Stylite®

EXTERNAL WALL RAILBOARD INSULATION (EWI) DATASHEET

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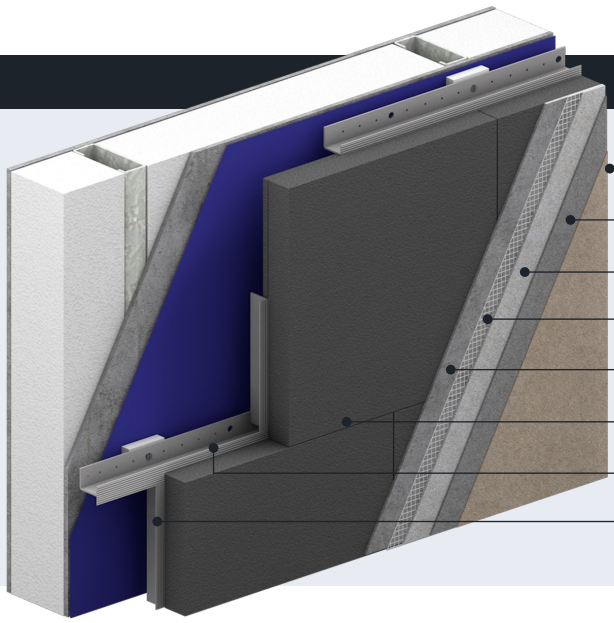
Expanding Possibilities

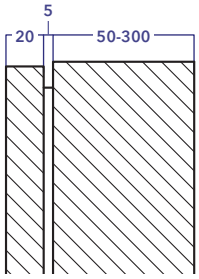


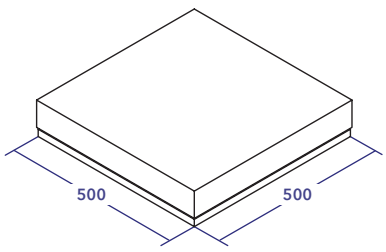
Typical Build-Up - Steel Frame - Mechanically Fixed EWI

- Top Coat Render
- Render Primer
- Base Coat
- Reinforcement Mesh
- Base Coat
- **Stylite External Wall Railboard Insulation**
- Railboard Track
- T Bar Fixing

Standard Product Attributes

Length	500mm
Width	500mm
Thickness	50 - 300mm
Coverage	0.25m²
Grades	EPS 70 FRA & Plustherm
Edge Profile	T bar rebate profile





Design Standards

All our Stylite EWI Railboard 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 Railboard External Wall Insulation Boards are utilised with drained ventilated cavity EWI systems applied to metal or wood frame structures. The NHBC recommends a minimum of 15mm drained cavity to protect against the ingress of any water. The insulation boards are easily fitted directly into the rail system using a rebate profile around all sides of the boards, this creates a tight fit which provides the stand off cavity required and can be rendered onto directly. and thermal performance of an existing building.

Product Benefits

- Suitable for all wall applications up to 18m
- Lambda from as low as **0.030W/mK**
- Custom cut to fit any rail system
- Meets NHBC technical requirements for drained ventilated cavity
- Fire retardant grade EPS
- Suitable for use in commercial or residential properties
- 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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Typical Applications

Rail systems can be utilised on refurbishment applications as it can be easily installed on irregular surfaces but is most commonly utilised for new build applications for a more cost effective approach to building with framed structures and achieving the drained cavity.

Expanded polystyrene (EPS) is naturally hydrophobic with high water vapour permeability. EPS boards can increase the life

It is typical to follow the guidance of the NHBC Technical Standards outlining the limitations for ventilated drained cavities at minimum 15mm or 50mm in areas of very severe exposure. Other sizes and thicknesses may be available on request.

