

# Securemat

Environmental engineering in action

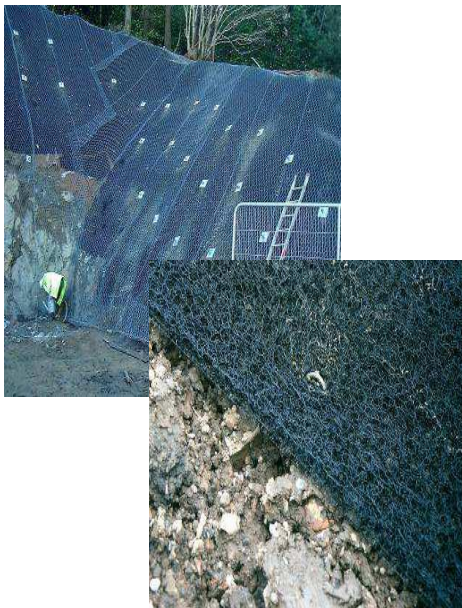
## Description

Securemat is a three-dimensional erosion control mat consisting of a UV-stabilised labyrinth-like extruded polymer core mounted on a warp knitted mesh. Securemat controls surface erosion by retaining soil particles within its convoluted monofilament core and helps to anchor and reinforce the root zone of plants. It is resistant to all natural chemical or biological substances present in typical soils.

*We provides full design, supply and installation service in all our products. Our experienced design teams and installation crews provide clients and contractors with optimum peace of mind and minimum risk.*

## Uses

- Embankment stabilisation
- Erosion control
- Retaining of topsoil on slopes
- Road and rail construction
- Water course armouring



## Advantages

Once vegetated, Securemat reduces surface water runoff velocities. It prevents the washing out of the under soil sliding and erosion of the retained soil layer while facilitating rapid vegetation growth. Upon heavy rains and water flows, the reinforcing ability of Securemat prevents erosion of the otherwise vulnerable vegetation. Directly next to water courses, Securemat protects the banks from the scouring action of water flow.

- Retains soil particles
- Allows uniform growth of vegetation
- Lessens slip of the soil surface
- Increases erosion protection through reinforcement
- Reduces water velocity through top soil
- Catches soil particles on the move
- Stops local settlement

## Resistance to Point Loads and Temperature

Dropping a 30 kg stone from a height of 2.00 m twice on the same point will not structurally alter the material.

The structure of the Securemat will not alter under a loading of 1.65 kN/m at a temperature from -10°C to 170°C.

## Installation Guide

Slopes must be statically stable and the formation level must be the equivalent of machine trimmed. The mats are best unrolled from the top of the slope with the top edge laid in a 300 mm anchor trench or securely soil-nailed with an appropriate runout. Top soil must be placed carefully and brushed into the Securemat and the thickness of the soil layer should correspond to the thickness of the mat. Appropriate seeding should be undertaken immediately allowing roots to anchor the mat into the underlying soil.

- Securemat is lightweight
- Easy to handle
- Fast and accurate placement



- Neat simple storage on site
- Delivered to site in protective wrapping



- Unrolled panels of Securemat is secured by nailing and/or fixing pins.
- Nails at every 1m centres along butted panel edge.
- Additional soil nails placed at 1m centres along centre line of the roll.



Directly following installation, Securemat is fully functional. In steep slope areas Securemat can be secured with staples or pegs. Once the open structure has been filled with topsoil, vegetation takes hold. Securemat is also easy to handle and store on site.



