

Maccaferri Ltd

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Engineering a Better Solution

GLOBAL ENGINEERS

In the second half of the 19th century we invented Gabions and dramatically changed civil engineering landscape. We are still changing today. We work every day to find better solutions for our clients at every degree of latitude and longitude. Our worldwide network grows through innovation and diversification of sectors of activity and through an increasing range of high quality and environmentally friendly products and applications.

Maccaferri's motto is 'Engineering a Better Solution'; We don't merely supply products, but work in partnership with our clients, offering technical and construction expertise to deliver versatile, cost effective and environmentally sound solutions. We aim to build mutually beneficial relationships through the quality of our service and solutions.

OFFICINE MACCAFERRI GROUP PROFILE

Founded in 1879, our Group soon became a worldwide reference in the design and development of advanced solutions, with offices in over 70 countries and 30 factories worldwide.

Our mission is to pursue excellence through continuous improvement, while delivering to customers engineered solutions that are innovative, advanced and environmentally friendly. We are committed to outstanding safety, quality and sustainability, to create value for all stakeholders as well as our communities.

MACCAFERRI APPLICATIONS



RETAINING WALLS
& SOIL REINFORCEMENT



SOIL STABILISATION
& PAVEMENTS



DRAINAGE OF STRUCTURES



HYDRAULIC WORKS



BASAL REINFORCEMENT



LANDSCAPE & ARCHITECTURE



ROCKFALL PROTECTION
& SNOW BARRIERS



COASTAL PROTECTION,
MARINE STRUCTURES &
PIPELINE PROTECTION



SAFETY & NOISE BARRIERS



EROSION CONTROL



ENVIRONMENT, DEWATERING
& LANDFILLS

MACCAFERRI

MACCAFERRI



CONSTRUCTION SERVICES IN THE UK

OUR PHILOSOPHY

Maccaferri's construction service provides an indemnified and managed design, supply and installation package that epitomises the Maccaferri Group's global philosophy; "Engineering a better solution".

With 50 years expertise in retaining wall and reinforced soil systems, Maccaferri's construction client list includes the most respected Civil Engineering Contractors, National and Local Authorities, Commercial and Housing Developers, Infrastructure Owners and Operators.



OUR SERVICE

Maccaferri offers construction services for a wide range of products enabling us to focus on providing the optimum solution for clients balancing risk, value, carbon footprint and aesthetics.

We are familiar with working under many forms of contract including NEC, ECI and JCT.

MASS GRAVITY RETAINING WALLS GABIONS

Gabions create some of the most cost-effective retaining structures available.

Engineered from steel wire double-twist hexagonal mesh, these baskets offer long-term strength and flexibility. This enables them to accommodate post-construction movement and differential settlement without compromise.

Constructed with a flush or stepped face, gabion baskets are installed on a compacted granular levelling pad. They are then filled with locally quarried stone that is hand-placed on all exposed faces to ensure an optimum aesthetic.



Benefits of Woven Gabions:

- PoliMac® coated option for up to 120 year design life
- GalMac® advanced galvanised coating for up to 60 year design life
- Accommodates settlement
- Porosity helps drain soil fills
- Can incorporate mitred corners and tight radii
- Can accommodate fence post sleeves
- BBA-HAPAS certified and UKCA marked

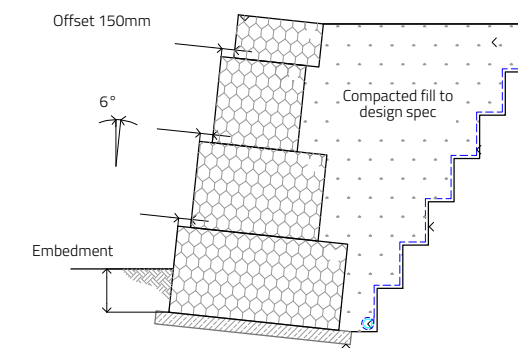
GABIONS

Our **PoliMac®** state-of-the-art protective coating to the double-twist woven wire mesh ensures long design life, even in the adverse exposure and climate conditions predicted in 120 years time.

BBA HAPAS Certified and **CE marked**, our woven mesh gabions provide quality, client reassurance and value for money.

EPD Certified, our gabion walls create <20% of CO2eq vs a concrete wall*.

