



**S and B EPS
Limited**

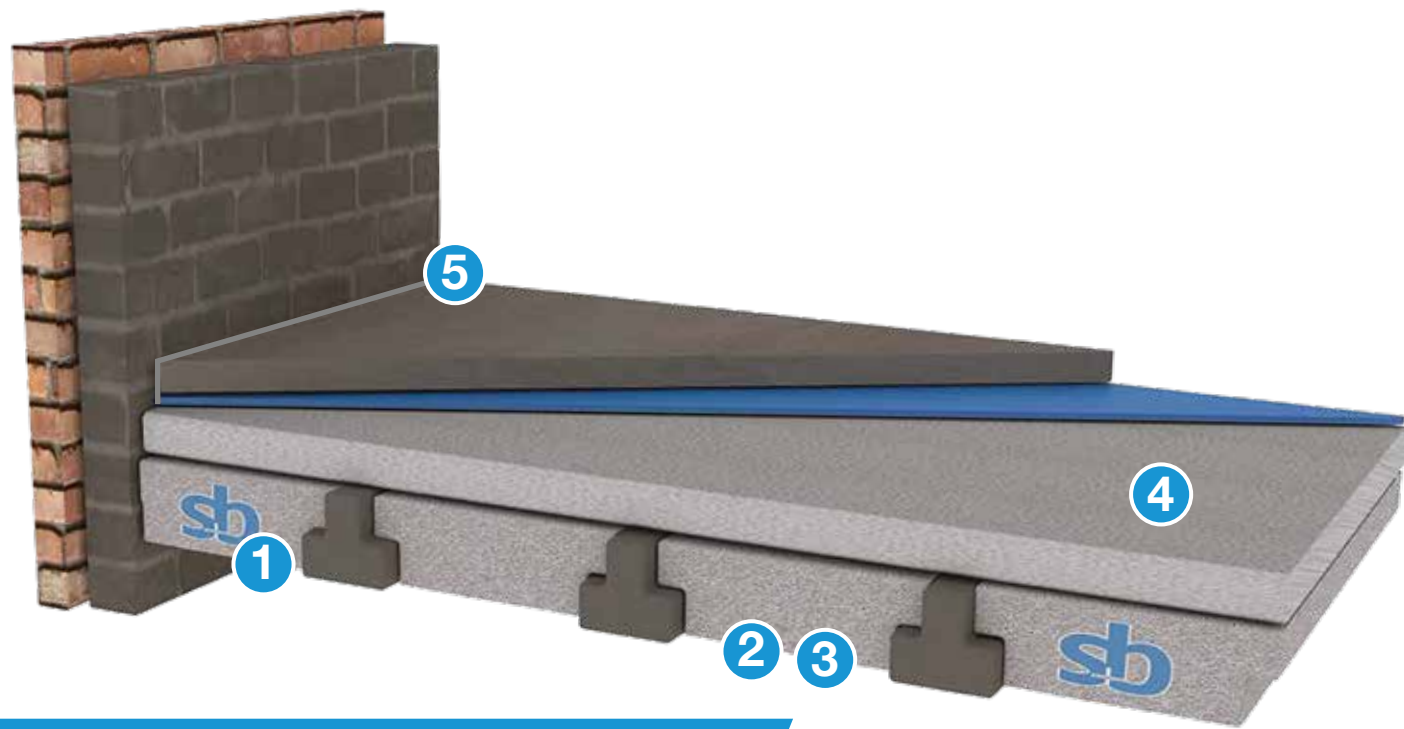
Manufacturers of expanded polystyrene

Warmbeam® Topsheet System

Installation Guide



www.sandbeps.com



Warmbeam® Topsheet System



Damp Proof Membrane
(supplied by others to suit wall)



Air Brick / Vent
(supplied by others)

Prestressed Beam
150mm or 225mm
(supplied by others)



Lightweight Concrete Closure Block
(supplied by others)



Lightweight Concrete Closure Block
(supplied by others)



1

EPS Starter/End block 178-300mm



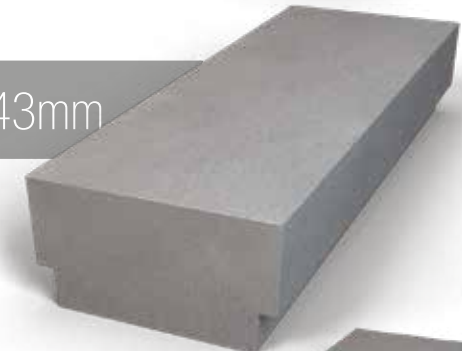
2

EPS Infill block 533-540mm



3

EPS Infill half block 240-343mm



4

EPS Topsheet 2400 x 1200mm



5

EPS Edge strip 30 x 75 x 1200mm

(Other sizes available)



