Stylite®

CAVITY WALL FOIL FACED PARTIAL FILL INSULATION (CWI)

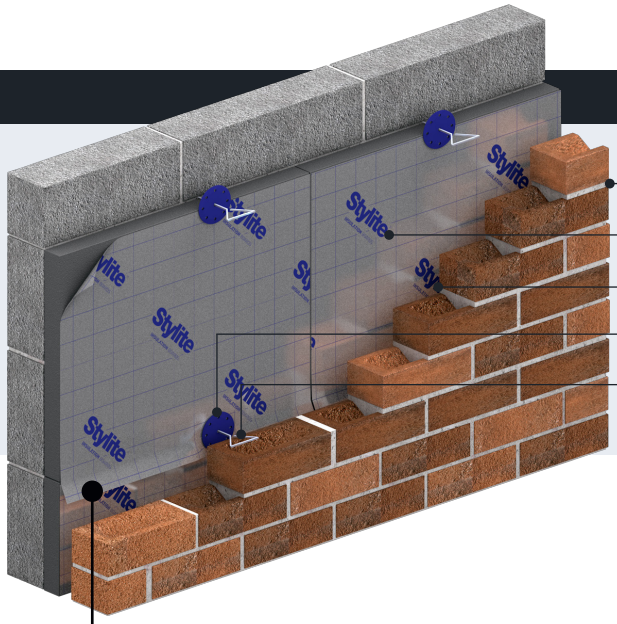
DATASHEET

Pr_25_71_63_26 - 1_230421

spi

Expanding Possibilities

Typical Build-Up - Partial Fill Cavity Wall Insulation



LOW EMISSIVITY FOIL
ENHANCES THERMAL PERFORMANCE

Standard Product Attributes

Length	1200mm
Width	450mm
Thickness	50 - 300mm
Coverage	0.54m²
Edge Profile	Plain edge profile
Face	Low emissivity foil-faced

Design Standards

All our Stylite Partial Fill Cavity Insulation is manufactured in accordance with **BS-EN-13163-2012+A2-2016.** Under a Quality Management System accredited to **ISO 9001:2015** and an Environmental Management System accredited to **ISO 14001:2015.**

ISO 14001 CERTIFIED
ISO 9001 CERTIFIED

Product Overview

Stylite Foil Faced Partial Fill Cavity Insulation Boards are manufactured from Plustherm Expanded Polystyrene (EPS) with a low emissivity foil bonded to the face, for use in masonry cavity walls. The foil helps to reflect any radiant energy into the cavity space, in the winter this reduces the cold and in summer it reflects the heat into the cavity to utilise the ventilated space into a more efficient part of the build-up. Stylite Foil-Faced Partial Fill Cavity Boards are designed to achieve a residual cavity of 50mm to meet NHBC guidelines for masonry wall cavities and can effectively meet and exceed all current building regulations and TFEE rates.

Product Benefits

- Faced with low emissivity foil (0.03) for increased thermal performance
- Meets NHBC technical requirements for
- partial fill cavity insulation
- Lambda from as low as **0.030W/mK**
  Fire retardant grade EPS
- Suitable for use in domestic, residential and
- commercial buildings
- No reduction in performance over time
- Lightweight, quick & easy to install
- Minimal water absorption & permeability
- 100% recyclable

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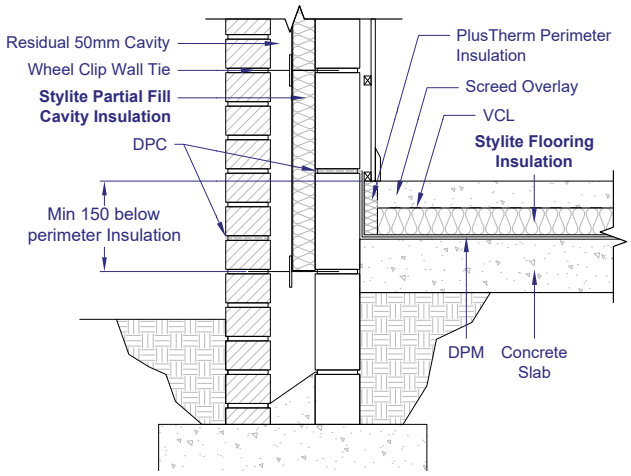
Typical Applications

The EPS insulation boards can be utilised in many different build-ups from masonry walls to timber and metal frame walls. All different applications can effectively meet and exceed current building regulations.