Gabion Wall typical section



* See Maccaferri Technical Note for details



Welded mesh gabions

Welded gabion walls help achieve clean, uniform lines in areas where there is minimal risk of settlement or post-construction movement. This makes them particularly popular for architectural and landscaping applications.

Benefits of Welded Gabions:

- Welded finish creates clean, uniform lines
- GalMac® advanced galvanised coating for up to 60 year design life



RETAINING WALLS & SOIL REINFORCEMENT TERRAMESH® FAMILY

GREEN TERRAMESH®

Reinforcing soils with geogrids enables them to accommodate greater loads, stand at steeper angles and settle less. By offering a range of geogrids and fascia types, we maximise the potential to re-use site-won soils as structural backfill to the reinforced soil structure. This embraces sustainability and reduces the quarrying and transportation of the granular fills more traditionally used with reinforced soil structures.

Green Terramesh creates 20% of the carbon of an equivalent height concrete wall, even before the sequestration benefits of the vegetation are considered.



Green Terramesh® creates reinforced soil slopes with a vegetating face at an angle up to 70°.

The units feature a unique “lost-shutter” system which supports the face at the designated angle without the need for external formwork during construction.

A layer of quality topsoil behind the front face provides the growing medium for the vegetation.



Common benefits:

- BBA HAPAS Certified - up to 120 year life
- Flexible - accepts differential settlement
- GalMac® Al/Zn and PoliMac® coated woven mesh for unparalleled life
- Easy to construct and used in conjunction with our geogrids
- Pre-fitted components (shutter system, geomat Green Terramesh®, support brackets) reduce installation time and cost compared to other systems



TERRAMESH® SYSTEM

Terramesh® is ideal for taller structures where you want the look of gabions with the cost-effectiveness of soil reinforcement.

Terramesh® System consists of a double twist woven wire mesh gabion fascia unit and an integral factory-fitted soil reinforcement geogrid.

The system is straightforward and rapid to construct; gabion stone is placed in the face unit, and structural backfill is placed and compacted on the geogrids.



Benefits:

- BBA HAPAS Certified - up to 120 year life
- Flexible - accepts differential settlement
- GalMac® Al/Zn and PoliMac® coated woven mesh for unparalleled life
- Easy to construct and used in conjunction with our geogrids
- Saves on gabion stone costs vs traditional gabion walls



RETAINING WALLS & SOIL REINFORCEMENT TERRAMESH® FAMILY

MINERAL TERRAMESH®

Mineral Terramesh® creates reinforced soil slopes with a rock faced finish at angles up to 70°. This "maintenance-free" system has an integral steel frame that delivers clean uniform lines.

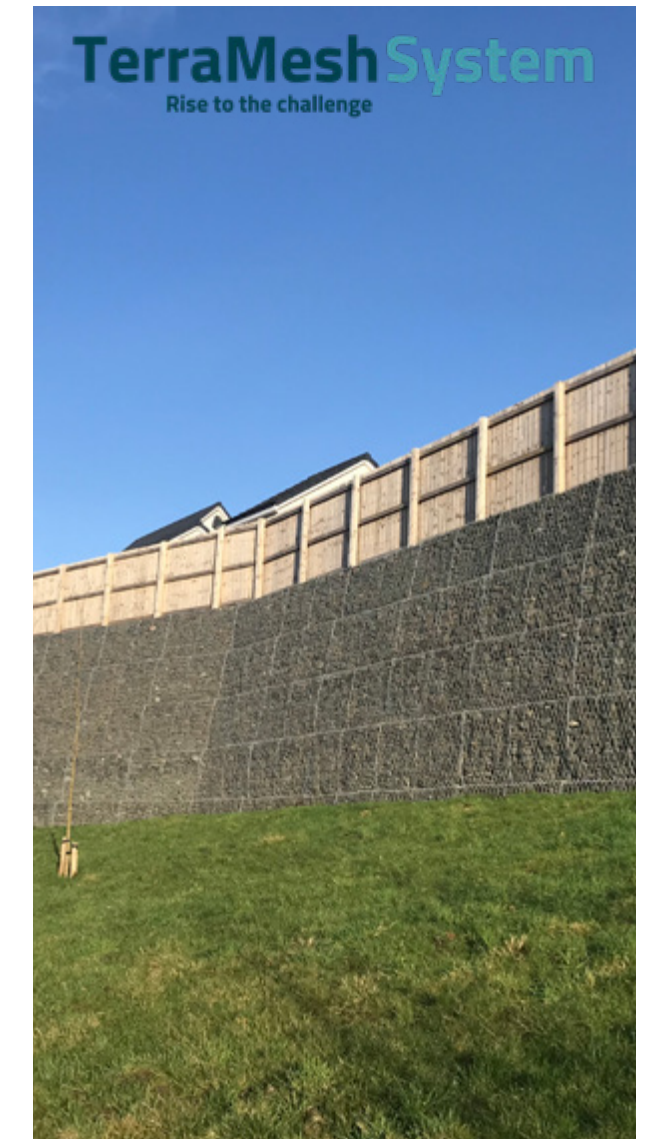
Selected stone fill is placed in a thin layer behind the front face to create the desired aesthetic.



