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BIOTEX GSF180

Ground Separation and Filtration System

DESCRIPTION

BIOTEX GSF180 is a high-performance natural fibre, non-woven, staple fibre, needle-punched geotextile to be used as a ground separation and filtration medium in civil engineering. The main functions of BIOTEX GSF180 are **Separation (S) and Filtration (F)**. BIOTEX GSF180 is used between ground layers, applied directly onto ground surface. BIOTEX GSF180 offers optimum mechanical, hydraulic and physical properties with universal civil engineering applications. BIOTEX GSF180 is a sustainable solution to current petroleum based synthetic polypropylene geotextiles. BIOTEX GSF180 is suitable for both permanent and temporary applications with no need to remove and dispose, saving time and cost. BIOTEX GSF180 is manufactured using a randomly orientated staple bamboo fibre system resulting in optimum isotropic strength to meet radial load requirements. BIOTEX GSF180 is engineered to provide high strength and high elongation at break to ensure excellent resistance to damage during construction.

BIOTEX GSF180 offers excellent uniformity with high permeability and low pore size, suitable for Fin, Lateral, French and Sustainable Urban Drainage Systems (SUDS). BIOTEX GSF180 offers more thermal stability compared to polypropylene at both high and low temperature ranges. BIOTEX GSF180 is naturally UV protected and light stabilized to provide long term durability.

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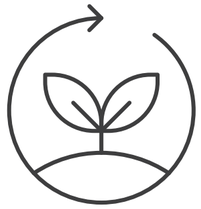
THE ADVANTAGES

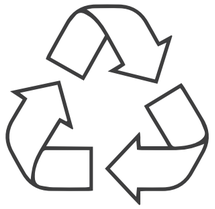
BIOTEX GSF180 is a bamboo fibre geotextile for use in ground separation and filtration.

Biotex GSF180 is an innovative, high-performance, natural fibre, non-woven, staple fibre, needle-punched geotextile to be used as a ground separation and filtration medium in civil engineering. BIOTEX GSF180 is composed of natural UV & light protected, antimicrobial, high tenacity, thermally stable, random staple bamboo fibres, providing high strength and excellent abrasion characteristics. With a small pore size and good permeability, BIOTEX GSF180, maximizes drainage capacity, while preventing migration of fines.



100%
Sustainable

100%
Renewable

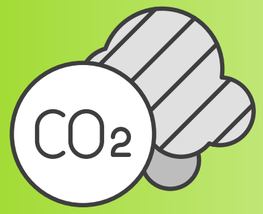


100%
Recyclable

100%
Biodegradable

100%
Harmless

Near Zero Carbon
Footprint



Reduction

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MORE ADVANTAGES

- Non-petroleum based.
- Optimum mechanical, hydraulic and physical properties.
- Optimum isotropic strength meeting load requirements.
- Minimal damage during construction.
- Excellent uniformity with high permeability and pore size.
- Thermally stable, UV protected and light stabilized.
- High tenacity, thermally stable fibres.
- Contributes to the reduction of carbon dioxide in our atmosphere.
- 72 month minimum service life-cycle (dependent on physical, chemical and biological conditions and exposure).
- Encourages sustainable building practices.
- Totally biodegradable packaging system.
- No need to remove and dispose.
- Easy and quick to install.

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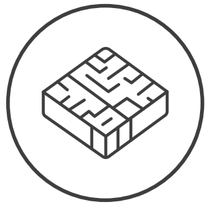
APPLICATION

Public &
Urban Spaces

Public parks &
Recreation



Paved &
Unpaved Roads

Railways

Car Parks &
Hard standing

Cycleways &
Footpaths

SUDS
Installations

Pond Liner
Protection

Coastal
Construction

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BIOTEX GSF180 separates and filters ground materials.