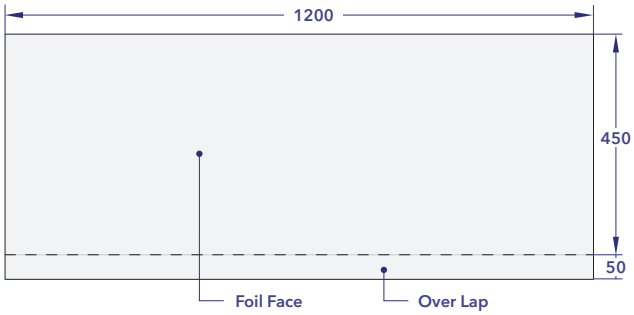
Typical Detail

Masonry Partial Fill Cavity Wall Insulation



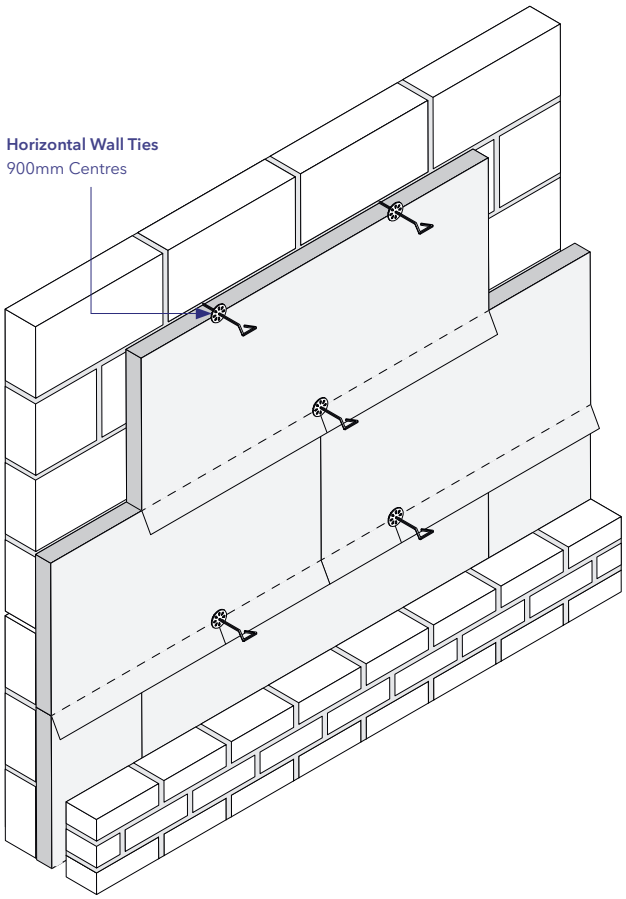
Board Dimensions

All our Stylite Partial Fill Cavity Wall Insulation Boards are typically manufactured to one standard size at 1200 x 450mm available in a range of different thicknesses. This size allows the insulation boards to fit conventional masonry wall constructions whilst maintaining a 50mm clear cavity between the insulation and the external leaf.



The board dimensions also allow the boards to be supported by the wall ties at the required vertical centres of 450mm and horizontal centres of 900mm while ensuring the minimum of 3 wall ties per board.

The boards can effectively reduce the risk of interstitial condensation while protecting the inner leaf wall from the ingress of any water. Where the low emissivity foil overlaps at the base of each board, this allows any water to run off the board and away from the internal leaf. The vertical joints have minimal to no effect on the penetration of water through the insulation.



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Typical U-Values

Provided that a calculation is carried out in accordance with BS EN ISO 6946 to confirm an equivalent uvalue, then changing the design of the wall is acceptable. Contact us for a bespoke u-value calculation.

Below is an example of typical uvalue calculations for a range of masonry cavity wall applications. If you have a unique build-up we are happy to provide uvalue calculations, just get in touch and provide your build up details.

U-values were derived assuming:

- 100mm Brick outer leaf 0.770 $W.m^{-1}.K^{-1}$
- Unventilated cavity 50mm - Low emissivity
- 100mm Block work, Areated concrete block 0.12 $W.m^{-1}.K^{-1}$, Medium concrete block 0.32 $W.m^{-1}.K^{-1}$, Dense concrete block 1.13 $W.m^{-1}.K^{-1}$
- Lightweight Plaster with dabs 12.5mm 0.21 $W.m^{-1}.K^{-1}$
- Wall ties 2.50 per m^2, cross section 3.3 mm^2
- All other parameters are default values from BRE Report BR 443 : 2006.

