



Rootlok Vegetated Wall System

Product Specification

GeoGrow

Rootlok General Specification

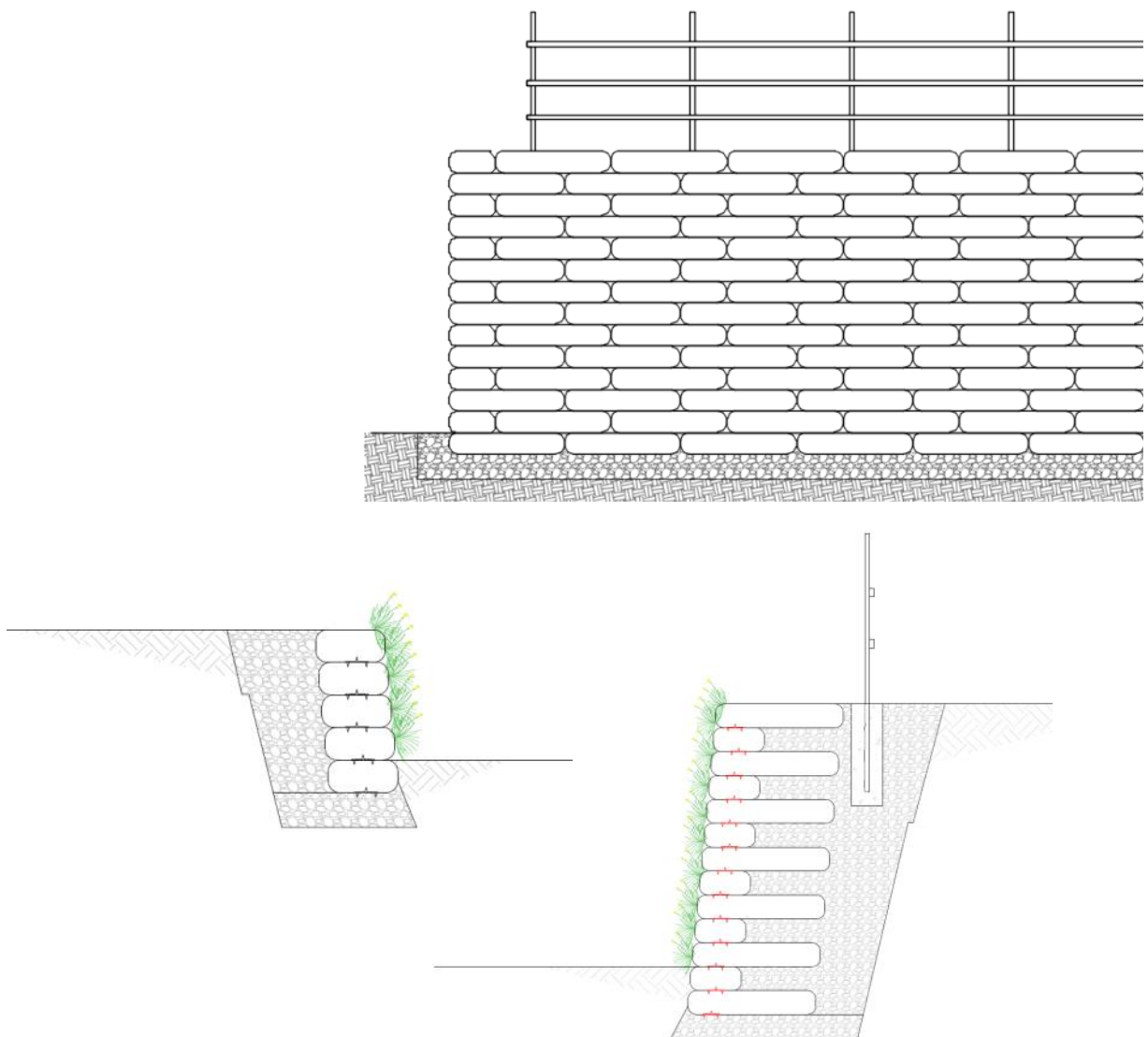
Manufactured in the UK, the Rootlok System is designed to provide a permanent vegetated solution for gravity walls, retaining walls, soil reinforced structures, river and flood protection works, slope stability and landscaping applications.

Rootlok is fully tested and all solutions conform to British Standards and Eurocode 7 (Geotechnical Design). Specifically we design to the following national codes:

Mass gravity retaining walls designed to BS8002 (code of practice for earth retaining structures)

Geogrid retaining walls designed to BS8006 (code of practice for reinforced earth).

To achieve longevity in the system it is essential that the structure is vegetated by one of the recommended methods. This will provide screening from UV exposure and degradation ensuring a long term solution is achieved.



Illustrative examples of the Rootlok System

The Rootlok System

The Rootlok Vegetated Wall System consists of two primary elements that combine to form a solid yet flexible structure – a geotextile bag and locking plate.

Rootlok Bag

The Rootlok Bags are made from a permeable needle punched nonwoven geotextile. The fabric we use allows the bags to act as a filtration system, permitting moisture and plant roots free movement whilst eliminating sediment migration. Full structural strength is obtained on completion of installation. Before, during or following installation, a growing medium must be applied to the system. The face of the Rootlok system is designed to become vegetated within one growing season. Once the vegetation is established, the foliage provides protection for the wall face while the root structure further increases the structural strength of the system. The soils used to fill the geotextile bags must be of reasonable quality to nurture and sustain vegetation.

We use a permeable needle punched nonwoven geotextile to make our bags. The material is heat bonded on all sides to help maintain the shape of the bags when filled. The geotextile is UV stabilised, ensuring the bags do not rot.



