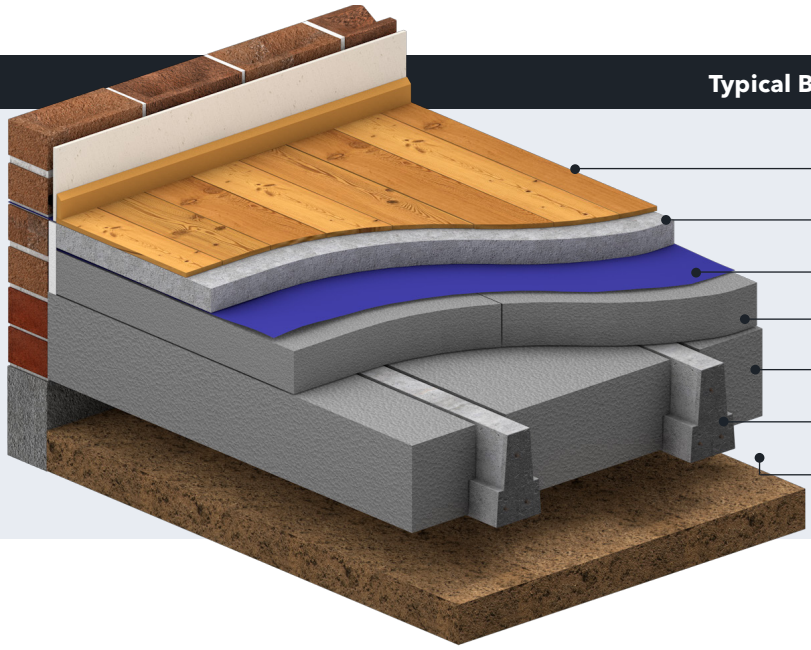
Stylite®

T-BEAM ZERO SUSPENDED INFILLS
DATASHEET

PR_20_93_51_28 - 1_100521

kiwa assessed CONSTRUCTION SYSTEM

spi Expanding Possibilities



Typical Build-Up - Suspended Insulated Beam & Block

Design Standards
All our Stylite T-Beam Zero Suspended Floor Infills are manufactured in accordance with **BS-EN-13163-2012+A2-2016** and **BS EN 15037-4 : 2010 + A1 : 2013.** Under a Quality Management System accredited to **ISO 9001:2015** and an Environmental Management System accredited to **ISO 14001:2015.**

Kiwa BDA Agrément ®
We hold a Kiwa BDA Agrément® which covers the content of this technical datasheet. Our BDA Agrément® offers further technical guidance, Certificate Number;
BAF-20-149-S-A-UK

ISO 14001 CERTIFIED British Assessment Bureau

ISO 9001 CERTIFIED British Assessment Bureau

BDA Agrément BAF-20-149-S-A-UK

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

Savings on cost and time to be utilised with Stylite T-Beam Zero, for use in conjunction with pre-stressed concrete beams and structural concrete toppings in suspended ground floors. Suitable for use in domestic and residential buildings. The flexibility of the system offers a wide range of achievable target u-values, beam layouts and specified structural toppings making Stylite T-Beam Zero one of the most efficient flooring systems available.

The infills act as a temporary formwork to the floor throughout construction and as a permanent formwork after the structural concrete topping is laid, with U-Values as low as 0.09 (W/m2K).

Product Benefits
- ☑ Outstanding PSI values
- ☑ For use with Structural Concrete toppings
- ☑ Flexible design for U-Values & Floor Loading
- ☑ For use with any pre-cast concrete beam profiles
- ☑ For use with residential & domestic buildings
- ☑ No reduction in performance over time
- ☑ Lightweight, quick & easy to install
- ☑ Minimal water absorption & permeability
- ☑ 100% recyclable
- ☑ BRE Green Guide Rating of **A+**

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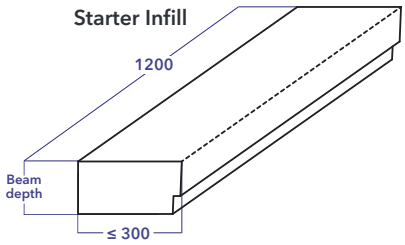
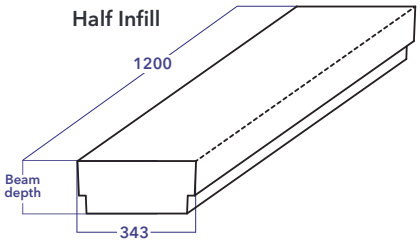
Product Attributes

The Stylite T-Beam Zero Flooring system comprises of five different EPS units which are used in conjunction with precast concrete beams, concrete closure blocks, coursing blocks and slip bricks to form the finished floor. All the units included in the Stylite T-Beam Zero Flooring System infills are 1200mm in length. The infill blocks come in three standard widths, allowing for varied loadings and beam centres. The Top sheet boards are one standard size at 1200 x 2400mm. See below to find out the technical specifications for the individual units.

