

insulation
that exceeds
expectation

sb

expanded
polystyrene

Product Handbook Walls



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External Wall Insulation

Expandable polystyrene boards are used as part of a render system to provide an efficient and cost effective solution.

S and B EPS external wall insulation is an accepted way of adding thermal value to the outer face of most external walls.

Its versatility enable it to be used with a variety of finishes including plastic weather boarding, cladding, tile hanging and reinforced render systems.

S and B external wall insulation when used on the external face of a masonry wall maximises the natural thermal capacity of the wall and assists in the reduction of thermal fluctuations.

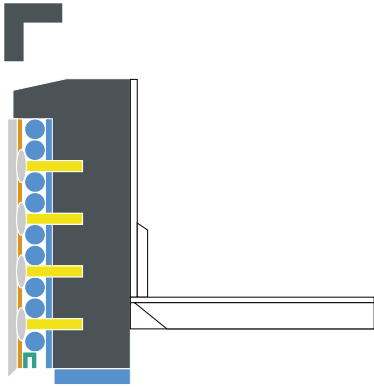
Given that heating and air conditioning interior rooms consume vast amount of energy and also accounts for approximately 80% of total energy consumption, with 30% being lost through uninsulated walls, external wall insulation offers a high cost effective solution to reducing your carbon footprint and money expended on climate control.



Quality Standards



The Palace of Art in Glasgow uses external wall insulation.



External Wall Insulation Board

- Block work
- S and B EPS external wall insulation panel
- Adhesive fixing to EPS panel
- Mushroom headed expanding mechanical fixing drilled and pin fixed
- Metal or fibrous mesh reinforcements
- Waterproof render

S and B offer various bespoke grades for thermal wall insulation; grades such as S and B external wall, S and B Lambdatherm which is a grey, low thermal valued board, plus EPS 70E and EPS 200E all containing a fire retardant additive.

All material is put through an ageing process for external wall applications to reduce any bowing and shrinkage of the EPS.

S and B EPS external wall boards are available in square edge, tongue and grooved boards, rebated boards to fit onto a rail system and specialised bespoke boards including an EPS radius board.

Square Edge Boards

S and B EPS square edge board is available in standard sizes from 1200 x 600 to more commonly 1000 x 500mm with the thickness being from 20mm up to 300mm.

They are mechanically or adhesive fixed to external walls.



