

#### Maccaferri Ltd

Building 168, Harwell Campus, Didcot,  
Oxfordshire, OX11 0QT

T: +44 (0) 1865 770555

sales.uk@maccaferri.com  
technical.uk@maccaferri.com  
construction.uk@maccaferri.com

[www.maccaferri.com/uk](http://www.maccaferri.com/uk)

## Engineering a Better Solution

#### OFFICINE MACCAFERRI GROUP PROFILE

Founded in 1879, Officine Maccaferri soon became a technical reference in the design and development of solutions for hydraulic works and retaining structures.

Since then, through technological innovation, geographical expansion and focussed diversification, Maccaferri now offers solutions at a global level for a wide range of civil, geotechnical and environmental engineering applications.

#### Republic of Ireland - GeoStrong

Unit 9A, Plato Business Park, Damastown, Dublin 15

T: +353 1 885 1662

E: [sales@geostrong.net](mailto:sales@geostrong.net)

[www.geostrong.net](http://www.geostrong.net)



Gruppo  
Industriale  
Maccaferri

Maccaferri's motto is 'Engineering a Better Solution';

We do not merely supply products, but work in partnership with our clients, offering technical expertise to deliver versatile, cost effective and environmentally sound solutions. We aim to build mutually beneficial relationships with clients through the quality of our service and solutions.

#### ORGANISATIONAL STRUCTURE

Officine Maccaferri is at the heart of the Maccaferri Industrial Group, a corporation with revenues of €1.2B, operating in mechanical engineering, real estate & construction, energy, food & agro-industry and tobacco.

Officine Maccaferri's vision is to become a leading international provider of advanced solutions to the civil engineering and construction market. With nearly 3000 employees, over 30 manufacturing facilities and local operations in 100 countries around the world, Maccaferri can truly claim to have a global presence with local focus.

#### MACCAFERRI APPLICATIONS



RETAINING WALLS  
& SOIL REINFORCEMENT



HYDRAULIC WORKS



ROCKFALL PROTECTION  
& SNOW BARRIERS



EROSION CONTROL



SOIL STABILISATION  
& PAVEMENTS



BASAL REINFORCEMENT



COASTAL PROTECTION,  
MARINE STRUCTURES & PIPELINE  
PROTECTION



DRAINAGE OF STRUCTURES



SAFETY & NOISE BARRIERS



LANDSCAPE & ARCHITECTURE



FENCING & WIRE



AQUACULTURE NETS/CAGES

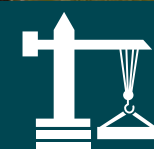


ENVIRONMENT, DEWATERING  
& LANDFILLS

© Officine Maccaferri S.p.A.

# MACCAFERRI

# MACCAFERRI



## Solutions for Developers

### Housing, Commercial & Education



## SOLUTIONS FOR DEVELOPERS

Level differences, vulnerable embankments, watercourses or soft ground; whatever challenge your development poses, Maccaferri has the solutions to help overcome them.

Maccaferri provides specialist great looking solutions. Each one engineered to offer you the best of both worlds: structural integrity and aesthetic appeal.

Concrete blockwork cleverly designed to have all the character of a traditional masonry wall. Welded gabion baskets that create clean, uniform lines, or biodegradable solutions that encourage a lush, green vegetative finish. With Maccaferri, you can have the retention or protection that you need with the appearance your customers and clients want.



### Quality through and through

High quality materials play a huge part in our solutions. Our BBA certified double-twist gabion mesh with our new PoliMac® coating, offers greater performance to protect against the environmental conditions predicted in 120 years time.

You will also find that our solutions are designed to re-use site won materials wherever possible, reducing waste and carbon footprint as well as saving you money. Our key products have **Environmental Product Declarations**, an independently verified and registered document to communicate transparent carbon footprint information.

Everything you would expect from a market leader in geotechnical solutions – and more.



### Design, supply and install

Not only do we engineer the solutions and manufacture the products, we also offer a complete design, supply and install service. That way, we can value-engineer at each and every stage of your project to deliver the highest quality finish at the best price.

Alternatively, if you have your own install team, we can provide you with a supply price that includes a professionally indemnified design. Or, if it's simply our tried and trusted materials you want, we can guide you through the best options for your needs and budget.



### Talk to us

Simply tell us which option works best for you - our complete design, supply and install service; design and supply; or supply only - and we'll work with your development team to provide exactly that.

The earlier you can involve us, the greater the opportunity to value engineer and deliver real cost savings, just as we have done for some of the world's largest engineering projects, as well as smaller-scale, local projects.