Typical U-shaped mild steel fixing pins

- Length 300mm
- Width 100mm





# ***Reinforced Securemat***

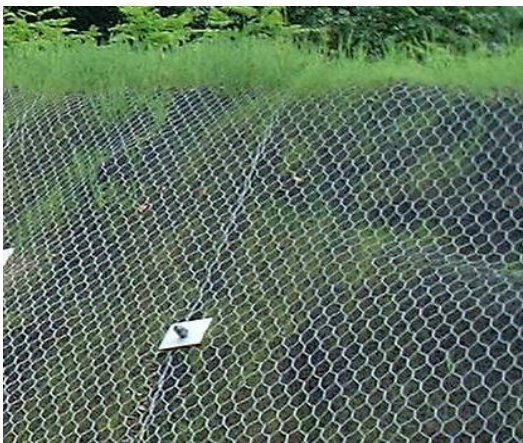
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## **Description**

Combines the benefits of Securemat with additional steel woven wiremesh reinforcement. Manufactured from 2-layer 3-dimensional UV stabilised labyrinth like extruded polymer mesh with a choice of galvanised or PVC coated hexagonal triple twist steel wire mesh. Reinforced Securemat provides additional long term support and protection to vulnerable slopes. Securemat layer controls surface erosion by retaining soil particles within its convoluted monofilament core and helps to anchor and reinforce the root zone of plants. It is resistant to all natural chemical or biological substances present in typical soils. Reinforced Securemat provides a highly effective antivermin protection layer where rabbits and foxes etc. are likely to create slope instability due to burrowing.

## **Advantages**

- Assembled in Ireland
- Erosion control and protection for steep embankments
- Vegetated and natural looking slope
- No special foundation required
- Minimises muck away
- Factory assembled for fast installation
- Wraparound of mesh provides continuity of reinforcement
- Steel mesh is more robust and less prone to construction damage
- Durable



## **Uses**

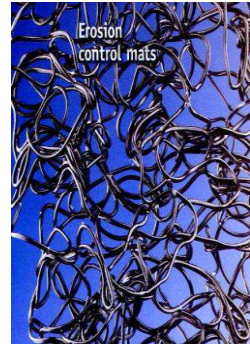
- Chalk and rock slopes
- Embankment stabilisation
- Temporary cuttings
- Retaining topsoil on slopes
- High energy erosion area
- Windy sites
- Watercourse armouring
- Facing soil nail slopes

*Reinforced Securemat is applied to predressed slopes using fixing pins, anchors or soil nails.*

## Technical Data for Securemat

Securemat is supplied in 2.00m wide rolls. The coarse textured layer is made of UV protected polypropylene. If required polyethylene can be used. The reinforcement layer is made out of polyethylene.

Tensile Strength longitudinal/transverse	Elongation longitudinal/transverse	Unit Weight	Thickness	Permeability kh at 20kN/m <sup>2</sup>	Water flow rate q
kN/m	%	g/m <sup>2</sup>	mm	m/s	l/(m x s)
≥ 2.0 ≥ 0.4	≥ 15 ≥ 10	500	10	5.2 X 10 <sup>-1</sup>	-
≥ 2.0 ≥ 0.4	≥ 15 ≥ 10	600	20	1.3 X 10 <sup>-0</sup>	- at a load of 2 kPa - at a load of 200 kPa



In cases where groundwater seepage is expected from a slope, it can be advantageous to replace the reinforcement layer with an appropriate non-woven filter geotextile. Details are available on request.

## Specification for Reinforced Securemat

Standard roll size is 2m wide x 25m long. The roll dimension is approximately 0.6m in diameter x 2m long



### Wiremesh Layer

Description	: PVC coated triple twist hexagonal wire mesh
Mesh size	: 80mm x 100mm
Wire	: 2.7mm diameter conforming to BS1052 for tensile strength
Coating	: Galvanised to BS443/EN102442 then coated with 0.5mm min. PVC coating
Colour	: Grey

### Securemat Layer Options

Description	: Securemat, 3D, UV stabilised labyrinthlike extruded polymer erosion control mesh
Backing layer	: Polypropylene geotextile
Unit weight	: 600g/m <sup>2</sup> or 500g/m <sup>2</sup>
Thickness	: 20mm or 10mm
Colour	: Black

### Connectors

Description	: Steel CL 50 clips
Wire size	: 3mm
Coating	: Aluzinc

