



GREEN GRAVITY

WALLS UK LTD

SOLE MANUFACTURERS AND SUPPLIERS
ECO-MSE™ BAG SYSTEM

TECHNICAL DATASHEET – ECO-MSE™ BAG

Product Description

Green Gravity Walls' ECO-MSE™ geotextile bags are engineered to deliver reliable performance in retaining wall construction, slope stabilisation, and erosion control. Manufactured from high-strength, non-woven polypropylene, the bags provide a sustainable, concrete-free alternative for civil engineering and landscaping applications.

Constructed from **140 GSM geotextile**, the ECO-MSE™ bag system offers a **100+ year design life**. The material is **non-biodegradable, non-toxic, and resistant to UV degradation, chemical exposure, and biological decay**, ensuring durability even in demanding environments.

Independently tested to international standards, ECO-MSE™ bags demonstrate excellent resistance to **tensile forces (ASTM D4632), tear strength (ASTM D4533), and puncture (ASTM D6241)**, providing dependable structural integrity under load.

The geotextile fabric is designed for controlled water permeability, reducing hydrostatic pressure while maintaining soil stability. Laboratory tests to **EN ISO 12956 (pore size)** and **EN ISO 11058 (water flow rate)** confirm its filtration capacity—allowing water to pass freely while retaining soil particles. This prevents clogging and supports long-term performance in retaining wall, drainage, and erosion control applications.

By enabling vegetation growth, ECO-MSE™ bags blend seamlessly into natural environments, becoming carbon-neutral over time while contributing to **Biodiversity Net Gain (BNG)**.



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Product Dimensions

❖ EMPTY ECO-MSE™ BAG:

- Width: 390mm
- Length: 880mm



❖ GRANULAR FILLED ECO-MSE™ BAG

- Width: 340mm
- Length: 780mm
- Height: 120mm



❖ COMP BLEND FILLED ECO-MSE™ BAG:

- Width: 340mm
- Length: 780mm
- Height: 150mm



❖ ECO-MSE™ RETAINING PLATE:

- Width: 95mm
- Length: 275mm
- Height: 40mm



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ECO-MSE™ Bag Conformance

PROPERTY	METHOD	MEAN	SD
Mass per unit area (g/m2)	ASTM D5261	137.20	14.62
Static Puncture (N)	ASTM D6241	1330	182
Grab tensile	ASTM D4632		
M-Way grab strength (N)	ASTM D4632	499.90	69.32
M-Way apparent elongation (%)	ASTM D4632	51.80	8.06
X-Way grab strength (N)	ASTM D4632	468.50	35.36
X-Way apparent elongation (%)	ASTM D4632	70.70	14.58
Trapezoid tear strength	ASTM D4533		
Tearing thro' M-Way (N)	ASTM D4533	161.85	27.48
Tearing thro' X-Way (N)	ASTM D4533	150.17	16.48
Characteristic opening size	EN ISO 12956	O90 = 60µm	
Water Permeability	EN ISO 11058		
Velocity Index (VH50) ms-1	EN ISO 11058	0.106	
Flow rate (l/m2/s)	EN ISO 11058	106.40	20.91



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Resistance to weathering EN 12224 - CONTROL

	PROPERTY	MEAN	SD
M-WAY	Tensile Strength (N/50mm)	323.76	18.85
	Ext. (%) at max. load	58.20	6.27
X-WAY	Tensile Strength (N/50mm)	289.56	11.82
	Ext. (%) at max. load	64.90	3.65

Resistance to weathering EN 12224 - EXPOSED

	PROPERTY	MEAN	SD
M-WAY	Tensile Strength (N/50mm)	359.22	40.79
	Ext. (%) at max. load	48.00	1.90
X-WAY	Tensile Strength (N/50mm)	310.89	35.51
	Ext. (%) at max. load	55.5	4.86



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