## MASS GRAVITY RETAINING WALLS WOVEN GABION WALLS

Whether you're looking for the most cost effective retaining wall or the most aesthetically appealing, we have a solution to suit every brief and budget.

### Woven Mesh Gabion Walls

Engineered from double-twist hexagonal steel wire mesh that has been protected against corrosion, these woven baskets are ideal for areas prone to settlement or scour, providing both strength and flexibility.

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 the best aesthetic.



#### Benefits of Woven Gabions:

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



Architectural screening bund



### Welded Gabion Walls

Offering many of the benefits of their woven counterpart, welded gabion walls help achieve clean, uniform lines in areas where there is minimal risk of settlement, making them particularly popular for architectural and landscaping applications.

They are available in a range of wire diameters, suited to different usage and budgets.

#### Benefits of Welded Gabions:

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

### Architectural Gabions/Street Furniture

Eye-catching feature walls and entrances. Designated areas for parking or planting. Architectural screens that block areas such as bin stores from view. Whatever finishing touches you are hoping to achieve, our architectural gabions help make it possible.

They can be filled with your choice of local or specified stone and can even incorporate features such as seating or viewing windows.

#### Benefits of Architectural Gabions:

- M** Heavy gauge welded wire mesh
- M** Accommodates shaped features
- M** Stone infill can be local or specified
- M** Hand-placed stone for best aesthetic
- M** Natural backdrop for climbing plants





## REINFORCED SOIL WALLS AND SLOPES

High wall or steep slope. Stone finish or soft, green vegetative cover. You'll find our different soil retention systems all come with one thing as standard: durability.

### MacWall®

The segmental block retaining wall system with the appeal of a traditional masonry wall and the engineered reassurance of soil reinforcement. The concrete blocks have a split-face finish for an authentic stone look, a choice of colours to complement your development and the added options of curves, corners and steps.

A mortarless build with our soil reinforcement geogrid ParaGrid® inbetween blocks and then backfilled.

Benefits of MacWall®:

- M** BBA certified option
- M** Split-face finish for authentic stone look
- M** Choice of colours to complement development

**M** Can incorporate curves, corners and steps

**M** Quick, mortar-free dry build



## Terramesh®, Mineral & Green Terramesh®

### Terramesh®

Ideal for taller structures where you want the look of gabions with the cost-effectiveness of soil reinforcement. Gabion Terramesh® offers a reinforced soil wall with an integral gabion fascia.

How does it work? Each gabion comes with a specially engineered geogrid mesh tail. One row at a time, the gabions are filled with stone before soil is placed on top of the mesh tails, reinforcing it. This soil backfill is compacted in layers, enabling walls to be constructed well in excess of 50m high.

Benefits of Terramesh®:

- M** Ideal for tall structures
- M** Saves on stone fill cost
- M** Suits near-vertical or stepped walls
- M** PoliMac® coated with 120 year plus design life
- M** BBA-HAPAS certified and CE marked



Mineral Terramesh®



Gabion Terramesh®



Mineral Terramesh® under construction

### Mineral Terramesh®

Mineral Terramesh® forms beautiful flush faced rock slopes with an angle of up to 80°. This increasingly popular soil reinforcement system combines our double twist hexagonal steel wire mesh with integral GalMac® coated welded mesh panels. This rapid to install system is more sustainable due to its potential to re-use site won materials as structural backfill.

Benefits of Mineral Terramesh®:

- M** Ideal for tall structures
- M** Maintenance free
- M** Integral steel frame delivers clean uniform lines
- M** PoliMac® coated with 120 year plus design life
- M** BBA-HAPAS certified and CE marked
- M** Re-using site won materials reduces cost and environmental impact



### Green Terramesh®

Green Terramesh® encourages a lush, vegetative finish combining double twist hexagonal steel wire mesh geogrid with an integral rapid-to-install fascia. This fascia of a rectangular steel frame, angle supports and erosion matting creates slopes at a 70 degree angle.

The frame and angle supports help minimise the lumps and bumps associated with a traditional 'wrapped face' reinforced soil slope and speeds up construction. Matting and mesh secure soil in place and the use of site won materials saves on costs and road miles, making for a green solution in both senses of the word.

Benefits of Green Terramesh®:

- M** Gives reinforced slopes a green, vegetative finish
- M** PoliMac® coated with 120 year plus design life
- M** BBA-HAPAS certified & CE marked





## WATER MANAGEMENT EROSION PROTECTION

Protecting vulnerable slopes, embankments and infrastructure from the threat of erosion starts with identifying the scale of the risk.

We choose from a range of graded erosion protection solutions appropriate to the level and nature of risk that you face: from high velocity watercourses and outfalls, to erosion mats protecting newly created slopes from wind and rain.

