

Stylite Passivehaus Foundation

- Meets and exceeds building regulations
- Eliminates the critical wall-to-floor cold bridge
- Lambda from 0.030 W/mK
- Modular off-site design and manufacture
- Save time and money
- Lightweight
- Cost effective
- No reduction in performance
- Use in commercial & residential property
- Minimal water absorption & permeability
- 100% recyclable
- No HFC's, CFC's or HCFC's

Designed for ground floor foundation applications

Stylite Passivehaus Foundation EPS will save time on the design and installation of your foundation system while also saving drastically on material costs too. Having an insulated foundation system means that the cold bridging that occurs between the ground and the building is eliminated creating a much more thermally efficient build. Stylite Passivehaus foundation reduces underfloor heat loss through rising walls from 65% to 12%.

The EPS units are designed to your specific plot layouts and manufactured off-site, to be delivered ready to install. The system uses small pegs and clips to install the pieces of EPS. Effectively your Stylite Passivehaus foundation system is a way to wrap your build in insulation, insulating from the ground up.

Passivehaus Standard

The Passivehaus standard is a comprehensive low energy standard intended primarily for new build, the specific standard to meet for the individual elements (Wall, Floors ect) is a U-Value of 0.010W/m²K. In a Passivehaus thermal comfort is achieved to the greatest practical extent through the use of passive measures which can be applied not only to the residential sector but also to commercial, industrial and public.



Stylite Passivehaus Foundation Typical Build-Ups

Timber Frame & External Wall Insulation

Using a timber frame with the addition of external wall insulation is a popular way to build due to the speed of its off-site production. Our Passivehaus foundation system is fully compatible with timber frame buildings allowing you to achieve full Passivehaus standards.

Timber Frame & Blockwork

Another popular off-site construction method is timber frame with an outer leaf of brick or blockwork, often referred to as Structural Insulated Panels (SIPs) or lightweight timber kit. This type of construction may require an additional strip of concrete foundation to carry the outer leaf.

Insulated Concrete Formwork (ICF)

The development of modern methods of construction has seen a rise in the use of insulation as a building material. This is evident in ICF systems which consist of interlocking modular form units, manufactured from EPS, that are stacked to build wall structures before being filled with concrete. We can help design a Passivehaus foundation system to complement your chosen ICF systems.

Typical U-Values Using Stylite Passivehaus Foundation

P/A	0.2	0.4	0.6	0.8
U-Value W/m ² K	0.09	0.10	0.10	0.10

Compatibility

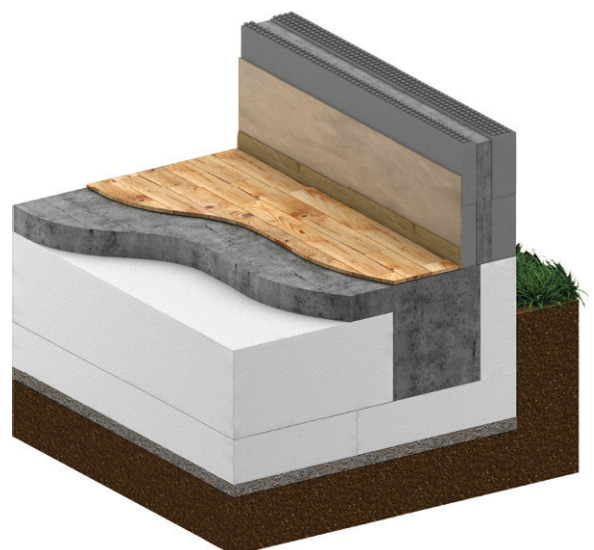
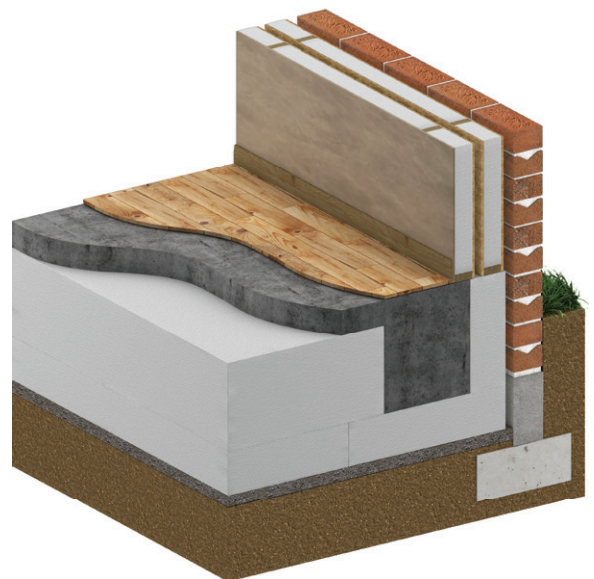
Expanded Polystyrene is compatible with most chemicals and materials. For more information about how EPS interacts with different chemicals check www.styrene.biz/downloads/SPI_Chemical_Behaviour.pdf

Durability

EPS is rot proof and durable, and will remain an effective insulation for the life of the building. EPS is not affected by bacteria, moulds or fungi, and will not provide nutrient value for insects or vermin.

