



GREEN GRAVITY
WALLS UK LTD

**SOLE MANUFACTURER AND SUPPLIER OF THE
ECO-MSE® BAG SYSTEM**



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About Us.

INTRODUCTION

At Green Gravity Walls, we specialize in providing sustainable, high-performance retaining wall solutions that meet the demands of modern infrastructure while preserving the natural environment. Our ECO-MSE® (Mechanically Stabilized Earth) bag system offers a smart alternative to traditional retaining walls, combining structural integrity with ecological benefits.

Designed for industries such as rail, civil engineering, flood defence, and landscaping, our solutions are engineered for efficiency, rapid deployment, and long-term durability. By integrating with the landscape and encouraging natural vegetation growth, our retaining walls not only provide strength and stability but also contribute to a more sustainable and environmentally responsible future.



Mission & Vision.

MISSION

Our mission is to redefine modern infrastructure by providing eco-friendly, high-performance retaining solutions that seamlessly integrate durability with environmental responsibility. We believe that sustainable engineering should not come at the cost of efficiency, which is why our ECO-MSE® bag system is designed to offer rapid deployment, minimal site disruption, and long-term resilience, all while reducing the environmental footprint of construction.

We are committed to revolutionizing the industry by replacing traditional concrete and steel structures with natural, adaptable, and vegetation-friendly alternatives. Our solutions not only provide cost-effective and structurally sound retaining walls but also promote biodiversity and carbon footprint reduction, aligning with the global shift toward greener infrastructure.

VISION

Our vision is to lead the transformation toward a more sustainable, resource-efficient world where infrastructure harmonizes with nature rather than disrupting it. We aim to be the go-to partner for industries looking to modernize their construction approach, helping them meet sustainability targets while ensuring project efficiency, safety, and long-term performance. By combining innovation, efficiency, and environmental stewardship, Green Gravity Walls is committed to shaping the future of sustainable construction—one project at a time.



ECO-MSE® Bags

INTRODUCTION

Green Gravity Walls' ECO-MSE® bags are engineered to deliver high performance in retaining wall construction, erosion control, and soil stabilisation—offering a cost-effective and environmentally responsible alternative to traditional systems. Designed for exceptional strength, durability, and resilience, our ECO-MSE® bags conform to rigorous international testing standards, ensuring long-term reliability in civil engineering, rail, and landscaping projects. The efficient installation process reduces labour costs by up to 60% when compared to conventional retaining wall systems, minimising site disruption and keeping projects on schedule while maintaining structural performance.



Environment
Agency



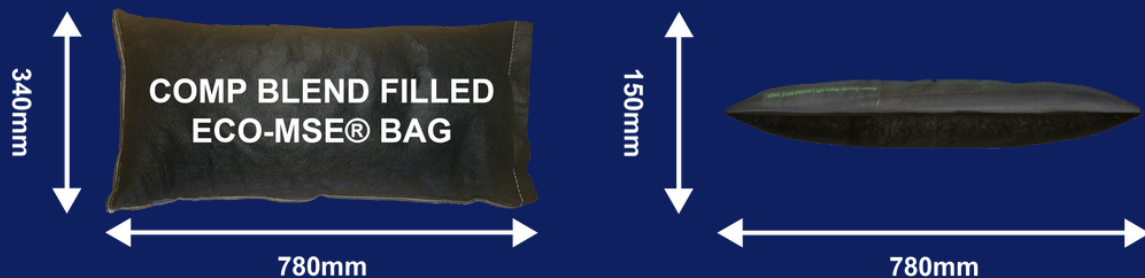
Fully approved by Network Rail and the Environment Agency, the ECO-MSE® bag system meets the highest requirements for structural integrity, safety, and environmental compliance. Proven across Network Rail sites for ballast containment, slope stabilisation, and embankment repair, it is equally suited to flood management and waterway environments. Environment Agency approval confirms its safe use near rivers, culverts, and drainage systems—making it a low-carbon, sustainable solution for modern infrastructure and environmental engineering.



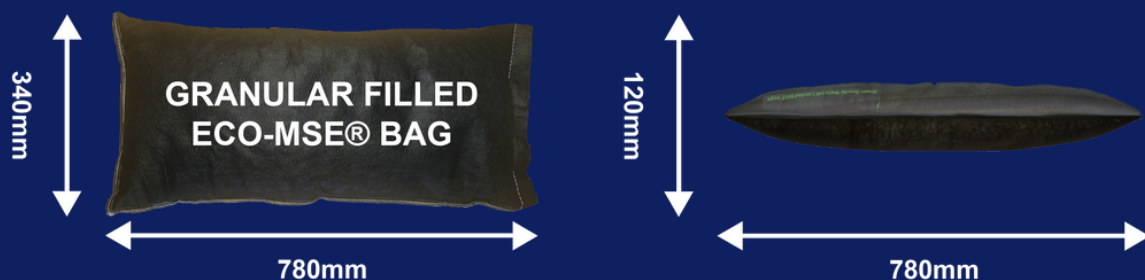
ECO-MSE® Bags

DIMENSIONS

Each square metre of wall face requires just 14 ECO-MSE® bags, providing greater coverage than many alternative systems on the market. This larger coverage area means fewer bags are needed to complete a project, reducing overall material handling, installation time, and cost while maintaining exceptional structural integrity.



Granular-filled ECO-MSE® bags are typically used where rapid drainage and immediate stability are required—ideal for rail, civil, and flood defence applications—while compost blend-filled bags are preferred for landscaped and environmental schemes where long-term vegetation growth and carbon neutrality are desired. This flexibility allows the ECO-MSE® system to deliver both engineering performance and environmental value across a wide range of project types.



ECO-MSE® Conformance

PROPERTY	METHOD	MEAN	SD
Mass per unit area (g/m ²)	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/m ² /s)	EN ISO 11058	106.40	20.91

ECO-MSE® Resistance

RESISTANCE TO WEATHERING EN 12224 - <u>CONTROL</u>			
	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 - <u>EXPOSED</u>			
	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	55.50	4.86

Testimonials



ASSET MANAGEMENT – NETWORK RAIL

"This approved innovative ECO-MSE® system is not only environmentally friendly but also highly cost-efficient. It provides a sustainable alternative to traditional retaining walls while maintaining structural integrity and durability. The ability to reduce costs while supporting eco-friendly infrastructure makes it a valuable solution for projects across all industries.

By choosing this system, we have enhanced both sustainability and savings, aligning with our long-term asset management goals."

PROGRAMME MANAGER NORTHERN TRAINS -



NORTHERN

"The service provided was outstanding from start to finish. The supply and installation process was handled with professionalism, ensuring a smooth and efficient delivery. The team demonstrated great expertise, making sure everything was installed to the highest standard while maintaining a strong focus on sustainability and safety. Their commitment to quality and attention to detail made this project a success, and we're pleased with the effective and environmentally friendly solution they delivered."



DIRECTOR - TMT

Green Gravity Walls UK undertook the design, civil, manufacture and installation works of the ECO-MSE® bags (Mechanically Stabilized Earth bagged vegetated wall system) at Normanton Train Station on behalf of TMT Commercial Contractors Ltd / Northern Trains / Network Rail. The team were great to work with, always listened to our requirements and open to offering suggestions themselves. This was a large project which was carried out professionally, on time and on budget, with a high degree of skilled quality. I wouldn't hesitate to use Green Gravity Walls UK Ltd again on future construction project builds."