

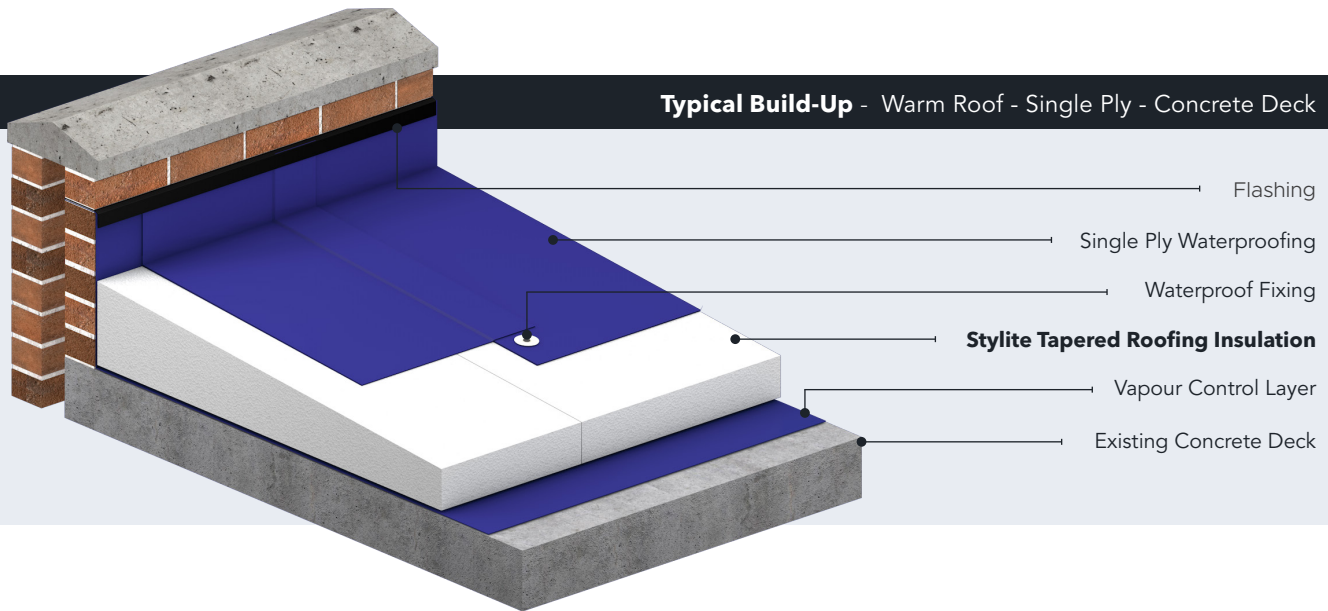


# TAPERED ROOF INSULATION DATASHEET

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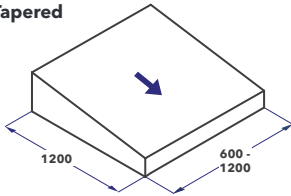
Expanding Possibilities



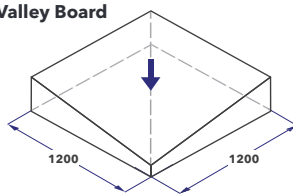
### Standard Product Attributes

Length	1200mm
Width	600 - 1200mm
Thickness	20 - 600mm

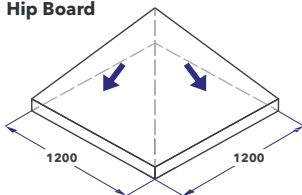
### Tapered



### Valley Board



### Hip Board



### Design Standards

All our Stylite Tapered Roofing 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**.

### Product Overview

Stylite Tapered roofing insulation boards are manufactured from high density Expanded Polystyrene (EPS) with low water absorption properties. They are designed for use with flat roofs with minimum falls of 1:80. Stylite Tapered Roofing Insulation can be used in conjunction with single ply waterproofing to complete your warm roof system. Alternatively see our Inverted Roofing Insulation.

Stylite Tapered roofing insulation boards are available in Hip and Valley profiles. All tapered, hips and valleys are manufactured as full pieces.

### Product Benefits

- ☑ Hips and Valleys available as single units
- ☑ Suitable for minimum falls of 1:80
- ☑ Follows the guidelines of ETAG 031
- ☑ High compressive strength
- ☑ Protects waterproofing membrane
- ☑ Lightweight, quick & easy to install
- ☑ Minimal water absorption & permeability
- ☑ 100% recyclable
- ☑ No HFC's, CFC's or HCFC's
- ☑ BRE Green Guide rating of A+

# TAPERED ROOFING INSULATION DATASHEET

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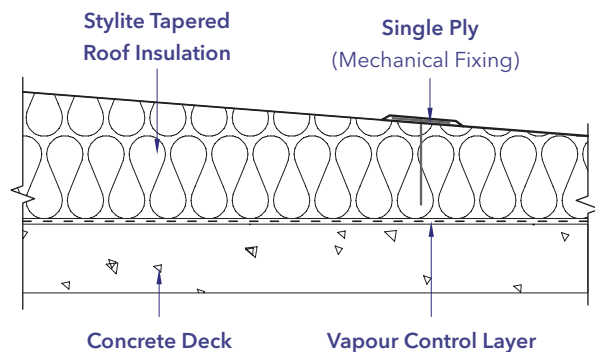
## Typical Applications

Stylite Tapered Roofing Insulation can be used as part of a new build roofing system, an overlay solution for existing flat roofs or as part of an inverted roof solution. It creates a cost effective fall that when combined with a waterproofing system prevents problems such as ponding that can lead to premature failure of the roof.