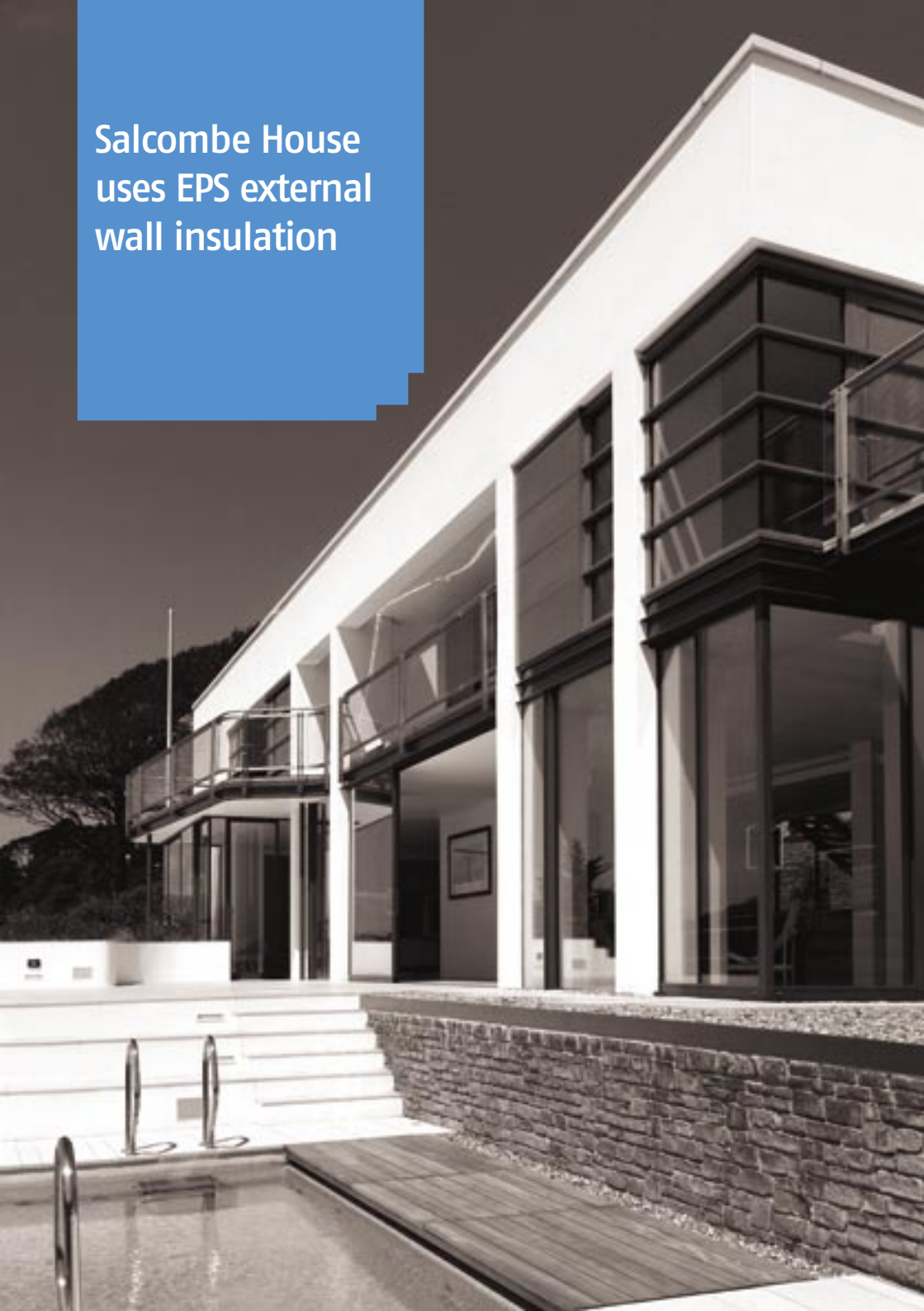
Rail System Boards

S and B Rail system boards come in standard dimension of 500 x 500mm ranging from 40mm up to 250mm in height. Boards are tongue and grooved on all four sides to fit a rail system that has been mechanically fixed on to an external wall.

Radius Board

S and B radius boards are bespoke cut boards suited to turn square edge buildings into radius arches and radius arches into square edge buildings.

Salcombe House
uses EPS external
wall insulation



Advantages

Faster, more efficient single leaf construction can be used, creating additional internal space with improved thermal performance.

Lightweight materials make this system suitable for tall constructions.

S and B fill is both CFC [chlorofluorocarbons] and HCFC [hydrochlorofluorocarbons] free with none of these ozone depleting components being emitted whilst it is the manufacturing process or in situ.

Its closed-cell structure inhibits water absorption and it is unaffected by the normal range of climatic conditions.

Unique thermal properties EPS is 98% air, therefore it is an excellent thermal insulator.



The Shoreline Hotel, Bognor Regis uses external wall panels.



The waste EPS produced during manufacture is reground and recycled back into the manufacturing process. Any additional waste can be easily recycled or used in a variety of products.

Cavity Wall Insulation Bead

Expanded polystyrene beads mechanically blown into external cavity voids, used to enhance the thermal performance of your home.

S and B manufacture a range of expanded polystyrene beads for the cavity wall insulation market, available in fire retardant grades such as low lambda grey bead and white.

Both beads are manufactured from polystyrene closed cell, inert, non toxic CFC and HCFC free material and have a zero GWP (global warming potential) and ODP (ozone depletion potential)

S and B cavity wall bead is suitable for buildings 12m in height and can also be used in buildings over 12m in height, subject to a BBA waiver being issued.

Advantages

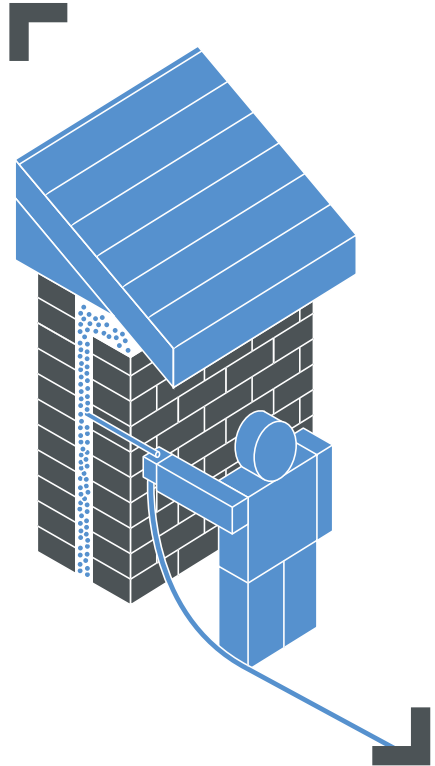
Reduced heat loss through the walls by up to two thirds.