### Reno Mattress®

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.



### Benefits of Reno 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



### MacMat®

MacMat® geomats are designed to be secured to vulnerable slope faces in order to prevent surface erosion run-off. MacMat® is secured to the ground using suitable pins as required for the project.

### Benefits of MacMat®:

- M** Suitable for exposed slopes susceptible to erosion by wind and rain
- M** Provides immediate protection and promotes rapid growth of vegetation by reinforcing the root structure
- M** Minimal maintenance required
- M** Range of mats available to suit exposure conditions



## SUDS (Sustainable Urban Drainage System)

Planning on constructing a channel or retention pond to help capture and manage rainwater run off?

Our range of geotechnical solutions include erosion protection for swales and channels, as well as lining systems for ponds and storage areas - amongst them, 'green' solutions that encourage vegetation without compromising on technical reliability.

### BioMac®

Providing immediate protection to slopes under threat from wind, rain or surface water run-off, our BioMac® biodegradable matting meets the requirement.

The matting takes the full impact of the elements, protecting topsoil and seeded slopes and preventing washout until sufficient growth has taken place to control erosion without further assistance.

### Benefits of BioMac®:

- M** Protects newly created slopes from the elements
- M** Coir fibre or coir-straw fibre mix
- M** Matting biodegrades over time to be replaced by vegetation

### MacLine® GCL Bentonite Liner

When you're thinking of an impermeable pond or channel lining, think no further than MacLine® GCL- a composite geosynthetic clay liner.

Delivered on a roll, it's simple to install and doesn't require heat-sealed seams like other membrane liners.

### Benefits of MacLine® GCL:

- M** Simple to install
- M** Self-sealing in the event of small punctures
- M** Can be re-vegetated once confinement layer is placed
- M** Complements our Reno Mattress® and other Maccaferri products





## ADDED VALUE SOLUTIONS

With the most immediate priorities addressed, Maccaferri has a number of other specialist solutions that can help protect or add value to your development.

### MacMat® R

Our MacMat® R solution can soften the look of a steel soil nailed or anchored slope by establishing new vegetation. MacMat® R provides the perfect surface stabilisation layer. It is ideal for usage where the soil nailed slope has sufficient topsoil to sustain vegetation, its 3D polymer open-matrix reinforced by our double twist mesh delivers strength between nail heads.

### GeoMac®

When introducing a layer of topsoil to a slope use GeoMac®. GeoMac® is an evolution of our Reno Mattress®. Lined with a geotextile filter fabric, it's in-filled with stone, layered with topsoil and seed, then covered in a biodegradable matting. Secured against a slope face, GeoMac® enables vegetation to establish.



MacMat® R slope stabilisation



MacGrid® EG soft ground stabilisation

### Soil Stabilisation

Where differential settlement is a potential problem, MacGrid® and MacTex® will help improve the subgrade capacity of flexible pavements, highways and parking areas. Both are simple to unroll and install and our engineers will assist you to identify which is the best solution for your needs.

### ParaFence™

Our world-leading windbreak solution ParaFence™ offers greater protection than traditional solid structures. ParaFence™ shelters buildings by reducing high velocity wind flow by up to 68% for distances up to 30x the panel height.

### Working/Piling Platform

When you require a piling platform, you can rely on our reinforcement and separation geosynthetics, MacGrid® and MacTex® to provide the bearing capacity you need.

### Rockfall Mitigation

We offer a range of solutions to help prevent rockfall hazards; everything from mesh systems that stabilise rock slopes, to ETAG 027-certified barriers that intercept falling rocks. Just tell us your challenges and our engineers will recommend the best Maccaferri solution.



### Timber Crib Retaining Walls

Combining 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 long-term durability.

Constructed on a concrete foundation, typically at a 14-degree batter, the cribwork is then machine-filled with local stone providing a neat finish. Its clean interlocking lines can be softened with planting.

### Basal Reinforcement

When developing sites over soft ground, old mine workings or voids, our BBA-certified ParaLink® high strength geogrid will stabilise embankment foundations. ParaLink® enhances resistance to embankment failure and improves the overall structural integrity.

### Noise Barriers & Visual Screening

Our stone-filled gabions are known for their excellent acoustic absorption which protects developments from excessive noise created by motorways, railways or local amenities. These solutions blend into their surroundings and we have a range of options for different heights.



Basal reinforcement for Olympic Park



### Gabion Cladding

Architects are increasingly specifying our stone-filled welded mesh gabions due to their pleasing aesthetics. Locally sourced rock blends into the surroundings giving a more natural appearance than traditional cladding systems.



Gabion cladding for supermarket



Vegetated acoustic barrier