



A Business Built on Air

Structural Fill

Civil Engineering - Technical Data Sheet

Sundolitt Structural Fill is a lightweight void fill solution with high strength capability. Assisting structural designs in difficult areas. Commonly used to reduce pressures on poor soils and existing weak structures.

Available in a range of compressive strengths to suit the application requirements. Standard block and cut sheets sizes are provided.

Standard Sizes Available

	Length	Width	Thickness
Dimensions (mm)	2400	1200	50 - 1200

The use of EPS as a structural lightweight fill has been accepted practice in the UK for over 30 years and globally for 50 years.

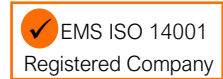
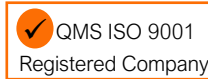
Applications for Sundolitt Structural Fill:

- Road Construction and widening
- Void Formers
- Rail Embankments
- Bridge Abutments
- Retaining Walls
- Culverts
- Landscaping
- Temporary Access
- Noise Bunds



Accreditation

Sundolitt Structural Fill is manufactured in accordance with BS EN ISO 14933.



EPS Benefits

- Load Bearing
- Lightweight
- Water Resistant
- Versatile
- Resistant to freeze/thaw
- Flame Retardant Available
- ODP = 0 GWP = <5
- Fully Recyclable

Sundolitt Structural Fill - Physical Properties

PRODUCT GRADE	S70	S100	S150	S200	S250	S300	S350	S400	S500
Nominal Density (kg/m ³)	15	20	25	30	35	38	42	48	55
Long Term Load (kPa) (Compressive Creep <2% over 50 yrs)	21	30	45	60	75	90	105	120	150
Compressive Strength at 1% nominal Compression (kPa)	20	45	70	90	100	120	140	160	190
Compressive Strength at 10% nominal Compression (kPa)	70	100	150	200	250	300	350	400	500
Bending Strength (kPa)	115	150	200	250	350	450	525	600	750
Shear Strength (kPa)	55	75	100	125	170	225	260	300	375
Coefficient of Friction	0.5								
Poisson's Ratio	0.12								

*Flame retardant material available specified as: SE70, SE100, SE150, SE200, SE250, SE300, SE350, SE400 and SE500

CONTACT US

01786 471586

enquiriesuk@sundolitt.com

www.sundolitt.com



Sundolitt®

Structural Fill

Installation Guide

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Road Construction



Embankments



Landscaping



Bridge Abutments



Bridge Underfills

Installation

Sundolitt Structural Fill is lightweight and easy to install. EPS is inert and non-toxic there is no requirement for PPE during normal handling of EPS.

The surface onto which the EPS blocks are to be laid must be level and even. This can be compacted ground or a blinding layer of sand or concrete.

When building on ground with poor bearing capacity or differing soil conditions it is recommended that a Geotextile membrane is placed below the EPS blocks.

Blocks should be placed tightly butted together with joints staggered in a brickwork pattern. Additional layers above should be cross laid, this assists in providing a solid fill spreading loads evenly.

Where cutting of the blocks is required on site this should be carried out using a saw or hot wire cutter.

Fixing

During installation the use of short lengths of rebar driven vertically into the blocks may be used to provide temporary fixing. The EPS blocks may also be adhered together to prevent movement during installation processes.

Once the topping layers of concrete, sand or soil are in place the blocks will no longer be susceptible to movement.



Flotation Resistance

Structural Fill has a buoyancy factor of 980kg/m³. The design must take into consideration uplift from ground water. Sufficient weight of topping materials must be provided to withstand upward pressures where ground water is a factor in the design.



Protective Layers

EPS Fill must be protected against contact with hydrocarbons and organic solvents such as petrol. Protection from ground contaminants when building on landfill or brownfield sites must also be considered.

The top layer of Structural Fill should be protected using an impermeable membrane able to withstand mechanical and chemical damage. All membrane seams must be lapped and sealed against penetration of chemicals.

A minimum cover of 200mm sand and gravel is sufficient to run plant over the EPS blocks during construction. Care must also be taken not to damage any membranes installed.

Where the operation of plant directly onto the EPS fill is unavoidable temporary protection must be provided such as timber boarding or appropriate mats. The use of a temporary membrane to protect against spillage is also advised.

Chemical Resistance

EPS is resistant to most common construction materials.

It must be protected against contact with Hydrocarbons, Ketones, Esters, Ethers and Halogenated Organic composites.

Concrete Installation

Reinforcing bars must be installed on appropriate spacer pads to prevent damage to the EPS blocks and/or protective membrane. Where very heavy reinforcement is specified the provision of a minimum 50mm concrete blinding over the fill/membrane is required.

Maximum depth of concrete pour should not exceed the 1% compressive strength of the Structural Fill material.

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 enquiriesuk@sundolitt.com

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