Gas or Separating Membrane
(supplied by others)

1

Preparation

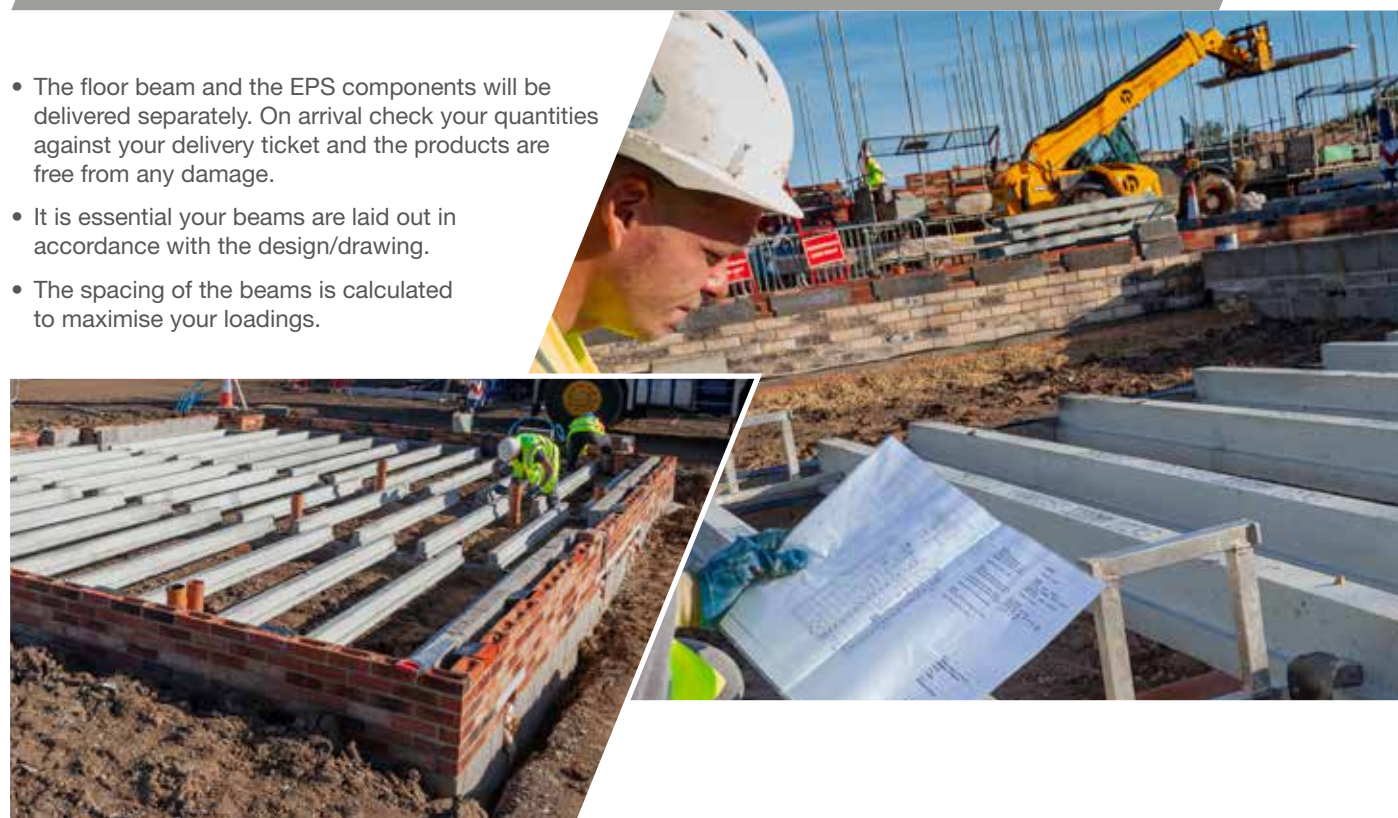
- Firstly, check the bearing walls are free of mortar and concrete, then ensure the height is correct to your drawing.
- The bearing walls are to be built to the soffit level of the beams.
- The non bearing end or side walls are to be built higher than the top of the beams. This will then provide enough friction to support your Starter/End unit.
- The internal ground level must have sufficient clearance from the soffit of the flooring system, this must be a minimum of 150mm.
- Roll out the damp proof course over the inner leaf supporting walls.