Bag size when filled: 300mm wide x 750mm long x 140mm high.

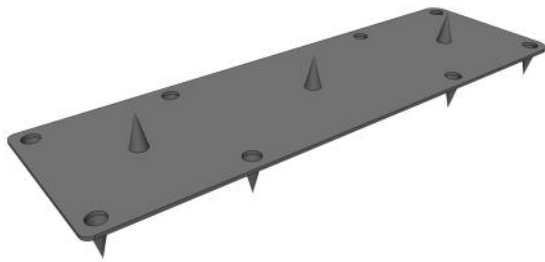
Bag weight when filled: 35kg

Property	Mean value	Tolerance	Test standard
Tensile Strength Tmax MD	11.5 kN/m	-1.5 kN/m	EN ISO 10319
Tensile Strength Tmax CMD	12 kN/m	-1.56 kN/m	EN ISO 10319
Elongation εmax MD	60%	±2.72%	EN ISO 10319
Elongation εmax CMD	60%	±9.41%	EN ISO 10319
Dynamic Perforation Resistance	23.64mm	+5	EN ISO 13433
Static Puncture Resistance (CBR)	2 kN	-0.2	EN ISO 12236
Characteristic Opening Size	61µm	±18	EN ISO 12956
Water flow rate q_w	96 l/(m ² s)	-29 l/(m ² s)	EN ISO 11058
Flow capacity in the plane Gradient $q_{20/1.0}$	5.83*10 ⁻⁶ m ² /s	-30%	EN ISO 12958
Flow capacity in the plane Gradient $q_{200/1.0}$	1.6*10 ⁻⁶ m ² /s	-30%	EN ISO 12958
Thickness under 2 kPa	1.48mm	±21.6%	EN ISO 9863/1
Oxidation resistance	Predicted to be durable for a minimum of 100 years in natural soil with 4<pH<9 and soil temperature <25°C		EN ISO 13438
UV Resistance	72% @ 500 hours		D 4355

Rootlok Plate

The Rootlok plate provides a connection between the geotextile bags, joining the gap between the bags and locking each one into position to form a solid structure. The locking plate must be used throughout the system to provide the mechanical locking connection between the bags and geogrids if used.

The Rootlok plate is manufactured by injection moulding using talc filled polypropylene and uses wholly UK sourced recycled material. The result is a consistently high-quality product that has great resistance to naturally found alkalis' and acids within the ground and exhibits high fatigue resistance.



Size: 330mm long x 100mm wide x 42mm high – with 11 spikes

Property	Specification
Talc-filled Polypropylene	74gm
Density	0.98G/cc
Tensile strength	28MPa
Elongation at break	40%
Modulus	= 1.8GPa
Notched Izod	= 1.2j/cm
Melting Point	= 157C

Bag Fill and Vegetation

The material used to fill the Rootlok bags is a mixture of soils and sands that contain the right quantities of organic matter to sustain vegetation. Where used in a water application, bags below the average water level are filled with clean fine gravels.

Approved vegetation methods include:
Pre-seeding the Rootlok bags, hydro-seeding and live planting.

Full advice service available on request. We also offer a full design service, and can provide formal designs backed by construction drawings and calculations where needed.

Pre-seeded Bags Specification

As standard we insert a low maintenance landscape seed mix into Rootlok Pre-seeded Bags.

GeoGrow Conservation Grassland Mix

This seed mix is ideal for areas that require the minimal amount of maintenance. The mix is a slower growing variety to allow for it to be cut as little as twice a year. It will develop into a low maintenance grass sward that is suitable for areas that are difficult to mow, such as steep slopes or areas that are designed to be left to grow.

By adding clover & legume species to this mix it naturally fixes nitrogen to the soil benefitting the grasses and increasing drought tolerance and disease resistance.

30% Strong Creeping Red Fescue

20% Slender Creeping Red Fescue

10% Chewings Fescue

15% Crested Dogstail

10% Hard Fescue

7% Smooth Stalked Meadow Grass

3% Brown Top Bent

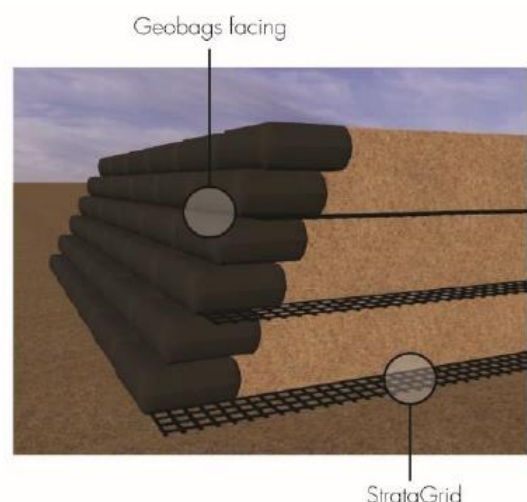
5% Clover & Legume Blend (1% Small Leaved White Clover, 1% Small Leaved Red Clover, 1% Birdsfoot Trefoil, 2% Sainfoin)

We can tailor the seed mix to suit most landscaping schemes, such as mixes including wildflower species and ivy.

Full advice service available on request. We also offer a full design service, and can provide formal designs backed by construction drawings and calculations where needed.

Reinforced Earth Solutions (BBA Certified)

The Rootlok system is often paired with Stratagrid SGU geogrids to create an earth reinforced structure with a Rootlok facing and is BBA certified up to a 70° slope angle.





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Sustainable | Green | Vegetated | Environmental

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