Modular Drainage System
Technical Specification

Porosity and Infiltration Rate: Manufactured from recycled end-of-life tyre rubber, the Modular Drainage System boasts an exceptional porosity of 45% and an infiltration rate of 8,000 to 10,000 mm/hr. This advanced geocomposite system is designed to replace traditional drainage materials effectively. Its unique material design allows filtration performance to be tailored to different sediment types, ensuring high hydraulic conductivity and preventing blockages.

Durability and Structural Integrity: The robust open-pore structure of our system is equally effective for highways, facilitating effortless water flow. This enhances infrastructure resilience against increasingly severe weather and heavier rainfall, making it ideal for highway environments.

Installation Efficiency: Our drainage system is engineered for rapid installation, aligning seamlessly with ongoing excavation activities. It utilises standard industry equipment, significantly reducing project timelines and labour requirements. This efficient installation process ensures minimal disruption to road usage and maximises project turnaround 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/m²**
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 m² 0.0039** **Flow Velocity V20 m/s 0.049** **L/m2/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 roadway chemicals such as petrol, diesel, de-icer, and road salt.
- **Environmental Compliance:** Free from harmful heavy metals and 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.

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