2

Pre installation

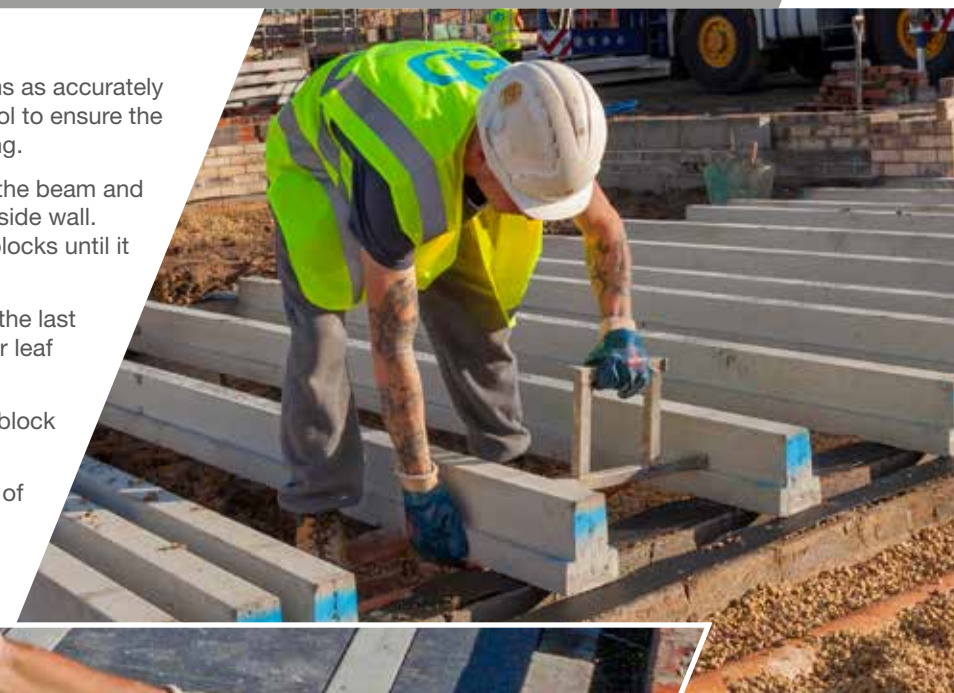
- The floor beam and the EPS components will be delivered separately. On arrival check your quantities against your delivery ticket and the products are free from any damage.
- It is essential your beams are laid out in accordance with the design/drawing.
- The spacing of the beams is calculated to maximise your loadings.



3

Installation process

- Start the first bay by placing the beams as accurately as possible, you can use a spacing tool to ensure the spacing is correct to the layout drawing.
- Place the starter block onto the lip of the beam and vertically flush against the face of the side wall. Continue installing the row of starter blocks until it is not possible to place a full piece.
- Measure the remaining distance from the last full block to the inside face of the inner leaf block.
- Cut the required length from a starter block and infill to finish the row.
- The offcuts will be used in other parts of the layout/other plots.
- Ensure that you have a snug fit by pushing the beams tight towards the block.



4

Closure block

- The concrete closure blocks are manufactured to match the width of the EPS blocks.
- Bed the concrete block in with mortar between the beams ensuring the top of the block is level with the top of the beams.
- Once all the closure blocks are in place, the end closure block will need to be cut to suit the drawing dimensions.



5

Installation Infill process

- Complete laying all beams in line with the layout.
- Locate the remaining infill blocks between beams.
- As with the starter blocks, cut the desired amount off the full length units.
- Any soil vent pipes or penetrations within the floor can easily be accommodated by cutting with a handsaw.



6

Installation End block

- Your layout should now correlate with the drawing.
- Measure the required distance to achieve the correct width and, with the aid of a handsaw, cut the end block to suit.
- Install the remaining blocks to the row and repeat as above with regards to finishing.



7

Build up / Topsheet

- Now build up the brick and block courses ensuring the perimeter and any internal walls are up to finished floor level.
- These walls are used as a guide to ensure the concrete topping is laid to the required depth.
- While walking over the floor ensure to walk on the beams locations or lay boards out to protect the EPS blocks.
- Our top sheets are supplied in packs. Sheet sizes 2400mm x 1200mm. The number of sheets per pack depends on the board thickness.



8

Damp proof

- If a membrane is specified it should be laid in accordance with the manufacturers or architects instructions.
- The membrane should be fitted tight to ensure that any folds or creases are removed and that the membrane lies flat over the floor construction.