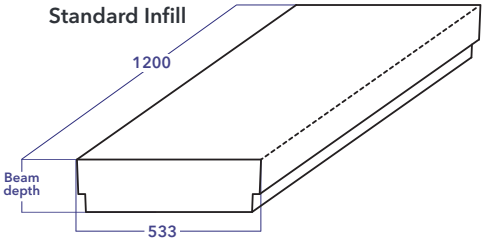
Starter Infill



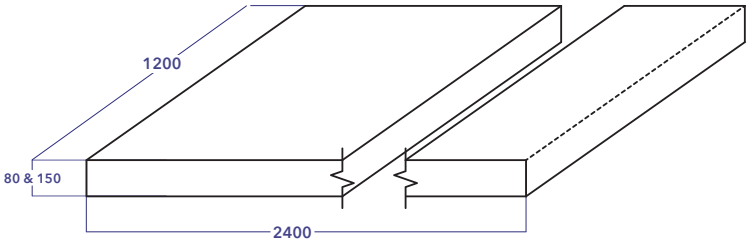
Half Infill



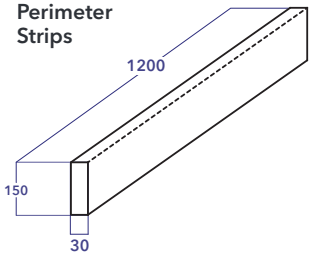
Standard Infill



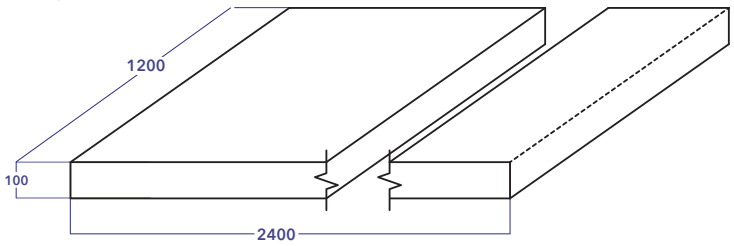
Topsheet Overlay



Perimeter Strips



Inlay Sheet



Auxiliary Items

Pre-Stressed Concrete Beams
PSI Blocks
Closure Blocks
Coursing Blocks

Essential Charecteristics		Starter Infill	Standard Infill	Half Infill	Top Sheet	Inlay Sheet	Perimeter Strips
Length mm		1200	1200	1200	2400	2400	1200
Width mm		<300	533	343	1200	1200	30
Thickness mm		Beam Depth			50 - 225	100	150
Compressive Strength @10% compresion		CS(10)90	CS(10)90	CS(10)90	CS(10)130	CS(10)90	CS(10)70
Thermal Conductivity W/mK	Grey	0.030	0.030	0.030	0.030	0.030	0.030
	White	0.036	0.036	0.036	0.034	0.036	0.038
Bending Strength kPa		135	135	135	180	135	115

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Typical U-Values

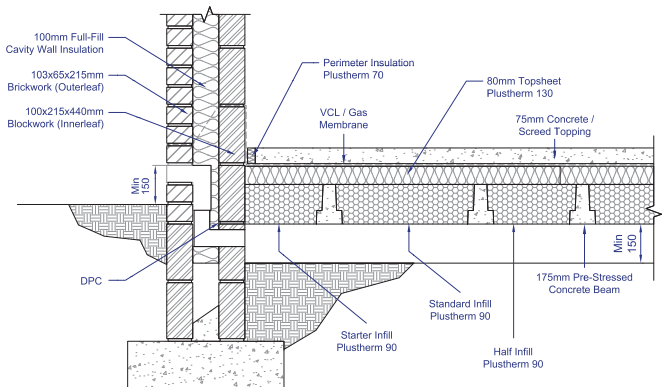
The overall floor U-value will depend significantly on the deck U-value, the ratio of the exposed (and semi-exposed) floor perimeter length to floor area (p/a), the amount of under-floor ventilation and the ground thermal conductivity. Each floor U-value should therefore be calculated to BS EN ISO 13370 : 2017 and BRE Report BR 443 : 2006.

