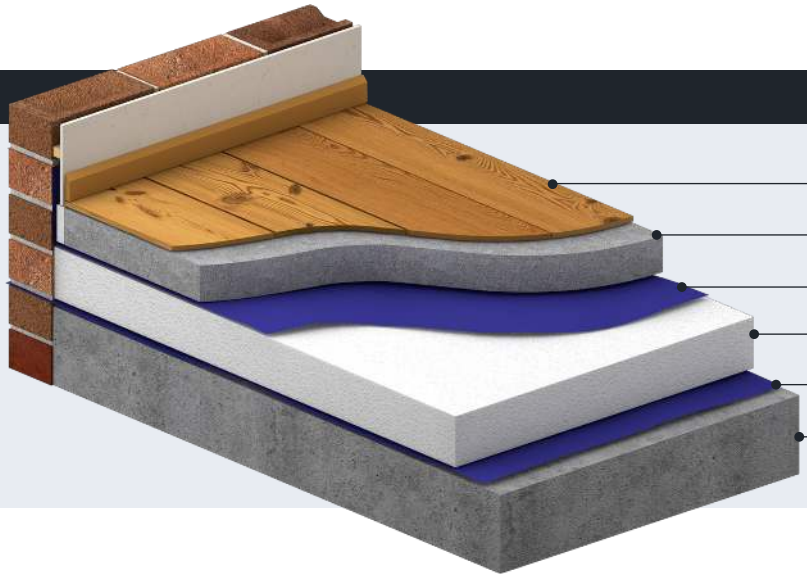
Stylite®

FLOORING INSULATION
DATASHEET

PR_25_71_63_26 - 6_120320

Expanding Possibilities



Typical Build-Up - Slab on Ground

- Floor Covering
- Concrete / Screed Topping
- Vapour Control Layer
- **Stylite Flooring Insulation**
- Damp Proof Membrane
- Ground Supported Slab

Standard Product Attributes

Grades	EPS 70 - 300 & Plustherm
Edge Profile	Plain Square Edge
Length	up to 2400mm
Width	up to 1200mm
Thickness	25 - 300mm

Design Standards

All our Stylite Expanded Polystyrene Flooring Insulation is manufactured in accordance to **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.**

Accreditations

We hold a British Board of Agrément Certificate which covers the applications of ground-supported or suspended concrete floors in new or existing dwellings or buildings of similar occupancy. Our BBA certificate offers further technical guidance, Certificate Number **- 04/4102.**

Product Overview

Stylite Flooring Insulation is manufactured from Expanded Polystyrene (EPS) and can be used in a wide variety of floor applications, for both domestic and industrial, to meet or exceed current Building Regulations for thermal performance.

The most common applications are above or below ground supported concrete slab, and suspended concrete or timber ground floors. The insulation boards are easy to install without the need for special tools and are available in a range of grades and sizes to suit individual project requirements.

Product Benefits

- ☑ Thermal Conductivity from as low as **0.030 W/mK**
- ☑ BBA certified - 04/4102
- ☑ Lightweight and easy to handle
- ☑ Highly cost-effective insulation
- ☑ Can be used in all floor types
- ☑ No reduction in performance over time
- ☑ Use above or below DPM
- ☑ Minimal water absorption & permeability
- ☑ 100% recyclable
- ☑ BRE Green Guide Rating A+

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Typical U-Values

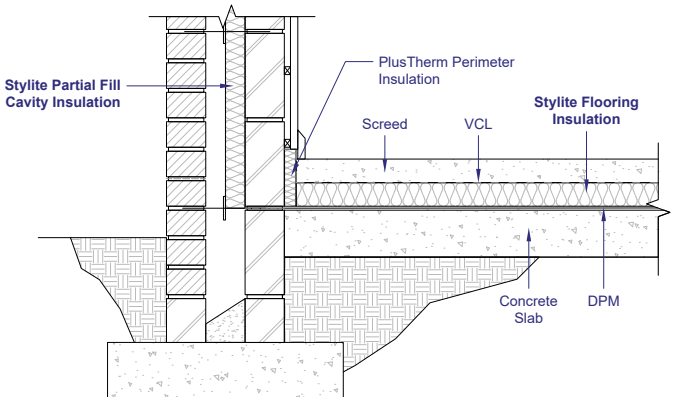
Stylite Flooring Insulation is available in a range of different grades with varying compressive strengths and thermal conductivities. This means whatever the application there is a suitable Stylite EPS grade for almost every design requirement.

