



MacMat[®] R – Erosion Control Mat

Erosion Protection

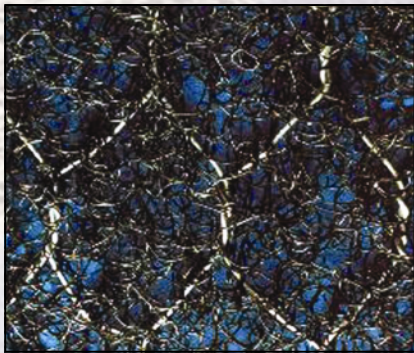
MACCAFERRI

Maccaferri Erosion Protection

Erosion of soil from embankments and channels becomes critical when it results in damage to infrastructure or leads to the pollution of watercourses. Relying on vegetation growth alone to provide surface protection is unreliable as it is difficult to achieve 100% vegetation coverage, leaving exposed areas vulnerable to erosion.

MacMat® R uses:

- Erosion control & channel lining
- Surface reinforcement with soil nailing
- Lids for Gabions & Reno Mattresses
- Reinforcing vegetation and root systems



Maccaferri MacMat® R is a three dimensional, permanent geomat that provides surface reinforcement, stops erosion and promotes revegetation.

An integral steel mesh reinforces the geomat, significantly increasing the tensile strength of the mat, enhancing its erosion protection and shear resistance capacity when compared to un-reinforced erosion mats.

MacMat® R consists of a matrix of UV stabilized polymer fibres, extruded onto PVC coated and galvanised steel mesh during the manufacturing process to form a unique, one-piece mat for easy installation.

Performance reliability

As vegetation alone cannot offer long-term reliability, its performance should not be relied upon in designs. In contrast, the engineered characteristics of MacMat® R enables designers to indemnify erosion protection solutions.

Vegetation establishment

MacMat® R is plant friendly. It physically protects vulnerable soil surfaces, reducing erosion and encouraging vegetation establishment. MacMat® R easily accepts hydroseeding and shrub planting where more rapid colonisation is required.

Low wastage

Unlike un-reinforced geomats, adjacent panels of MacMat® R do not need to be overlapped. The integral steel mesh means panels can be 'butt-jointed' together using fixing rings or lacing wire.



Maccaferri MacMat® R benefits

- Steel mesh reinforcement increases erosion protection & shear resistance
- BBA Certified reinforcing mesh allows reduced fixing frequency
- Provides immediate erosion protection of exposed areas
- Spreads loads between soil-nail heads in slope stabilisation applications
- Reinforces the root system of plants

Slope reinforcement with soil nails

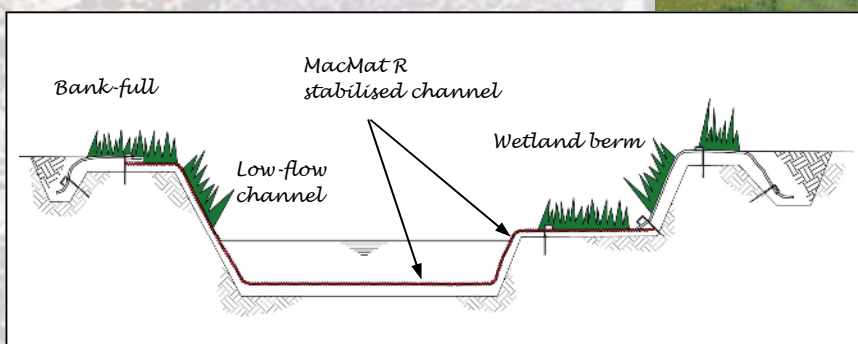
MacMat® R is used extensively on soil nailed slopes, especially within the rail and highway sectors. The soil nails reinforce the overall slope and the MacMat® R stabilises the slope surface. Any forces from local surface slip failures are transferred back to the nail heads by the MacMat®



Channel Linings

MacMat® R is regularly used to line channels and protect canal and channel banks from erosion by water flow. The strength of the mesh reduces the geomat 'lifting' when exposed to aggressive hydraulic flows. Stresses generated at the anchor points are dissipated by the reinforcing mesh.

Once installed, the channel is immediately stabilised and vegetation can colonise the channel again (see picture at right).

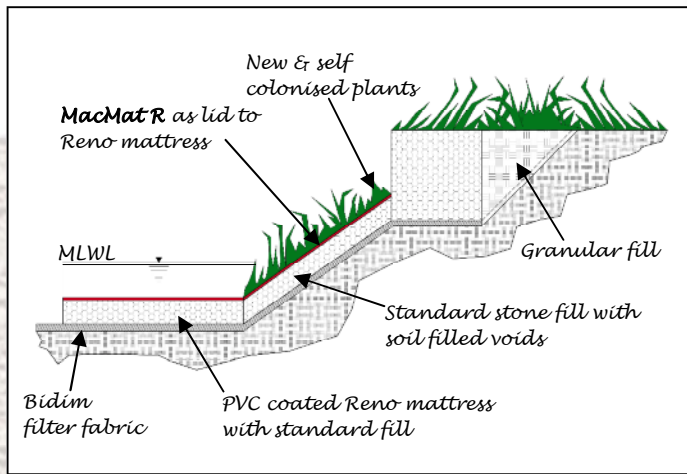


Other uses

Gabion and Reno mattress lids

Permanent high performance erosion control is often provided by gabions and Reno mattresses. By replacing their mesh lids with MacMat® R, silt and seeds within the channel flow become trapped within the 3D geomat, rapidly establishing vegetation.

As the steel mesh reinforcement within MacMat® R is the same as that used in our gabions and mattresses it can be laced to the structure beneath with confidence.



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MACMAT® R TECHNICAL DATA

Geomat type	A 3D geomat of entangled UV stabilised polypropylene monofilaments, heat bonded at contact points with void space >90%.		
Mesh Type	Double twist hexagonal woven mesh, 60 x 80mm aperture. 2.2mm wire dia. (3.2mm dia including PVC coating). Selvedge wire = 2.7mm dia (3.7mm o/a) to BS EN 10218-2 & BS EN 10223-3		
Corrosion type	Galfan (95% Zn, 5% Al Alloy + Mischmetals) coating to BS EN 10244-2 Class A with an extruded grey PVC coating of mean wall thickness of 0.5mm		
BBA Approval	Maccaferri hexagonal wire mesh is BBA certified for up to 120 year design life. Agrément Certificate No. 95/3141		
Connection	All joints and connections shall be formed with continuous 2.2mm PVC Galfan coated lacing wire and/ or high tensile 3mm diameter Stainless Steel 'C' rings.		
Nominal Thickness (at 2 kPa)	12mm	Tensile Strength	35kN/m – Machine Direction
Roll Size	2m x 25m	Roll Weight	98 kg
Mass per m2	1,970 g/m ²	Density	900 kg/m ³

Maccaferri Service:

The level of design support, technical advice and on-site assistance you have come to expect from Maccaferri is also available with Maccaferri MacMat® R.

For technical detail on this, or any of our wide range of solutions engineered for the environment, please contact your local Maccaferri office.

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