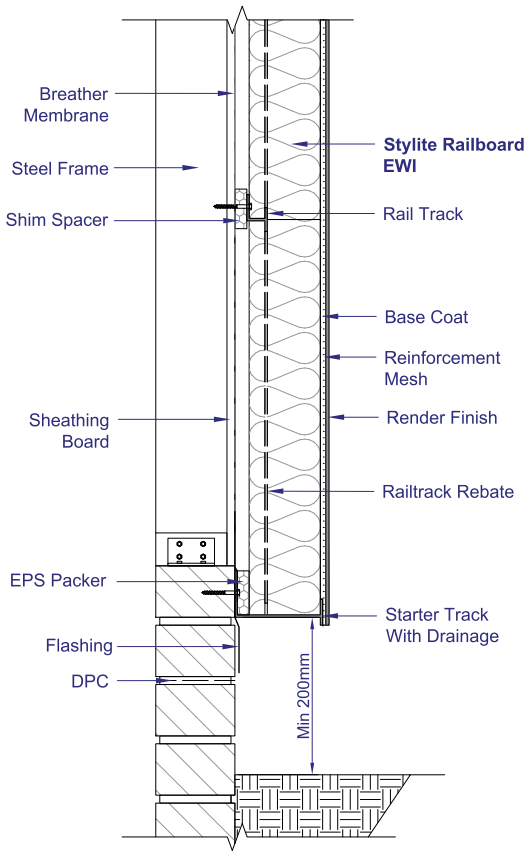
Typical U-Values

The table below shows the thickness of Stylite Railboard External Wall Insulation Boards required to achieve a specific u-value based on a typical lightweight steel frame building. the insulation to a brick wall or steel frame, and finished with a weatherproof render.

U-value (W/m²K)	Thickness Required (mm)	
	EPS 70	Plustherm
0.26	60	45
0.25	65	50
0.24	70	55
0.23	75	60
0.22	80	65
0.21	90	70
0.20	95	75
0.19	105	85
0.18	115	90
0.17	125	100
0.16	135	110

Typical Application

Steel Frame Wall - Ventilated Drained Railboard EWI



- Internal wall resistivity 0.130 K.m.W–1.
- 2mm internal finish with conductivity of 0.57 W.m–1.K–1.
- 12.5mm plasterboard with conductivity of 0.25 W.m–1.K–1.16mm
- Light steel frame with 400mm stud spacing and 150mm depth incorporating insulation with conductivity of **0.040 W.m–1.K–1.**
- 12mm external sheathing board with conductivity of 0.23 W.m–1.K–1.
- 15mm unventilated drained cavity with thermal resistance of 0.180 m2 K/W.
- 8.5mm external render finish with conductivity of 1.00 W.m–1.K–1.
- All other parameters are default values from BRE Report BR 443 : 2006.

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Specification Clause
The External Wall insulation shall be Stylite Railboard External Wall 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 SPI's recommendations and installation guide.

Refer to clauses:
M21 Insulation with rendered finish
220 External Wall Insulation System On Support Rails

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 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.

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.

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Physical Properties	White	Plustherm
	EPS 70 FRA	EPS 100
Thermal Conductivity (W/mK)	**0.038**	**0.030**
Compressive Strength @ 10% (kPa)	70	100
Bending Strength (kPa)	115	150
Water Vapour Permeability (mg Pa.h.m)	0.015 - 0.030	0.009 - 0.020
Water Vapour Diffusion Resistance (μ)	20-40	30-70
Shear Strength (kPa)	SS160	SS180
Shear Modulus (kPa)	GM140	GM150
Tensile Strength (kPa)	TR100	TR140
Reaction to Fire - Fire Rated EPS - **FRA**	E	E
Length Tolerance	L2	L2
Width Tolerance	W2	W2
Thickness Tolerance	T2	T2
Flatness Tolerance	P5	P5
Squareness	S2	S2
Dimensional Stability	DS (N) 5	DS (N) 5
BRE Green Guide Rating	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 - BS EN 13501-1.**

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CE

A+ BRE

MADE IN BRITAIN

ISO 14001 CERTIFIED UKAS MANAGEMENT SYSTEMS British Assessment Bureau

ISO 9001 CERTIFIED UKAS MANAGEMENT SYSTEMS British Assessment Bureau

mpa British Precast Member

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