Simple and rapid to construct:

Delivered to the project site flat-packed, the Mineral and Green Terramesh® units are simply unfolded and struts positioned to hold the face shutter at the desired angle. As the geogrid is already part of the face system, backfilling placement and compaction can then commence.

Additional Maccaferri geogrids may be required on taller walls, or when marginal soils are used as structural backfill; these grids are simply laid beneath the Terramesh units without the need for a formal connection.



REINFORCED SOIL WALLS MACWALL®

MACWALL®

MacWall® is a segmental retaining wall system combining the aesthetics of a blockwork masonry wall with the reassurance of geogrid soil reinforcement.

ParaGrid® geogrid soil reinforcement is sandwiched between consecutive courses of MacWall® blocks. Structural backfill is placed and compacted on the geogrids.



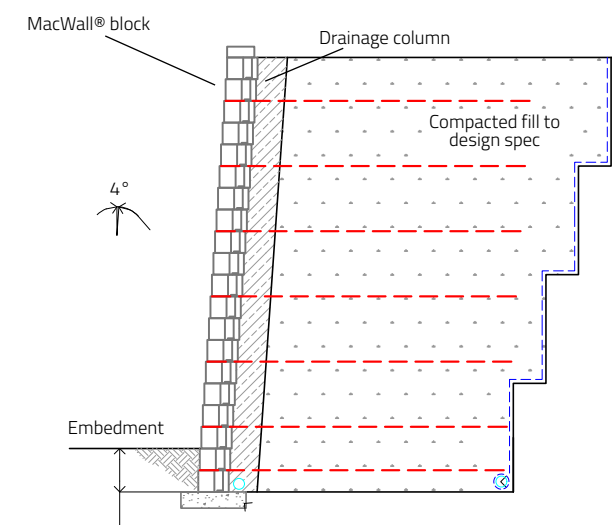
Benefits:

- Split-face finish for authentic stone look
- Near vertical 4° batter
- Choice of colours to complement development
- Can incorporate curves, corners and steps
- Quick, mortar-free dry build
- BBA certified option*

* Certificate 17/H268 – Anchor Vertica Wall System for Reinforced Soil Retaining Walls



MacWall® typical section



GEOGRIDS THE HEART OF EFFECTIVE SOIL REINFORCEMENT

PARALINK® PARAGRID®

ParaGrid® and ParaLink® are used in conjunction with our Terramesh® soil reinforcement solutions to provide greater resistance to:

- M** Taller structures
- M** Higher surcharge loads
- M** Seismic activity

ParaLink® and ParaGrid® are amongst the most tried and tested geogrids in the world. Their unique robust structure gives them great resilience and reliability even in the most demanding applications.

This reduces client risk and enables a more efficient structure.