9

Edge strip

- The EPS edge strips are fitted throughout the perimeter and also to any internal walls of the building. This will eliminate the risk of cold bridging between the walls and concrete topping.

10

Concrete finish

- Pour your specified structural topping to the required depth ensuring the EPS blocks and Top Sheet are still perfectly in place during pour. It is well advised to pour your concrete in smaller amounts to ensure the floor is free from any damage and overloading.
- The minimum air temperature should be 3.0°C and rising prior to the pour.
- Laying during high temperatures or wind will have a significant effect on the quality of the finished floor. Good curing practices will help prevent cracking through premature drying.



Characteristic properties of the EPS top sheet and infill panels

Description	Thickness mm	Top width max/min mm	Bottom width max/min mm	Length mm	Compressive strength at 10% deformation kPa	Mechanical resistance according to BS EN 15037-4 : 2010	Declared level of compressive creep to BS EN 13163 : 2012	Declared Thermal conductivity W.m-1.K-1	Colour	Moisture diffusion co- efficient (μ) ⁽²⁾
Full panel	150 to 225	533 to 540	485 to 492	1200	70	Type R1 and Class R1 a	-	0.038	White	20 to 40
Half panel		270 to 343	222 to 295					0.031	Grey	
Combined start/ end panel		178 to 300	154 to 276					0.036	White	
Make-up panel	98	Up to 440	-		100			0.030	Grey	30 to 70
Top sheet	50 ⁽¹⁾ to 300	1200		2400	120	-	CC(2/1.5/50)30	0.036	White	
					150			0.031	Grey	
								0.035	White	
								0.031	Grey	
					200		CC(2/1.5/50)60	0.034	White	40 to 100

11

BBA guidelines for concrete toppings

Standard Concrete: 75mm min depth C28/35 with maximum aggregate size 20mm and reinforcement selected from the options below. Slump should be Class S3 (100 to 150mm) or S4 (for spot samples taken from initial discharge, 140 to 230mm). Aggregate to comply with BS EN12620: 2013. Self-Compacting Concrete: 75mm min depth C28/35 with maximum aggregate size 10mm and reinforcement selected from the options below. Slump flow class should be SF1 (550 to 650mm) or SF2 (660 to 750mm). The sand content should be greater than 45%. Aggregate to comply with BS EN12620:2013.

12

Recommended reinforcements

Mesh: One layer of A142 mesh (to BS 4483:2005) with a characteristic yield strength of 500N/mm² set at mid-point to the depth of the concrete topping.

Steel Fibres Novomesh B&BA: Dosage rate 17.5kg/m³, steel flat end, steel fibres, 50mm long, 1mm diameter, tensile strength of 1150N/mm². Steel Fibres Adfil SF86: Dosage rate 13.33kg/m³, 60mm long, 0.75mm diameter, modulus of elasticity of 200000N/mm², tensile strength of 1225N/mm².

Macro-Polymer Novomesh B&BA: Dosage rate 3.84kg/m³, continuously deformed, 60mm long, 0.56mm diameter, modulus of elasticity of 7000N/mm², tensile strength 600N/mm². Macro-Polymer Durus Easy Finish: Dosage rate 3.00kg/m³, 40mm long, 0.7mm diameter (equivalent), modulus of elasticity of 6000N/mm², tensile strength of 470N/mm².



Warmbeam® Topsheet System

- ✓ Quick and easy to install
- ✓ Cost effective against other block & beam systems
- ✓ Reduced wastage
- ✓ BBA Certified 17/5431 product sheet 2
- ✓ Can be laid in wet conditions
- ✓ Low thermal conductivity
- ✓ U Values as low as 0.070 W/m²K are obtainable
- ✓ A+ Green guide rating



S and B EPS Limited

Manufacturers of expanded polystyrene



EPS is an excellent example of an efficient use of a natural resource as the transformation process uses very little energy. The use of EPS for thermal insulation in the construction industry means significant energy savings on heating and cooling buildings and a dramatic reduction in the emission of polluting gases. Therefore, it contributes to alleviating the greenhouse effect and acid rain.

EPS is fully recyclable and no waste is created in its manufacture.

Ask about our waste recycling scheme.



0191 2500818



company@sandbeps.com



www.sandbeps.com



**Ask about our waste
Recycling scheme**

BBA

ISO 14001
Registered Company
GMS CERTIFICATION 12/EO13

BBA

ISO 9001
Registered Company
GMS CERTIFICATION 03/G001