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TECHNICAL DATA

Property	Test Method	Unit	Mean Value/SD
Function			Ground Separation, Filtration (S, F)
Wide Width Tensile (MD/CMD)	ISO 10319:2015	kN/m^2	3.2/4.2
Tensile Strain (MD/CMD)	ISO 10319:2015	%	62.0/30.6
Pore Opening Size	ISO 12956:2010	O_{90} µm	65
Cone Drop	ISO 13433:2006	mm	34
CBR Puncture Resistance (Force)	ISO 12236:2006	kN	0.56
Constant Head, 50mm Head	ISO 11058:2010	$L/m^2/s$	31

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Thickness @ 2kPa	ISO 9863-1:2016	mm	1.54
Mass Per Unit Area	ISO 9864:2005	g/m^2	180
Roll Width		m	1.0/2.0
Roll Length		m	100/100
Roll Area		m^2	100/200
Gross Roll Weight		kg	18/36

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ENVIRONMENTAL COMPARISON

Function	Biotex GSF180	Polypropylene
Raw Materials*	Natural cellulose bamboo fibre	Homopolymer
Energy Comsumption	Low	High
Carbon Footprint	Low	High
UV & Light Stable**	Yes	No
Thermally Stable***	Yes	No
Acid/Alkali Stable****	Yes	Yes
Colour Pigments	No	Yes

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Lubricants	No	Yes
Oxidation	No	Yes
Recyclable	Yes	Yes (if separated)
Biodegradable	Yes	No
Antimicrobial*****	Yes	No
Durability******	6+ years	25+ years
Toxic Leaching	No	Yes
Microplastic Fragmentation	No	Yes

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Nano plastic Fragmentation	No	Yes
Effect On Ecosystem	No	Yes
Food Chain Contamination Risk	No	Yes

*Polypropylene is a petroleum based synthetic polymer.
**Polypropylene contains UV absorbing and light stabilizing chemical additives. Bamboo fibre is naturally UV protected and light stabilized to provide long term durability to slow photodegradation. Resistance to loss of load capacity or structural integrity when subjected to 500 hours of UV and aggressive weathering in accordance with ASTM D4355 (pending).
***Bamboo fibre is thermally stable compared to polypropylene which becomes brittle at low temperatures (Tg). Thermal decomposition temperature range Biotex 100, -200°C to 246°C / polypropylene -20°C to 175°C.
****In neutral soil types of around 7pH. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing (pending).
*****Manufactured using antimicrobial bamboo fibre to provide long term durability in all soil types.
******Dependent on physical, chemical and biological conditions and exposure.

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PACKING AND IDENTIFICATION

BIOTEX GSF180 is supplied on cardboard cores and boxed in cardboard cartons with identification labels.

ROLL SIZES

1m x 100m
2m x 100m

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INSTALLATION

BIOTEX GSF180 can be installed onto any prepared ground surface. Remove any sharp objects, level the ground surface. Roll out BIOTEX GSF180 by hand or mechanical applicator on to the prepared ground surface. Overlap the fabric by at least 300-500mm to best restrict the migration of fines. Fix BIOTEX GSF180 into position using BIOFIX bamboo fixing pegs or steel ‘J’ pins, at a rate of 4 per m^2. Cover BIOTEX GSF180 with fill material as soon as possible (within 14 days) to avoid UV degredation.

QUALITY CONTROL

A Quality Management Systems (QMS) according to ISO 9001:2015 and BS EN 15381:2009 (pending) is used with the objective to achieve complete customer satisfaction. An internal laboratory leads the quality control procedures for the range and for the development of new products. Random testing and cooperation with UKAS and other accredited laboratories are a guarantee of an optimized quality control system.

The values and tolerances given are obtained at manufacture and at accredited testing institutions. The information given is to the best of the Company’s knowledge true and correct. BIOTEX GSF180 is a UKCA (pending) marked product.

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STORAGE

Rolls of BIOTEX GSF180 shall be stored on dry, stable, level ground and stacked no more than 10 cartons high. No other materials shall be stacked on top. The rolls can be stored outdoors when packaged but must be kept dry. All materials must be stored in accordance with good health and safety practices.

ADDITIONAL INFORMATION

Reported values are arithmetic mean values, unless otherwise stated. Standard Deviation (SD) is a measure used to quantify the amount of variation or dispersion of a set of data values.

MANUFACTURE

ISO 9001:2015
Made in China.

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AMENDMENTS

The Company reserves the right to amend this document at any time, without notice.

DISCLAIMER

Inasmuch as the Company has no control over installation design, installation workmanship, accessory materials, or conditions of application, the Company does not warrant the performance or results of any installation or use of BIOTEX GSF180. This warranty disclaimer includes all implied warranties, statutory or otherwise, including the warranty of merchantability and of fitness for a particular purpose. The purchaser and/or user should perform its own tests to determine the suitability and fitness of the product for the particular purpose desired in any given situation.

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BIOGRID
SYSTEMS

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