

Modular Drainage System

Technical Specification



Porosity and Infiltration Rate: Manufactured from recycled end-of-life tyre rubber, the Rosehill Modular Drainage System offers outstanding porosity at 45% and an infiltration rate of 8,000 to 10,000 mm/hr. This innovative geocomposite system is engineered to replace traditional rail drainage materials. Its adaptable design allows customisation of filtration performance to suit various sediment types, ensuring optimal hydraulic conductivity and preventing blockages.

Durability and Structural Integrity: The robust open-pore structure of our system ensures seamless water flow, enhancing the resilience of rail infrastructures against severe weather and heavy rainfall. This makes it exceptionally suitable for the demanding environments of railway applications.

Installation Efficiency: Designed for rapid deployment, our drainage system integrates smoothly with ongoing rail construction activities. It utilises standard industry equipment, drastically cutting down project timelines and labour requirements. This efficient installation process minimises disruption to railway operations and significantly speeds up completion times.

Property	Standard	Results
Density		750kg /m3
Porosity / Void Ratio	ASTM C642	(40% to 54%) Avg. 45%
Fatigue Testing	BS EN 604	Specimen Area m3 0.0009503 500,000 cycles 195 kPa Deformation no greater than 5%
Compressive Strength	BS EN 604	20% Strain 1,000 kN/m ²
Resistance to Temperature, Water	ASTM D4065	Pass
Carbon Reporting	Life Cycle Assessment	Minimum of 90% waste materials within the overall composite
Resistance to Chemicals (Petrol, Diesel, De-icer, Road Salt)	DEF STAN 00-035 Part 3	No visual surface change or deterioration was observed
Toxicology and Environmental	NF P 90-112:2016	Heavy Metals Pass. PAH: Pass Environmental safety confirmed
Water Permeability Constant Head	BS EN ISO 11058	Specimen Area m ² 0.0039 Flow Velocity V20 m/s 0.049 L/m ² /s 49 Permeability m/s 0.051
In Plain Water Flow Hydraulic Gradient 0.1	BS EN ISO 12958	Soft/Soft Platens Hydraulic Gradient 0.1 10 kPa L/s/m 0.55 50 kPa L/s/m 0.43
In Plane Water Flow Hydraulic Gradient 1.0	BS EN ISO 12958	Soft/Soft Platens Hydraulic Gradient 1.0 10 kPa L/s/m 1.88 50 kPa L/s/m 1.19

- **Recycled Material Composition:** Constructed from 100% recycled rubber tyres.
- **High Porosity Blocks:** Engineered for maximum water infiltration and drainage efficiency.
- **Modular Design:** Allows for easy installation, expansion, and repair.
- **Durability:** Rubber material ensures long-term durability and resilience.
- **Chemical Resistance:** Offers resistance to common chemicals such as petrol, diesel, de-icer, and road salt.
- **Environmental Compliance:** Free from harmful PAHs, complying with environmental safety standards.
- **Temperature Resistance:** Maintains performance in both hot and cold environments.
- **Flexibility:** Accommodates minor ground movements, reducing the risk of system failure.
- **Load-Bearing Capacity:** Designed to handle standard loading conditions in drainage applications.
- **UV Resistant:** Treated to resist UV degradation, prolonging the system's lifespan.

Get in touch:



+44 (0)1422 839610



info@rosehillrail.com



rosehillrail.com



Rosehill Rail, Rose Hill Mills, Beech Road, Sowerby Bridge, West Yorkshire, HX6 2JT, UK