Environmental Safety

EPS is non-toxic, non-irritant and odourless. It does not contain CFC's or HCFC's. EPS has a Global Warming Potential (GWP) of zero and an Ozone Depletion Potential (ODP) of zero.



Stylite Passivehaus Foundation Installation

Stylite Passivehaus Foundation Insulation is extremely quick and easy to install. The foundation is usually installed and ready to build the superstructure within 2 days, based

on a typical sized 4 bedroom house. These installation steps are to be used as guide only and should be checked by a site structural engineer or other qualified person.

Step 1 - The topsoil should be removed and minimum 150 mm thick hardcore installed and compacted.

Step 2 - Lay the "L" Shaped Perimeter EPS units in the pre-designed layout, using the specialist metal connectors to hold pieces together.

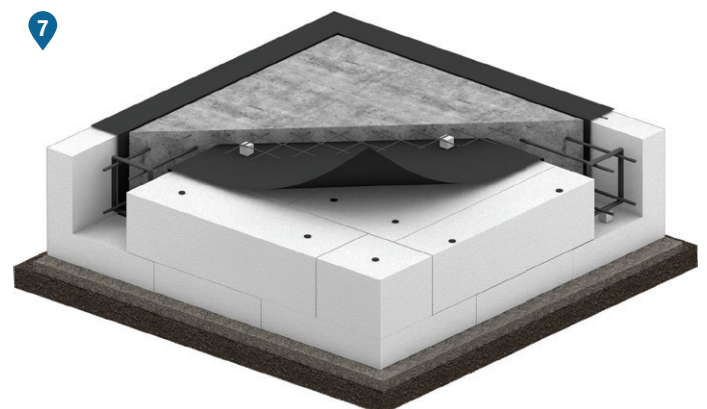
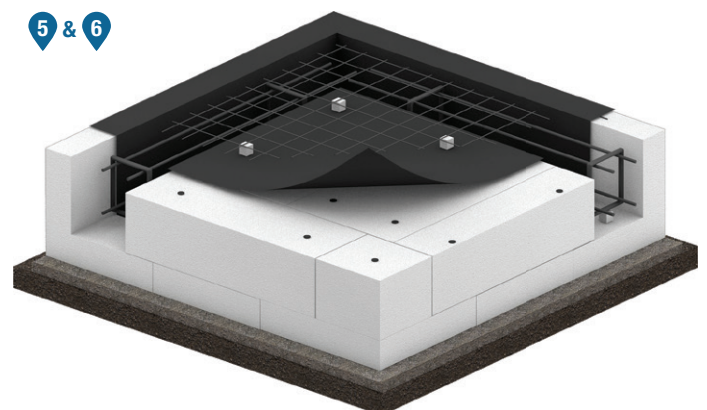
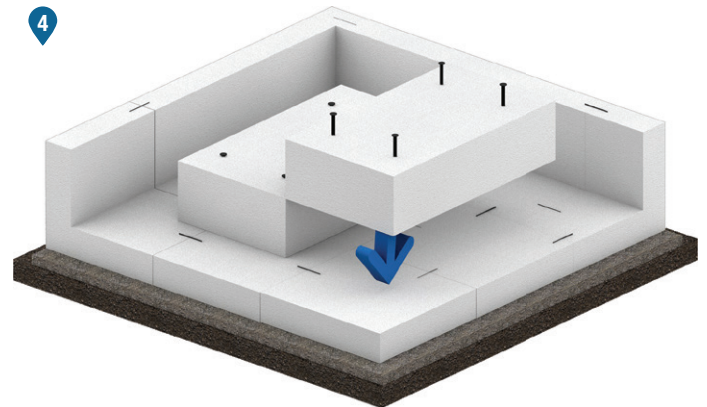
Step 3 - Plain boards may now be laid in a break bonded pattern to complete the first layer.

Step 4 - The second layer can then be installed (break bonded) on top using the specialist plastic pegs to secure the slab to the underlying sheet.

Step 5 - Once the second layer of EPS slab has been laid you may install a VCL if applicable.