The Expanded Polystyrene boards can be used with adhesive or mechanically fixed fleece backed single ply PVC waterproofing systems and single ply TPO/FPO systems. When combined with a suitable separation layer or overlay board a single ply PVC and EPDM, hot or cold liquid applied or hot bituminous felt membrane can be used.

## Typical Build Up

Stylite Tapered Roof Insulation - Single Ply PVC - Mechanically Fixed



## Typical U-Values

On tapered roof systems, the different thicknesses of insulation and thermodynamics result in varying u-values across the whole roof, therefore the average u-value for the entire roof can only be calculated once it is fully designed. This should be carried out in accordance with BS EN ISO 6946:2017 Annex E: Calculation of the thermal transmittance of components with tapered layers.

The tables below shows the thermal resistance (R-value) of some of our most common tapered insulation boards to provide specifiers with indicative thermal properties. The R-value is calculated by taking the average thickness of the tapered board and dividing it by the thermal conductivity of the insulation.

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

Typical R-values			
EPS Grade	Tapered Thickness		R-value (W/m <sup>2</sup> K)
	Min	Max	
EPS 70 (0.038 W/mK)	40	60	1.31
	60	80	1.84
	80	100	2.36
	100	120	2.89
	120	140	3.42
	140	160	3.94
	160	180	4.47
	180	200	5.00

Typical R-values			
EPS Grade	Tapered Thickness		R-value (W/m <sup>2</sup> K)
	Min	Max	
EPS 100 (0.036 W/mK)	40	60	1.38
	60	80	1.94
	80	100	2.50
	100	120	3.05
	120	140	3.61
	140	160	4.16
	160	180	4.72
	180	200	5.27

Typical R-values			
EPS Grade	Tapered Thickness		R-value (W/m <sup>2</sup> K)
	Min	Max	
EPS 150 - 300 (0.034 W/mK)	40	60	1.47
	60	80	2.05
	80	100	2.64
	100	120	3.23
	120	140	3.82
	140	160	4.41
	160	180	5.00
	180	200	5.58

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EPS Grade	Typical R-values		R-value (W/m <sup>2</sup> K)
	Tapered Thickness		
	Min	Max	
PlusTherm (0.030 W/mK)	40	60	1.66
	60	80	2.33
	80	100	3.00
	100	120	3.66
	120	140	4.33
	140	160	5.00
	160	180	5.66
	180	200	6.33

## Specification Clause

You can use our generic specification clause below to include Stylite Tapered Roof Insulation System in your design.

### Refer to clauses:

The roof insulation shall be Stylite Tapered Roof Insulation System, 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 SPI's recommendations and installation guide.

### Refer to clauses:

#### H43 Metal composite panel cladding/ covering

120 Metal Composite Panel

#### J31 Liquid applied waterproof roof coatings

331 Expanded Polystyrene (Eps) Warm Deck Roof Insulation

335 Warm Deck Roof Insulation

#### J41 Reinforced bitumen membrane roof coverings

410 Expanded Polystyrene (Eps) Warm Deck Roof Insulation

430 Warm Deck Roof Insulation

#### J42 Single layer polymeric sheet roof coverings

410 Expanded Polystyrene (Eps) Warm Deck Roof Insulation

430 Warm Deck Roof 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.

# Stylite®

## TAPERED ROOFING INSULATION DATASHEET

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Expanding Possibilities

### 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 the boards from bowing. 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 odorless, 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 Safety Data Sheet available on our website.

Physical Properties	EPS 70	EPS 100	EPS 150	EPS 200	EPS 250	EPS 300	PlusTherm
<b>Thermal Conductivity</b> (W/mK)	<b>0.038</b>	<b>0.036</b>	<b>0.034</b>	<b>0.034</b>	<b>0.034</b>	<b>0.034</b>	<b>0.030</b>
<b>Compressive Strength @ 10% (kPa)</b>	70	100	150	200	250	300	100
<b>Bending Strength (kPa)</b>	115	150	200	250	350	450	150
<b>Water Vapour Permeability (mg Pa.h.m)</b>	0.015 - 0.030	0.009 - 0.020	0.009 - 0.020	0.006 - 0.015	0.006 - 0.015	0.006 - 0.015	0.009 - 0.020
<b>Water Vapour Diffusion Resistance (μ)</b>	20-40	30-70	30-70	40-100	40-100	40-100	30-70
<b>Reaction to Fire - Standard EPS</b>	F	F	F	F	F	F	E
<b>Reaction to Fire - FRA EPS</b>	E	E	E	E	E	E	E
<b>Length Tolerance</b>	L2	L2	L2	L2	L2	L2	L2
<b>Width Tolerance</b>	W2	W2	W2	W2	W2	W2	W2
<b>Thickness Tolerance</b>	T2	T2	T2	T2	T2	T2	T2
<b>Flatness Tolerance</b>	P5	P5	P3	P3	P3	P3	P5
<b>Squareness</b>	S2	S2	S2	S2	S2	S2	S2

**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.**



### Styrene Packaging & Insulation Ltd

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