SiltPocket™

SiltPocket™ is a lightweight, portable, compact and adaptable solution for gully erosion reinstatement, check dams, no-dig silt fence and silt traps.

This completely new, and highly versatile, erosion and sediment pollution control device consists of a mat formed from interlocking, open fronted, pockets that are designed to:

- detain and filter passing water
- trap eroded material
- reduce water velocity and therefore scour erosion energy
- encourage settlement of silt

Check Dams and No-Dig Silt Fences

SiltPockets™ can be used to form check dams and no-dig silt fences to control surface erosion from sheet run-off and the migration of silt off site, which is a particular problem in construction, forestry and farming.

While for badly eroded areas SiltPocket™ offers an effective way to reinstate gullies. As the pockets fill with water and trapped silt they create sediment trap check dams which slow the water flow rate and encourage settlement of sediment, filling the gullies and restoring the land for revegetation.

Similarly, SiltPockets™ can be used to restore eroded tidal water wetland margins by placing them along the shoreline to trap and filter sediment from retreating tidal flow.

In both circumstances, because the SiltPockets™ are left in situ they are made from our new Biobrane™ fully compostable non-woven fabric, which contains 70% recycled wool and biodegrades over time to naturally integrate into the soil without leaving any harmful residues.

Processing Pumped Dirty Water

SiltPocket™ Flumes are temporary processing units used to filter sediment from pumped, or gravity fed, dirty water in a controlled manner, with the option to use in conjunction with FlocBlocks and hydrocarbon absorbing Microfibre Spaghetti for ultimate pollution control.

For such applications the SiltPockets™ can also be made from Terrastop™ Highflow and Premium synthetic silt fence fabrics for progressive filtration and ease of emptying and reuse.

Protecting Waterways

SiltPockets™ can be suspended below stormwater outfall pipes to trap suspended solids without compromising flow rates.

While another potential use is to suspend SiltPockets™ in channelised flows to act as baffles and silt traps, helping to control pollution from silt laden water discharging into watercourses from side channels, along with disturbed sediment during instream construction activities, without causing excessive water back up.

They can also be utilised to create micro catchment areas for flood mitigation downstream during storm events.

PATENT PROTECTED PRODUCT *** PATENT GB 2591079 ***

Application Categories: Sediment Pollution Control | Surface Erosion Control

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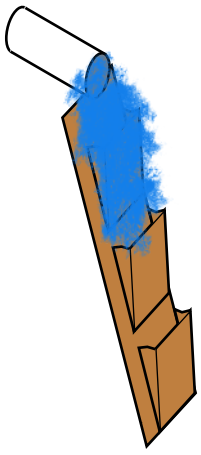
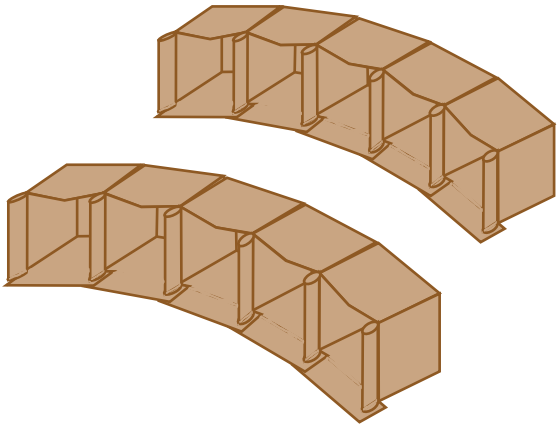


SiltPocket™ as an Outfall Pipe Silt Interceptor



SiltPocket™ as a Check Dam or No Dig Silt Fence

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Note, photo above is early version

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Compared to 300mm diameter coir logs, SiltPockets™:

8 X less space

12 X lighter

2 X silt trapping capacity

Much lower carbon footprint solution

The Innovative New Solution for Gully Erosion Control and Restoration

The best way to control the formation of, and reinstate, gully erosion (especially in moorland locations) is to form check dams to slow down run-off, encourage sedimentation and infiltration.

Until now these check dams have most commonly been formed using bulky dense coconut fibre logs, but these are cumbersome and inefficient to transport, resulting in a significant increase in the carbon footprint and cost of the works.

SiltPockets™ were specifically designed to offer a more environmentally friendly and practical solution.

Compact and Lightweight Significantly More Efficient to Transport Easier to Handle

With most moorland sites being remote and often requiring helicopter lifts, transport of materials is a major factor in the overall cost and environmental impact of the works.

A 1m run of SiltPockets™ weighs only 550g and the compact flat packs take up significantly less space to transport.

Quick to Assemble Versatile

Each SiltPocket™ comprises of 3 pockets and multiple SiltPockets™ can be easily linked together with the clever interlacing post slots to form any length of check dam which is anchored and supported using chestnut untreated hardwood stakes.

Traps More Silt

The fabric is an efficient filter with the pockets themselves trapping significant amounts of sediment in addition to acting as a check dam. Consequently the silt trapping capacity is more than double that of coir logs.

Highest Environmental Credentials

SiltPockets™ are made from Biobrane™ W70, a new fully compostable fabric made from 70% recycled wool and 30% PLA biopolymer in a European factory utilising wind generated power. They are stitched with biodegradable thread and anchored using untreated hardwood stakes from managed forests.

All this and the greater transport efficiency results in a solution with unrivalled environmental credentials to meet the demanding requirements of SSSI locations.

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Environmentally Friendly

100% Bio-Based

Made 70% wool and 30% PLA (Poly Lactic Acid) bio-fibre extracted from the sugars of organic materials that are a renewable sustainable resource unlike petroleum based plastics.

Fully Compostable

Fully certified compostable to EN ISO 13432 which basically means the fabric completely breaks down in to CO_2, water and biomass through micro-organism activity within 12 weeks in industrial composting facilities where temperatures are at least 58°C.

Completely Biodegradable

Left in the field our bio-fabric, like any other organic material, slowly decomposes biologically through the actions micro-organisms, such as bacteria and fungi, assimilating into the natural environment over time without any ecological harm.

Low Carbon Footprint

The organic material used captures and sequesters CO_2 which is then fixed in the fabric.

Manufacturing PLA produces approx 80% less greenhouse gases and uses approx 52% less non-renewable energy (NREU) than traditional polymers like polystyrene[1].

The fabrics are manufactured in a factory that uses windmills to provide 70% of their energy.

Increased Efficiency

The novel flat pack design of SiltPockets significant improves manufacturing, handling, transport and packaging efficiency compared to alternative solutions.

SiltPocket™ Moorland Project - November 2020

Note, photo above is early version

SiltPocket Specification

Expanded Pocket Size: 320mm wide x 320mm deep x 360mm high

SiltPocket Weight: 500g [EN ISO 9864]

SiltPocket Units per Metre: 3.12

Silt Entrapment Capacity (30° slope): 220 kg/m

Biobrane Specification

Permeability: 78 l/m^{2}sec [EN ISO 11058]

Pore Size: 92 micron [EN ISO 12956]

Strength: 6.5 kN/m [EN ISO 10319]

Break Elongation: >30% [EN ISO 10319]

Composition: 100% bio-based, fully biodegradable

Ignitability Test Smouldering Cigarette: Passed [EN ISO 12952 -1/2]

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