Masonary Wall Build Up			
UValue (W/m^2K) / **Board Thickness** (mm)	**Aerated Concrete Blocks**	**Medium Concrete Blocks**	**Dense Concrete Blocks**
0.30	45	55	65
0.28	50	65	70
0.27	55	65	75
0.25	65	75	80
0.22	80	90	100
0.21	85	100	105
0.20	95	105	110
0.19	100	110	120
0.18	110	120	125

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Specification Clause
The Partial Fill Cavity Wall insulation shall be Stylite Partial Fill Cavity Wall Insulation, EPS Grade _____, ___mm thick. Manufactured to BS EN 13163-2012+A2-2016 by Styrene Packaging & Insulation Ltd (SPI). The insulation is to be installed in accordance with SPI's recommendations and installation guide.

Refer to clauses:
F30 Accessories/ sundry items for brick/ block/ stone walling
155 Partial Fill Cavity Insulation

Durability
Expanded Polystyrene is rot proof, Expanded Polystyrene is not affected by bacteria, moulds or fungi, and will not provide nutrient value for insects or vermin.

Expanded Polystyrene does not lose any performance over time and will remain an effective insulation for the life of the building.

Compatibility
Expanded Polystyrene should be kept away from hydrocarbons, solvents and volatile substances, however, Expanded Polystyrene is compatible with most chemicals and materials found in common construction environments. For more information, a full list of chemical behaviours is available on our website.

Stylite Expanded Polystyrene should not come into contact with any PVC cables. This is to avoid plasticizer migration which causes PVC cables to become brittle and fragile. Any PVC cables should be protected within a suitable conduit or with a suitable air gap.

Moisture Resistance & Breathability
Stylite Expanded Polystyrene is hydrophobic and highly resistant to the absorption of water but will allow a very minimal amount of water vapour transfer. Expanded Polystyrene is often utilised with a suitable damp proof membrane or vapour control layer to avoid any unwanted water ingress.

Reaction To Fire Classification
Stylite Expanded Polystyrene will achieve reaction to fire Euroclass F. However, the classification achieved when installing in a building will be considerably better. We also supply FRA grades which contain a Fire Retardant Additive and achieve reaction to fire Euroclass E.

Sustainability
Our Stylite Expanded Polystyrene does not contain HFC's, CFC's or HCFC's. Expanded Polystyrene has a Global Warming Potential (GWP) of zero and a low O-Zone Depletion Potential (ODP).

Our Expanded Polystyrene is 100% recyclable. For more information on our recycling policy, you can contact our office to find out more, or alternatively visit our website.

BRE Green Guide Rating
Expanded Polystyrene achieves a green guide rating from **A+**. For a full overview of grades and ratings please see technical specifications overleaf.

Delivery & Storage
The boards are delivered to site in packs, wrapped in polythene. They must be protected from prolonged exposure to sunlight and UV rays. Packs should be stored either undercover or protected with opaque light-coloured polythene sheeting. The products must be stored fully supported and flat on a firm, level base, to prevent bowing.

The products must not be exposed to open flame, care should still be taken to ensure EPS doesn't come into contact with any source of ignition.

Safety
Expanded Polystyrene is non-toxic, non-irritant and odourless, making it completely safe to handle. It can be cut on-site using a fine tooth saw or a hot wire cutter. For more information refer to our Saftey Data Sheet available on our website.

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Physical Properties	Plustherm
Thermal Conductivity (W/mK)	**0.030**
Compressive Strength @ 10% (kPa)	100
Bending Strength (kPa)	150
Water Vapour Permeability (mg Pa.h.m)	0.009 - 0.020
Water Vapour Diffusion Resistance (μ)	30-70
Reaction to Fire - Standard EPS	E
Reaction to Fire - FRA EPS	E
Length Tolerance	L2
Width Tolerance	W2
Thickness Tolerance	T2
Flatness Tolerance	P5
Squareness	S2
Dimensional Stability	DS (N) 5
BRE Green Guide Rating	A+

Please Note: The information contained within this datasheet is true and accurate at the date of issuance and is subject to change without prior notice. It is for guidance only the proper use and application of this product is the responsibility of the user.

All Stylite Expanded Polystyrene is manufactured to the following standards - **BS EN 13163:2012+A2:2016 - BS EN 13501-1.**

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ISO 14001 CERTIFIED British Assessment Bureau

ISO 9001 CERTIFIED British Assessment Bureau

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