A floor deck U-value (from inside to the underfloor void) will depend significantly on the size and number of precast concrete beams and infill types. If you require a bespoke U-value calculation contact our office and we will be pleased to help.

- 150 mm concrete beam with conductivity of 2.00 W.m–1.K–1
- 75 mm concrete / screed with conductivity 1.15 W.m–1.K–1.
- 13.7% bridging of beams.
- Configuration of 100% single beams at full centres.
- All other parameters are default values from BRE Report BR 443 : 2006.

Typical Application

Suspended Insulated Concrete Beam & Infill Floor



White Infills								
Overlay Thickness (mm)	0.2		0.4		0.6		0.8	
	White	Plustherm	White	Plustherm	White	Plusherm	White	Plustherm
50	0.17	0.16	0.20	0.19	0.22	0.21	0.23	0.22
75	0.15	0.14	0.18	0.16	0.19	0.17	0.19	0.18
100	0.13	0.12	0.16	0.14	0.16	0.15	0.17	0.15
125	0.12	0.11	0.14	0.13	0.15	0.13	0.15	0.14
150	0.11	0.10	0.13	0.11	0.13	0.12	0.14	0.12
175	0.10	0.09	0.12	0.10	0.12	0.11	0.12	0.11
200	0.09	0.09	0.11	0.10	0.11	0.10	0.11	0.10
225	0.09	0.08	0.10	0.09	0.10	0.09	0.10	0.09

Plustherm Infills								
Overlay Thickness (mm)	0.2		0.4		0.6		0.8	
	White	Plustherm	White	Plustherm	White	Plustherm	White	Plustherm
50	0.16	0.16	0.19	0.18	0.21	0.20	0.22	0.21
75	0.14	0.14	0.17	0.15	0.18	0.17	0.18	0.17
100	0.13	0.12	0.15	0.14	0.16	0.14	0.16	0.15
125	0.12	0.11	0.13	0.12	0.14	0.13	0.14	0.13
150	0.11	0.10	0.12	0.11	0.13	0.12	0.13	0.12
175	0.10	0.09	0.11	0.10	0.12	0.11	0.12	0.11
200	0.09	0.09	0.10	0.09	0.11	0.10	0.11	0.10
225	0.09	0.08	0.09	0.09	0.10	0.09	0.10	0.09

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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.

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.

Safety
Expanded Polystyrene is non-toxic, non-irritant and odorless, making it completley 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.

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 under cover 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 doesnt come into contact with any source of ignition.

Concrete / Screed Toppings
Stylite T-Beam Zero Suspended Infills are used to insulate ground floor suspended precast concrete beam floors. You can see below the allowed specified concrete toppings as named in our BDA Kiwa Certificate.

Type of Topping	Allowed
Steel Reinforcement Mesh	✓
Steel Fibres	✓
Macro Synthetic Fibers	✓
Polymer Micro Fibers	✓*
Plain Concrete / Screed	X

*use of Polymer Micro Fibers only are not accepted by NHBC sites.

For more information on the specification of concrete/screed toppings give our technical team a call on **1274 691777** or send us an email at **sales@styrene.co.uk.**

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spi
Expanding Possibilities

Physical Properties	White EPS			Plustherm		
	EPS 70	EPS 90	EPS 130	EPS 70	EPS 90	EPS 130
Thermal Conductivity (W/mK)	**0.038**	**0.036**	**0.034**	**0.030**	**0.030**	**0.030**
Compressive Strength @ 10% (kPa)	70	90	130	70	90	130
Bending Strength (kPa)	115	135	180	115	135	180
Water Vapour Permeability (mg Pa.h.m)	0.015 - 0.030	0.009 - 0.020	0.009 - 0.020	0.015 - 0.030	0.009 - 0.020	0.009 - 0.020
Water Vapour Diffusion Resistance (μ)	20-40	30-70	30-70	20-40	30-70	30-70
Reaction to Fire - Standard EPS	F	F	F	E	E	E
Length Tolerance	L2	L2	L2	L2	L2	L2
Width Tolerance	W2	W2	W2	W2	W2	W2
Thickness Tolerance	T2	T2	T2	T2	T2	T2
Flatness Tolerance	P5	P3	P3	P5	P3	P3
Squareness	S2	S2	S2	S2	S2	S2
BRE Green Guide Rating	A+	A+	A+	A+	NA	NA

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 - BS EN 15037-4:2010+A1:2013.**

BDA Agrément
BAF-20-149-S-A-UK

kiwa assessed
CONSTRUCTION SYSTEM

6 PS

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A+ BRE

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