Here you can find common applications of Stylite Flooring Insulation Expanded Polystyrene and the u-values you can expect from using our Stylite Flooring Insulation.

The u-value of a completed floor will depend on the thickness of the products, the perimeter/area ratio and the floor type. Calculated u-values for typical application constructions in accordance with the Building Regulations are given below.

Typical Application

Above Ground Supported Slab - Concrete Topping



- ☑ 300 mm thick perimeter wall with U-value of 0.35 W.m–2.K–1.
- ☑ 100 mm concrete slab with conductivity 2.06 W.m–1.K–1
- ☑ 65 mm concrete screed with conductivity 1.15 W.m–1.K–1.
- ☑ All other parameters are default values from BRE Report BR 443 : 2006.

P/A - 0.2	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	35	30	30	25
0.22	50	50	50	40
0.20	65	60	60	55
0.18	85	80	75	70
0.15	120	120	115	100
0.13	165	155	145	130
0.10	230	220	210	190

P/A - 0.4	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	80	75	70	65
0.22	100	90	85	75
0.20	110	105	100	90
0.18	130	125	120	105
0.15	170	165	160	135
0.13	215	200	185	165
0.10	300	275	260	230

P/A - 0.6	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	95	90	85	75
0.22	120	110	105	90
0.20	130	125	120	105
0.18	150	145	135	125
0.15	190	180	170	150
0.13	230	215	205	180
0.10	320	300	275	245

P/A - 0.8	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	105	100	90	80
0.22	125	115	110	100
0.20	140	130	125	110
0.18	160	150	145	125
0.15	200	190	180	160
0.13	235	225	200	185
0.10	315	300	285	250

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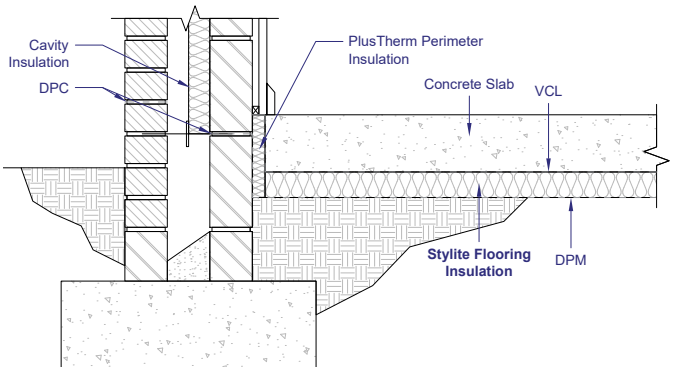
Typical Application

Below Ground Supported Slab - Concrete Topping



- ☑ 300 mm thick perimeter wall with U-value of 0.35 W.m–2.K–1.
- ☑ 300 mm concrete slab with conductivity 2.06 W.m–1.K–1
- ☑ All other parameters are default values from BRE Report BR 443 : 2006.

P/A - 0.2	Required Thickness (mm)			
U-value (W/m²K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	35	30	30	25
0.22	50	50	50	40
0.20	65	60	60	55
0.18	85	80	75	70
0.15	120	120	115	100
0.13	165	155	145	130
0.10	230	220	210	190

P/A - 0.4	Required Thickness (mm)			
U-value (W/m²K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	80	75	70	65
0.22	100	90	85	75
0.20	110	105	100	90
0.18	130	125	120	105
0.15	170	165	160	135
0.13	215	200	185	165
0.10	300	275	260	230

P/A - 0.6	Required Thickness (mm)			
U-value (W/m²K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	95	90	85	75
0.22	120	110	105	90
0.20	130	125	120	105
0.18	150	145	135	125
0.15	190	180	170	150
0.13	230	215	205	180
0.11	275	260	250	220
0.10	320	300	275	245

P/A - 0.8	Required Thickness (mm)			
U-value (W/m²K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	105	100	90	80
0.22	125	115	110	100
0.20	140	130	125	110
0.18	160	150	145	125
0.15	200	190	180	160
0.13	235	225	200	185
0.10	315	300	285	250

