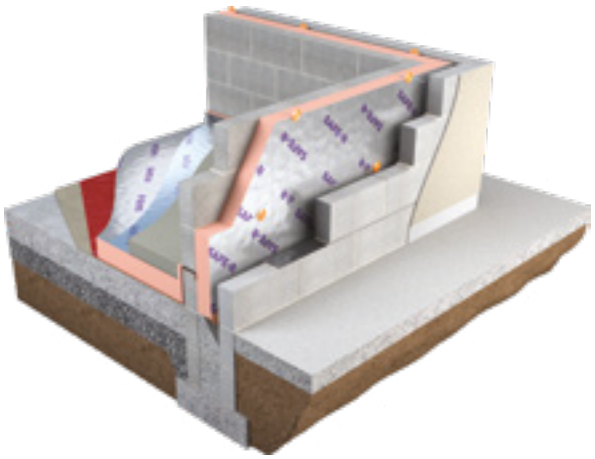
Thermal Resistances

Thickness Phenolic (mm)	R-Value (m^2K/W)
50	2.35
60	2.85

Resistance 'R' Values

The resistance value of any thickness of material 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 60mm -> 0.060/ 0.021 -> R-Value = 2.85. In accordance with EN 13166, R-values should be rounded down to the nearest 0.05 (m^2K/W).

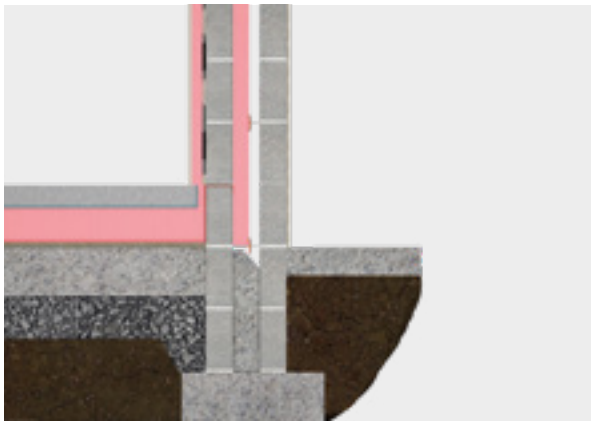
SR/CW



SR/CW partial fill cavity wall insulation is the solution of choice to achieve the lower U-Values asked for under the building regulations whilst maintaining a residual cavity as a protection from wind driven rain.

Partial fill masonry walls are the predominant construction method for Traditional buildings. Using SR/CW phenolic insulation offers a solution when lower U-Values are demanded.

The high performance to thickness ratio of SR/CW allows for excellent U-Values to be achieved within traditional constructions without dramatically increasing the overall width of the wall. Using SR/CW allows the residual cavity to be maintained, providing an effective method of preventing moisture ingress.



SR/CW

Length (mm)	1200
Width (mm)	450
Thickness (mm)	50, 60

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

Property & Units

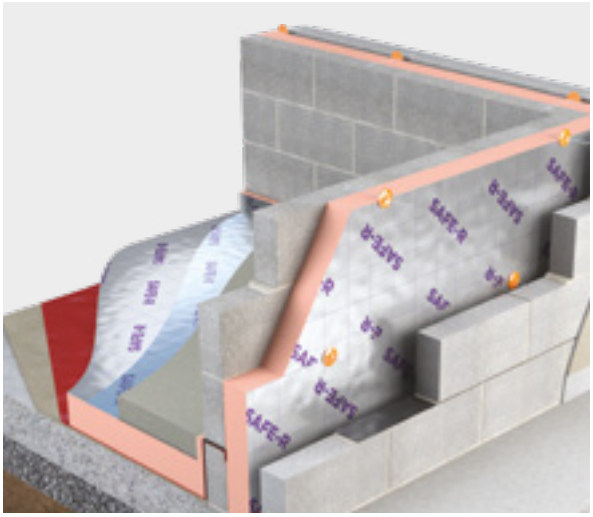
Thermal Conductivity	0.021 (W/mK)
Compressive Strength	100 (kPa)
Reaction to Fire	Euroclass D-s1, d0