Reduced heating bills by up to one third.

A warmer more comfortable house in winter and a cooler house in summer.

Speed and efficiency for applying.

Cost effectiveness.



For further information on S and B Cavity wall insulation bead including delivered quantities and installers can be obtained on request.

S and B EPS Structural Insulated Panels [SIPS]

The way we build houses is changing, with environmental concerns and issues likely to dominate all our lives for the foreseeable future.

As a result of this, the building industry is changing to adapt new technologies, resulting in the building of a brand new type of environmentally friendly, energy efficient zero carbon housing.

One method of construction that will be at the forefront of this building design and technology is SIPS panels.

We at S and B EPS embrace this new technology and are pleased to be able to offer a CFC and HCFC free EPS core material giving the required flexibility to achieve any required U value.

Advantages

S and B EPS SIPS core panels are manufactured from CFC and HCFC free polystyrene and are available in the following grades; EPS 70E, EPS 100E, EPS 150E, EPS 200E and Lambdatherm.

S and B EPS SIPS core panels offer a wide range of sizes up to 5m in length and 1.2m in width that are able to accommodate any required thickness.

Cavity Wall Partial Fill and Full Fill EPS Insulation

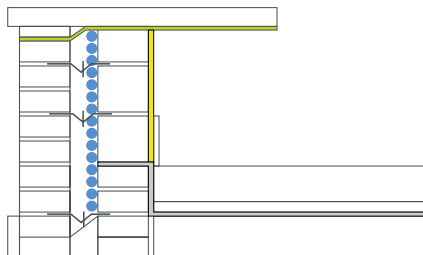
EPS cavity boards are well proven and designed for use in masonry walls, they are quick and simply fixed to the leading leaf of the cavity normally with the use of wall ties.

Expandable polystyrene boards are supplied in a low thermal value material called Lambdatherm.

Board Dimensions are 1200 x 450mm with standard thicknesses of 50, 75 and 100mm



Quality Standards



Cavity Wall Insulation [Partial Fill]

- Damp proof tray
- EPS cavity insulation
- Nominal 50mm retained cavity
- Plasterboard or other lining



S and B Walls

Identification Table & Specification Data

New Identification / colour coding of products manufactured to BSEN 13163		
EPS 70	2 x brown stripes	■ ■
EPS 70E	2 x brown stripes & 1 red stripe	■ ■ ■
EPS 100	1 black stripe	■
EPS 100 E	1 black stripe & 1 red stripe	■ ■
EPS 120	2 x green stripes	■ ■
EPS 120 E	2 x green stripes & 1 red stripe	■ ■ ■
EPS 150	1 yellow stripe	■
EPS 150 E	1 yellow stripe & 1 red stripe	■ ■
EPS 200	2 x black stripes	■ ■
EPS 200 E	2 x black stripes & 1 red stripe	■ ■ ■

Property	Conditions	Grades					Lambdatherm	
		EPS 200	EPS 150	EPS120	EPS100	EPS70	90	70
Water [tabulated values]								
Vapour diffusion resistance factor μ 1		40–100	30–70	30–70	30–70	20–40	30–70	20–40
Vapour permeability δ mg [pa.h.m]		0.007a to 0.018	0.010 to 0.024	0.010 to 0.024	0.010 to 0.024	0.018 to 0.036	0.010 to 0.024	0.018 to 0.036
Heat								
Thermal conductivity [K] value W/mk Max	10°C mean	0.034	0.035	0.036	0.036	0.038	0.030	0.032
Strength								
Compressive strength kPa Min	at 10% compressive strength	200	150	120	100	70	90	70
Cross breaking strength kPa Min		250	200	170	150	115	150	115
Safe working load kPa	at 1% nominal compression	90	70	45	45	21	45	21

For further information on these products and others within the S and B EPS range please get in touch.

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