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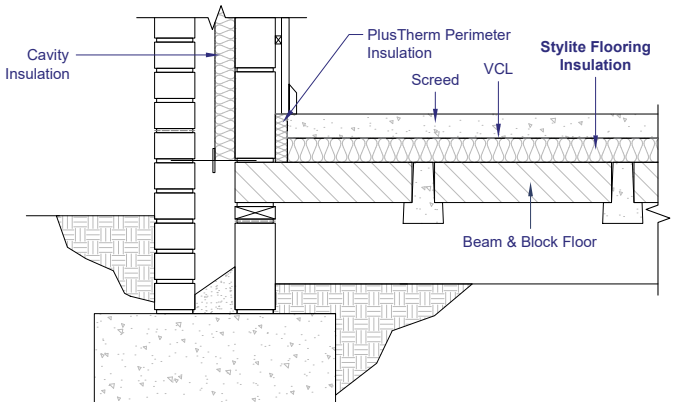
Typical Application

Suspended Beam & Block Floor - Concrete / Screed Topping



- ☑ 300 mm thick perimeter wall with U-value of 0.35 W.m–2.K–1.
- ☑ 100 mm concrete beam and block floor a thermal conductivity of 1.35 W.m–1.K–1 and 0.18 W.m–1.K–1
- ☑ 13.7% bridging of beams. (All Standard units)
- ☑ 65 mm concrete screed with conductivity 1.15 W.m–1.K–1.
- ☑ Underfloor ventilation area is 0.0015 m2.m, 150 mm clear ventilated void beneath the floor.
- ☑ All other parameters are default values from BRE Report BR 443 : 2006.

P/A - 0.2	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	35	30	30	25
0.22	55	50	50	40
0.20	70	65	60	55
0.18	90	85	80	70
0.15	135	125	120	100
0.13	175	165	155	130
0.10	260	250	230	200

P/A - 0.4	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	70	65	60	55
0.22	90	85	80	75
0.20	105	100	95	85
0.18	130	120	110	100
0.15	170	160	150	135
0.13	210	200	190	165
0.10	300	280	265	235

P/A - 0.6	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	85	80	75	65
0.22	100	95	90	80
0.20	120	110	105	95
0.18	140	130	125	110
0.15	185	175	165	145
0.13	220	210	200	175
0.10	310	295	280	245

P/A - 0.8	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	90	85	80	70
0.22	110	100	95	85
0.20	125	120	110	100
0.18	145	140	135	115
0.15	190	180	170	150
0.13	230	220	205	180
0.10	320	300	285	250

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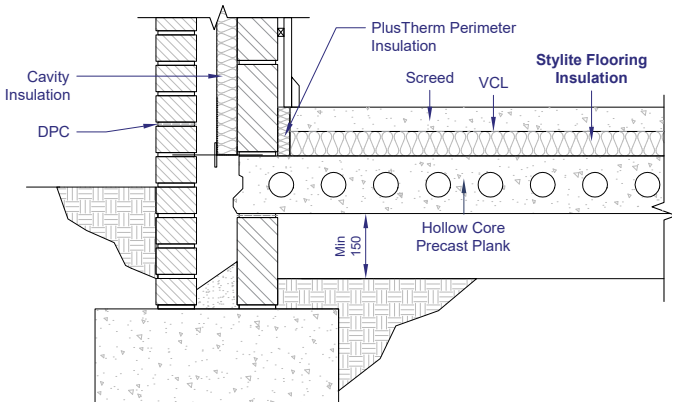
Typical Application

Suspended Precast Concrete Floor - Concrete / Screed Topping



- ☑ 300 mm thick perimeter wall with U-value of 0.35 W.m–2.K–1.
- ☑ 150 mm concrete plank with conductivity 1.13 W.m–1.K–1
- ☑ 65 mm concrete screed with conductivity 1.15 W.m–1.K–1.
- ☑ Underfloor ventilation area is 0.0015 m2.m, 150 mm clear ventilated void beneath the floor.
- ☑ All other parameters are default values from BRE Report BR 443 : 2006.

