

# MACCAFERRI

# GABIONS

# & RENO™ MATTRESSES



SMARTER  
INFRASTRUCTURE  
STRONGER  
AUSTRALIA



Maccaferri Gabions and Reno™ Mattresses are a trusted, well proven and technically sound way to retain earth and combat erosion. They have been used extensively throughout Australia for over half a century – from remote mine sites to urban parklands.

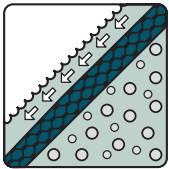
Maccaferri Gabions and Reno™ Mattresses are rectangular woven wire mesh baskets filled with rocks to form flexible, permeable, monolithic structures, such as retaining walls or weirs.

Their strength comes from a double twisted hexagonal mesh of steel wire. In the event of accidental breakage of one or more wires, the double twisted wire configuration ensures that minimal strength reduction occurs.

Their durability comes from their wire type and coating - whether it be the galvalume coated mild steel or the galvalume wire with an additional Polimac coating.

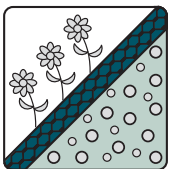
Geofabrics supports Maccaferri Gabions and Reno™ Mattresses with design assistance and software, specialist installation tools and where required, introduction to our network of specialist installers.

## FUNCTIONS



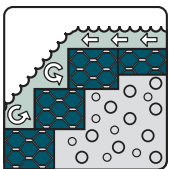
### Drainage and erosion control

**Gabions and Reno™ Mattresses** structures can be designed to control the movement of water within an area and restrict the movement of soil from the site or localised area.



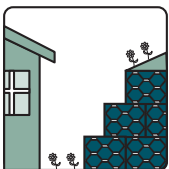
### Environmental enhancement

**Gabions and Reno™ Mattresses** structures are regularly designed to enhance the environment in which they exist. Such structures are either vegetated or designed to encourage entrapment of sediment and seed, contributing to the health and diversity of the natural environment.



### Energy dissipation

**Gabions and Reno™ Mattresses** structures can be designed to dissipate the energy of the water flowing through a specific area.



### Architectural feature

Many **Gabion** structures are built with locally available rock to form impressive feature walls and entrances. The impact of a Gabion wall is enhanced by the use of discerning rock selection, varying the rock sizes and types, as well as shaping or tapering the Gabions.



### RETAINING WALLS AND ARCHITECTURAL FEATURES

Gabions form robust, durable and structurally sound walls and architectural features in road, mining, commercial and industrial projects. They can be stepped, vertical or angled backwards depending on the project requirements. They are typically filled in-situ but can be prefilled and placed where space/time constraints exist.



### HYDRAULIC STRUCTURES

Due to their flexible nature, **Reno™ Mattresses** are widely used as a solution for riverbank and scour protection, drainage channels and embankment stability. **Reno™ Mattresses** and **Gabion** weir and spillway structures are widely used for river training, the formation of reservoirs, water diversion and erosion control.



### REINFORCED SOIL SLOPES AND WALLS

Maccaferri Terramesh™ is a versatile, modular system for reinforced slope systems and mechanically stabilised earth walls that can be a more cost-effective solution than mass gravity Gabion walls because of the speed of installation and reduced rock fill requirements. Our high strength geogrids can be used in combination with the woven mesh to augment the strength of the soil reinforcement if required. Typical Terramesh™ applications include road embankments, culvert protection, bridge abutments, mine crusher walls as well as weirs and spillways.



### THERMAL ROCK BANKS

Gabions are used beneath buildings to stabilise the heating and cooling required in the building above, thereby reducing the energy costs required for the building.



# ADVANTAGES OF MACCAFERRI GABIONS AND RENO™ MATTRESSES

<b>Proven Durability</b>	Our <b>Gabions and Reno™ Mattresses</b> are supported with well documented research and certifications regarding the durability of the structures. The use of more advanced, durable wire and coating types provide reassurance that when selected appropriately, a 120-year design life can be achieved.
<b>Design and Installation Support</b>	Our <b>Gabions and Reno™ Mattresses</b> are supported by sophisticated design software and design assistance from our Geofabrics engineers. Conceptual drawings and pneumatic installation tools are also available to help ensure efficient and correct installation.
<b>Environmentally Friendly</b>	<b>Gabions and Reno™ Mattresses</b> become part of the environment in which they are placed, promoting rapid growth of natural vegetation where required.
<b>Cost Effective</b>	<b>Gabions and Reno™ Mattresses</b> compare favourably to traditional building materials and methods of construction, both with installed cost and whole-of-life costing.
<b>Aesthetically Appealing</b>	Correct installation and the right detailing of rock will create an impressive, eye catching feature.

Properties	Gabions	Reno™ Mattresses
Wire Diameter (mm)	2.7 (min)	2.0 (min)
Nominal Mesh Size (mm)	80 x 100	60 x 80
Selvedge Wire Diameter (mm)	3.4 (min)	2.4 (min)
Binding Wire Diameter (mm)	2.2 (min)	2.2 (min)
Galmac Coating (gsm)	245 (min)	215 (min)
Polimac Coating (mm)	0.50 (min) Dark Grey	0.50 (min) Dark Grey
Rock Fill Size AS2758.4-2000	100mm (min) 250mm (max)	75mm (min) to $\frac{2}{3}$ the thickness of the mattress, or 250mm, whichever is the lesser
Dimensions (m) (length x width x height)	1 x 1 x 1 2 x 0.5 x 0.5 2 x 1 x 0.5 2 x 1 x 1 2 x 1.5 x 1 4 x 1 x 0.5 4 x 1 x 1 6 x 2 x 0.50	2 x 1 x 0.30 6 x 2 x 0.17 6 x 2 x 0.23 6 x 2 x 0.30

Note: Dimensions are nominal. The data and specifications contained in this table are obtained from the manufacturer's laboratory testing.

To ensure this information is current please contact your local branch of Geofabrics Australasia.

For more information visit [geofabrics.co](http://geofabrics.co) or [geofabrics.co.nz](http://geofabrics.co.nz)

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## RENO MATTRESSES



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Smarter Infrastructure

**MACCAFERRI**