Benefits:

- M** BBA certified up to 120 year design life
- M** Most beneficial partial safety factors for LTDS
- M** Enables the reuse of many site won fills
- M** Reduces the quarrying and transport of traditional granular backfills
- M** Low creep polymer yarns protected by a tough sheathing enabling its use within many types of structural backfill

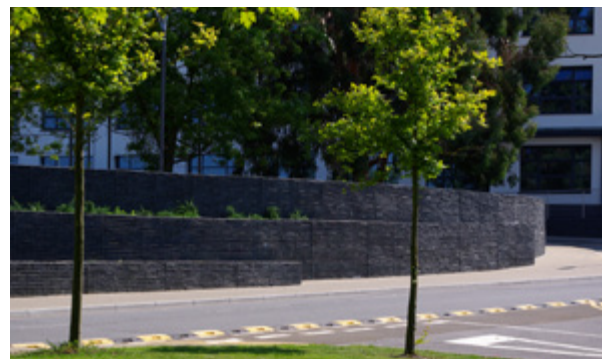


ARCHITECTURAL AND LANDSCAPING APPLICATIONS

Both functional and eye-catching, gabions have a rich history world-wide for their use as architectural features.

The only limit is the imagination and landscape architect's creativity in the use of the mesh or gabion. We have seen gabions, geogrids, Terramesh® and Green Terramesh® used as the core in many landscape architecture projects to provide an intimate and reflective area offering sound proofing, privacy and beauty.

There are many design options available to the landscape architect from retaining to free standing landscaping walls; low with trailing plants, or built with curves, sharp angles or coloured rock fill. Rock filled gabion units are also popular as an aesthetic fascia on buildings and other structures, to provide a natural-looking visual statement.



CLADDING

Maccaferri Welded Gabions fabricated to create cladding and trapezoidal units in architectural applications.

S.U.D.S

Gabion units and Terramesh® Systems integrated with erosion products to create channels and ponds.

FREE STANDING

Maccaferri Welded Gabions incorporating structural steel reinforcement to create acoustic walls, visual screens and containment barriers.

LANDSCAPING

Gabion units incorporating architectural cropped stone retaining site won fill to create planting areas.



OTHER SOLUTIONS

TIMBER CRIB RETAINING WALLS

Popular in housing developments, these walls combine timber header and stretcher units to create a cribwork structure. Our timber crib system is made from Radiata pine that has been sourced from PEFC certified forests and treated for durability.

The cribwork is filled with local stone and its clean interlocking lines can be softened with planting.



RENO MATTRESS PLUS®

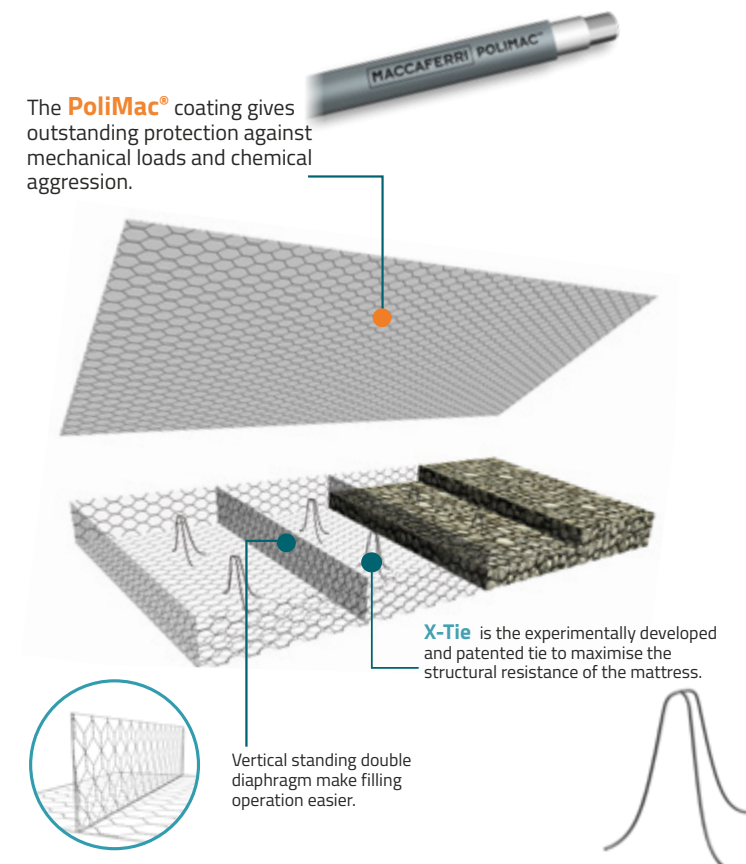
Best suited to areas at risk of high velocity erosion, above or below the water, our Reno Mattress® is made out of flexible double-twist woven steel mesh and filled with stone.