P/A - 0.2	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	40	35	35	30
0.22	60	55	55	50
0.20	75	70	70	65
0.18	100	95	90	80
0.15	140	135	125	110
0.13	180	170	160	145
0.10	265	255	240	210

P/A - 0.4	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	75	70	70	60
0.22	95	90	85	75
0.20	110	105	100	90
0.18	135	130	120	105
0.15	175	170	160	140
0.13	215	210	195	170
0.10	305	300	2270	240

P/A - 0.6	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	90	85	80	70
0.22	110	105	100	85
0.20	125	120	115	100
0.18	150	145	130	115
0.15	190	185	170	150
0.13	230	220	205	180
0.10	320	300	285	250

P/A - 0.8	Required Thickness (mm)			
U-value (W/m^2K)	EPS 70	EPS 100	EPS 150 - 300	PlusTherm
0.25	95	90	85	75
0.22	115	110	105	90
0.20	135	130	120	105
0.18	155	150	140	120
0.15	200	195	175	155
0.13	235	225	210	185
0.10	325	310	290	255

Need a unique U-Value or help specifying Stylite Flooring Insulation, Give us a call now on **: 01274 691 777** or send us a quick email at **sales@styrene.co.uk**

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Specification Clause
All our Stylite Expanded Polystyrene product specifications are available on our website. Alternatively you can use our generic specification clause below to include Stylite Flooring Insulation in your design ;

The floor insulation shall be Stylite Flooring Insulation, EPS___, ___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 BBA Certification 04/4102.

Refer to clauses:
E20 Formwork for in situ concrete -
200 Proprietary Underslab Insulation

K11 Rigid sheet flooring/ sheathing/ decking/ sarking/ linings/ casings -
115 Battened Plywood Floating Floor
125 Battened Particleboard Floating Floor
135 Battened Oriented Strand Board Floating Floor
145 Battened Cement Bonded Particleboard Floating Floor
215 Plywood Floating Floor
225 Particleboard Floating Floor
235 Oriented Strand Board Floating Floor
245 Cement Bonded Particleboard Floating Floor
295 Floating Floor System

M10 Cement based levelling/ wearing screeds -
290 Floating Construction

M13 Calcium sulfate based levelling screeds -
260 Floating Construction

P10 Sundry insulation/ proofing work -
250 Insulation Supported Between Floor Joists

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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spi
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Physical Properties	*EPS 70	*EPS 100	*EPS 150	EPS 200	EPS 250	EPS 300	70 PlusTherm	*PlusTherm
Thermal Conductivity (W/mK)	**0.038**	**0.036**	**0.034**	**0.034**	**0.034**	**0.034**	**0.030**	**0.030**
Compressive Strength @ 10% (kPa)	70	100	150	200	250	300	70	100
Bending Strength (kPa)	115	150	200	250	350	450	115	150
Water Vapour Permeability (mg Pa.h.m)	0.015 - 0.030	0.009 - 0.020	0.009 - 0.020	0.006 - 0.015	0.006 - 0.015	0.006 - 0.015	0.015 - 0.030	0.009 - 0.020
Water Vapour Diffusion Resistance (μ)	20-40	30-70	30-70	40-100	40-100	40-100	20-40	30-70
Reaction to Fire - Standard EPS	F	F	F	F	F	F	E	E
Reaction to Fire - FRA/VB EPS	E	E	E	E	E	E	E	E
Length Tolerance	L2	L2	L2	L2	L2	L2	L2	L2
Width Tolerance	W2	W2	W2	W2	W2	W2	W2	W2
Thickness Tolerance	T2	T2	T2	T2	T2	T2	T2	T2
Flatness Tolerance	P5	P5	P3	P3	P3	P3	P5	P5
Squareness	S2	S2	S2	S2	S2	S2	S2	S2
Dimensional Stability	DS (N) 5	DS (N) 5	DS (N) 5	DS (N) 5	DS (N) 5	DS (N) 5	DS (N) 5	DS (N) 5
BRE Green Guide Rating	A+	A+	A+	A+	NA	A	A+	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**
*Grades covered by our **BBA Certificate No. 04/4102**

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 04/4102

6 PS

CE

A+ BRE

MADE IN BRITAIN

ISO 14001 CERTIFIED
British Assessment Bureau

ISO 9001 CERTIFIED
British Assessment Bureau

mpa British Precast Member

Styrene Packaging & Insulation Ltd
Morley Carr Rd, Low Moor, Bradford BD12 0RA
VAT Reg No.40876392 - Company Reg No.1800539