

Technical Data Sheet

BEAMSHIELD[®] Top Sheet Suspended Floor Insulation

Beamshield Top Sheet / UFH EPS blocks for use as thermal insulation in conjunction with precast concrete beams, masonry closure and coursing blocks, and structural concrete toppings in suspended concrete ground floors (over a sub floor void) in domestic, residential and commercial buildings.

Sustainability

Springvale advocate responsibility to the environment as part of their Environmental policies and Environmental Management System to BS EN ISO 14001 and as members of the British Plastics Federation (BPF), participates in the recycling post-construction EPS scheme.

Expanded Polystyrene (EPS)

Expanded polystyrene (EPS) is an excellent choice for use as insulation and other applications, consisting of 98% air means only 2% of any product is polystyrene material.

With its outstanding thermal insulation qualities EPS is a first choice material for numerous construction applications. Using EPS can reduce CO₂ emissions by up to 50%, offsetting its small carbon footprint and giving maximum return for minimal resource and can also make a significant contribution to reducing fossil fuel use for heating and cooling of buildings which in turn, helps reduce SO₂ and SO₃ emissions, a major cause of acid rain.

Using less than 0.1% of global oil consumption to manufacture EPS, it can save up to 200 times its own resource in thermal energy saving, bringing considerable energy and resource-saving benefits.

The amount of carbon monoxide and particulates given off by EPS during combustion is a small fraction of that emitted by wood or cardboard.



The manufacture of EPS is safe for the environment as only steam is used during the manufacture process. There is no waste in the process as all off-cuts are re-cycled back into the production process.

EPS uses Pentane as its blowing agent and is HFC, CFC and HCFC free. Pentane has a low Global Warming Potential (GWP) of less than five and the EU does not register pentane as a substance hazardous to human health or the environment.

The lightweight nature of EPS helps to minimise environmental impacts and costs associated with the movement of heavier alternative materials.

The inert and non-toxic nature of EPS provides stability in landfill because it does not biodegrade and leach chemicals into the water system or gases into air that could contribute to global warming.

Life-cycle analyses demonstrate that EPS has exceptional qualities as a construction material. It has a Zero Ozone Depletion Potential (ODP) and a low Global Warming Potential (GWP) and achieves the highest possible A-Plus summary rating in the BRE Global Green Guide to Specification.



Highly Durable

A durable, inert, non-toxic, rot proof and 100% recyclable product, the performance of EPS is expected to last at least the life time of the building in which it is used.

Excellent Thermal Performance

Using Beamshield Plus EPS units as an alternative to concrete blocks in a suspended floor will reduce ground floor heat loss, requiring no secondary insulation.

Platinum Beamshield Infill Unit 150mm thick & Platinum Tops Sheet 200mm thick can achieve U Value $0.09 \text{ W/m}^2\text{K}$ depending on the floor layout.

Beamshield Top Sheet can contribute to improvements in linear thermal bridging values (Psi values) & improvement of the default values used in SAP assessments.

Freedom of Design

The range of units are available in white or Platinum EPS to give higher insulation value where needed and include starter/end, full and half width units in varying thickness and toe lengths (Beamshield Plus unit) to accommodate various beam types and beam layout configurations. The Top Sheet to be used with the Infill units or Beamshield Plus units is also available in various thicknesses.

Technical Data

Beamshield Plus / Infill Units

| | White | Platinum |
|---------------------------------|--|--|
| Type & Class (BS EN 15037-4) | R1a | R1a |
| Thermal Conductivity (W/mK) | 0.038 | 0.030 |
| Mechanical Resistance (kN) | 1.5 | 1.5 |
| Unit Size (mm) | Full Unit Half Unit Starter / End Units | 1200 x 540 1200 x 270 1200 x 300 (Max Width) |
| Thickness (mm) | 200 to 600 for Beamshield Plus units, 120- 250 for Beamshield Infill units | |

Top Sheet & Variable Width Board

| | White | White | Platinum |
|--|--|--------|----------|
| Type & Class (BS EN 13163) | EPS120 | EPS200 | EPS120 |
| Thermal Conductivity (W/mK) | 0.035 | 0.033 | 0.030 |
| Compressive Strength @10% deformation (kPa) | 120 | 200 | 120 |
| Board Size (mm) | Top Sheet 2400 x 1200, Variable Width Board 1200 x 350mm | | |
| Thickness (mm) | Top sheet 50-600, Variable Width Board 75 - 100 | | |



Certification

Springvale Beamshield Top Sheet/UFH has a third party BDA accreditation certificate BAF 17-056/01/A and is manufactured to the requirements of BS EN 15037-4 and BS EN 13163, under an ISO 9001 certified quality management system.

www.springvale.com/downloads

Quick & Easy Installation

The lightweight units can be cut using a handsaw and do not require grouting to secure the units into position, helping to reduce manual handling issues and installation time.

The product should be installed in accordance with the BDA certificate and the installation guide. For more details on installation please visit:

www.beamshield.co.uk/beamshield-top-sheet-installation

Beamshield Top Sheet should not come in direct contact with hot water pipes and electrical cables should be enclosed in suitable conduit e.g. rigid PVC

Handling & Storage

The products must be stored flat, off the ground, on a clean level surface, protected from high winds and prolonged exposure to sunlight, either under cover or with opaque, light-coloured polythene. The products must not be exposed to open flame or other ignition sources. Care must be taken to avoid contact with solvents and materials containing organic components.

Want to know more?

See more about our Beamshield products at - www.beamshield.co.uk

Contact Technical or Sales for more information.

Phone - **01457 863 211** or Email - technical@springvale.com