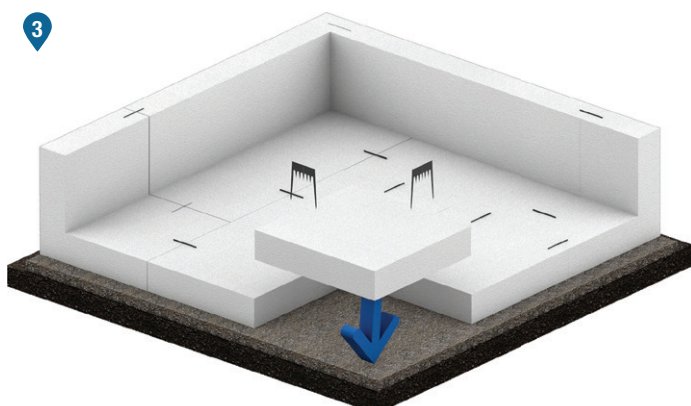
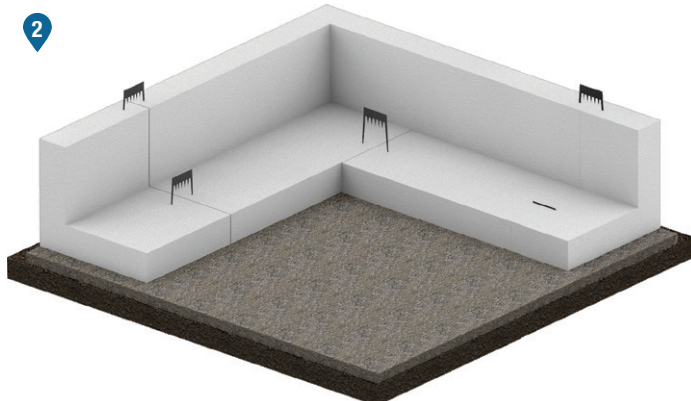
Step 6 - If required, install reinforcement to sit within the screed topping.

Step 7 - The screed can now be poured and left to set, once cured construction of the superstructure can begin



Standard Details

For more information on the different typical build ups achievable using Stylite Passivehaus Foundation, including details for bearing and non-bearing walls, download our standard details at www.styrene.biz/downloads/?????????.pdf



Technical Specification

Features	EPS 70	EPS 100	EPS 250	EPS 300	Plustherm	Standard
Thermal Conductivity ($\lambda_{90/90}$)($Wm^{-1}K^{-1}$)	0.038	0.036	0.034	0.034	0.030	EN 13163
Length Tolerance	L1	L1	L1	L1	L1	EN 822
Width Tolerance	W1	W1	W1	W1	W1	EN 822
Thickness Tolerance	T1	T1	T1	T1	T1	EN 823
Planarity Tolerance	P2	P2	P2	P2	P2	EN 825
Squareness	S1	S1	S1	S1	S1	EN 824
Bending Strength (kPa)	115	150	300	350	150	EN 12089
Reaction to Fire	F	F	F	F	E	EN 13501-1
- Virgin Bead	E	E	E	E	E	EN 13501-1
Water Absorption ($mg Pa^{-1} h^{-1} m^{-1}$)	0.015 - 0.030	0.009 - 0.020	0.006 - 0.015	0.006 - 0.015	0.009 - 0.020	EN 13163
Dimensional Stability	DS (N) 5	DS (N) 5	DS (N) 5	DS (N) 5	DS (N) 5	EN 1603
Compressive Strength @ 10% (kPa)	70	100	250	300	100	EN 826
Compressive Strength @ 1 % (kPa)	21	30	75	90	30	EN 13163
BRE Rating	A+	A+	A+	A+	A+	BRE
Element No.	815320022	815320023	N/a	N/a	1315320016	BRE

Dimensions	Length mm	Width mm	Thickness mm
Perimeter L-Shapes	1200	400	100
Plain Boards	1200	600	100 - 200

EN 13163 : 2012 | BS EN 13501 : 1 : 2007 | BS EN 1603 : 2013 | BS EN 12089 : 2013

Classification code : Pr_20_93_51_28

Recycling

Styrene Packaging & Insulation Ltd provide a waste EPS collection service to help recycle as much polystyrene as possible. Please download a copy of our recycling policy to find out how our recycling service can benefit you and the environment.

Certification

We have real pride in the products we supply that is why we go above and beyond to ensure that we surpass all current regulations and offer all the relevant certifications to stand by our expanded polystyrene products. For full details of our certifications please visit our website at www.styrene.biz



01274 691 777 
sales@styrene.biz 