For a vegetated aesthetic, we can fill the void between the stones with seeded topsoil and add biodegradable matting before securing the mattress lid. This way, vegetation can take hold but with the robust protection provided by the mattress.

- M** Protection from high velocity erosion
- M** Range of thicknesses
- M** GalMac® galvanised and PoliMac® coated to protect against corrosion
- M** Option for topsoil/matting to encourage vegetation
- M** BBA certified & CE marked



Reno Mattress Plus with X-Ties



CUBIMAC GABIONS

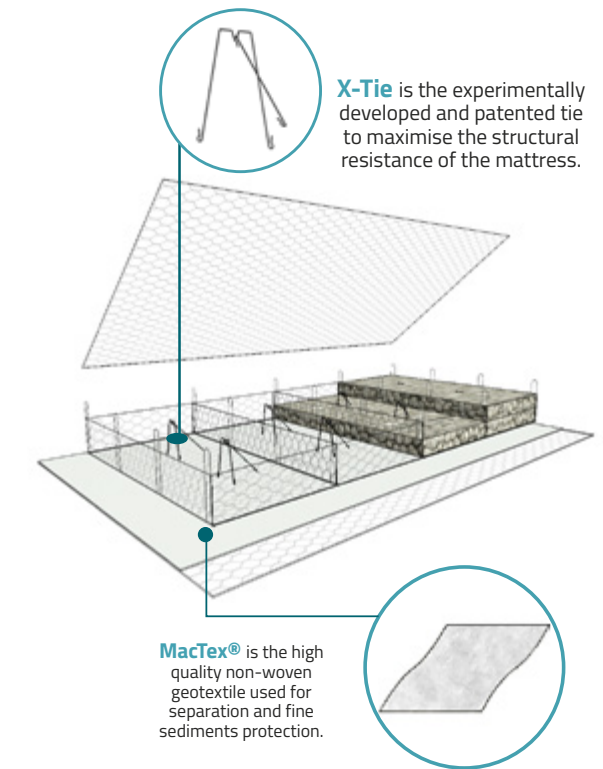
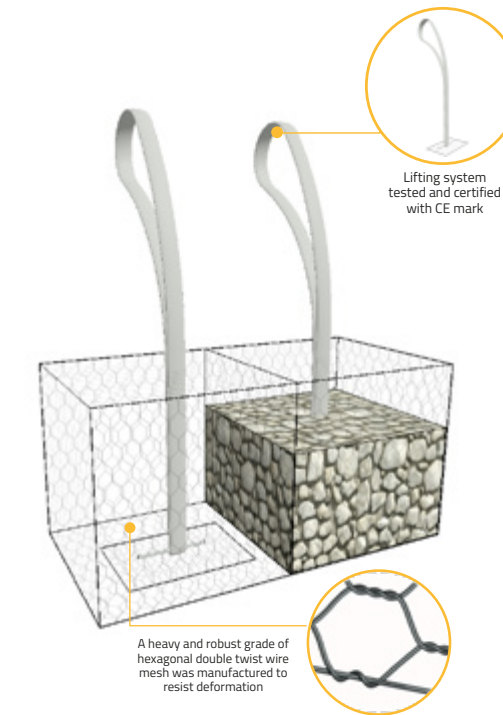
CubiMac is a ready-to-use solution ideal for building hydraulic and geotechnical structures in challenging and time-constrained areas

Constructed with double-twist wire mesh and protected with the innovative PoliMac® coating, CubiMac are preassembled and pre-filled modular structures equipped with a tested lifting system and CE marking, ensuring ease and safety of installation.

- M** Railway possessions
- M** Motorway night working
- M** Retaining walls in water
- M** Emergency repairs

RENOMAC+

Our RenoMac+ units are pre-filled with stone ready to be lifted into river training works or watercourses. This reduces the need for tidal working or extensive temporary works.





Woven Gabions, Borders Rail Scotland



Green Terramesh®, Wales



Woven Gabions, Penicuik



MacWall®, Wakefield



MacWall®, Barrhead



Welded Gabions, Olympic Park



Terramesh® System, A72, Dirtpot Corner



Green Terramesh®, Barrhead



Woven Gabions, Prestwick



MacWall®, Scarborough



Welded Gabions, Retail Development, Basingstoke



Welded Gabions, BBC Cardiff