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

INSTALLATION GUIDELINES

SR/CW

1. Blocks should be laid in accordance with relevant standards and ensure that mortar is robust enough to avoid slumping at joints and allow for the correct positioning of wall ties. It is recommended that no more than four courses of block are laid on the preceding skin before installation of the insulation. This allows for wall ties to be inserted accurately and without bending and thus distorting the physical characteristics of the wall ties. Ensure the wall is level and free of any protrusions before installing the insulation with all edges tightly interlocked.
2. Mortar should be struck from the inner cavity face of the block to ensure mortar squeeze is minimized on the cavity side. The two courses of blockwork can then be built, ensuring the mortar is struck back from the cavity face to prevent mortar squeeze.
3. Insert wall ties maximum 600mm centres one block course below DPC. Wall ties should incorporate retaining clips and be Agrément approved.
4. Secure cavity boards tight against inner leaf with retaining clip on wall ties. Joints should be tightly butted.
5. Ensure a minimum 150mm overlap with the floor insulation. The receiving block should be plumb to provide a flat surface to accept the insulation. As with setting out, installation should commence from adjacent corners. Stagger the board joints to create an offset brick bonded pattern.
6. Maintain a 50mm residual cavity to suit all exposure zones. In isolated circumstances where the cavity is obstructed, a minimum 25mm residual cavity should always be maintained and extra consideration should be given to fixings and weatherproofing. Any reduction in cavity width should be agreed with Building Control.
7. Place wall ties at maximum 900mm x 450mm centres, securing with a minimum of 3 wall ties per board.
8. Ensure block joints are fully bonded with unbroken mortar. Fix wall ties 225mm vertically and 150mm horizontally from face of unbonded jambs. Ensure wall ties and cavity are kept clean of mortar. Wall ties should be sloped downwards towards outer leaf.
9. A cavity board should be used to keep the cavity clean.
10. Newly erected masonry should be protected to prevent the mortar being washed out of the joints by rain. Walls should be prevented from becoming saturated by covering the top of the wall with waterproof sheets; this is particularly important to minimise the incidence of efflorescence and lime bloom. When any working platform is not in use, the inner board should be turned away from the wall to prevent the splashing of the wall face.



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

THERMAL PERFORMANCE

SR/CW

Typical U-Values

Table 1
U-Value calculations to ISO 6946:2017
SR/CW Insulation for Partial Fill Cavity Walls

Cavity Wall Partial Fill:

- Plasterboard on dabs
- 100mm Inner Leaf Blockwork
- SR/CW
- Low E Unventilated Cavity
- Brick

Wet plaster finish: increase insulation thickness by 5mm
Wall ties taken as S/S wire at 2.5 ties per m^2

Thickness (mm)

Block Lambda	50	60
0.11	0.23	0.21
0.15	0.24	0.22
0.46	0.27	0.24
1.13	0.28	0.24

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 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.

FREE
One-to-one advice

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
- Warranted Calculations available
- Immediate technical response
- SAP Qualified
- Insulation systems to deliver real onsite performance

Get in touch

T: +44 (0) 371 222 1055 **E:** tech.ui@unilin.com **unilininsulation.co.uk**

UNILIN INSULATION

Unilin Insulation UK Ltd
Park Road, Holmewood
Chesterfield, Derbyshire
United Kingdom
S42 5UY

t. +44 (0) 371 222 1033
e. info.ui@unilin.com

unilininsulation.co.uk

The Sustainable Solution

Specifying Unilin Insulation 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 14001:2015+A1:2024 certified Environmental Management System.

Environmental Product Declaration (EPD)

An Environmental Product Declaration or EPD for a construction product indicates a transparent 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 14025:2010 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 15804:2012+A2:2019 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 14001:2015+A1:2024, 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.

BBA bre

ISO 45001:2023+A1:2024	Occupational Health & Safety Management Systems
ISO 9001:2015+A1:2024	Quality Management Systems
ISO 14001:2015+A1:2024	Environmental Management Systems

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