

Mining Solutions

MACCAFERRI



This brochure is part of a series of technical publications with the purpose of presenting potential Maccaferri solutions for the mining industry. In other publications, we define the approach of calculation methods as well as practical examples for facilitating the utilization of these solutions. With over 130 years of experience in geo-technically engineered solutions, we continually accumulate experience and knowledge in this field. From evaluation and definition to design and construction, we are there as your partner in solutions for all your mining project needs. For additional information or other technical publications, please contact any of our offices.

Mining

The mining industry and civil engineering fields may be worlds apart. Even so, Maccaferri has made certain that our solutions can be applied to everyday mining projects.

During the last 10 years the use of Maccaferri products within the mining industry has increased considerably. Special dedication and attention has been given to the mining sector of our business and has warranted this special publication to promote all the mining solutions available from Maccaferri to help resolve issues that are encountered daily.

As you may know, mining, of various types, is one of the oldest activities exercised by man. Some traces of mining go back more than 40,000 years.

Modern mining businesses must adhere to strict environmental guidelines ensuring the mined area recovers to its original condition or to an even better environmental condition than before the mining activity took place. At Maccaferri, we can help you adhere to these strict guidelines.



Maccaferri

Solutions

Hydraulic Structures 4

Erosion control protection

Retaining Walls 5

Vertical dump walls with gabions, Terramesh® and Terrawall™

Soil Reinforcement 6

Geogrids and geotextiles for weak soils

Rockfall Protection 7

Passive and Active systems

Fiber Reinforced Concrete 8

Tunnel linings

Dewatering 9

Sludge dewatering tubes for dewatering mine tailings

Site Remediation 10

Revegetation works, channel linings and retaining walls

Technical Support 11

World-class technical staff, short courses and on-site support

Mines

Hydraulic Structures

Erosion Control

“ WITH WORLDWIDE PRESENCE AND
130 YEARS OF EXPERIENCE ”



Maccaferri has a full compliment of products to help you meet all your erosion protection requirements.

Our gabions and Reno mattresses have been widely used within the mining industry for various applications for many years.



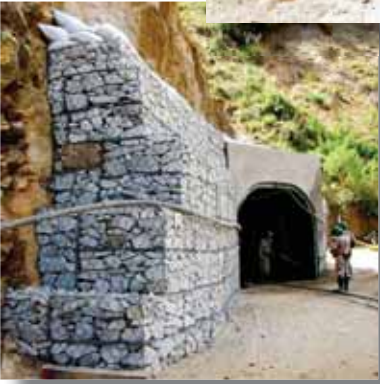
We can help with culvert headwalls, culvert protection, cascade structures, channel linings and weirs. Maccaferri also offers specialized design software for complete project analysis.



Processing Retaining Walls

Gabions are used for a wide variety of retaining walls at mining facilities. Maccaferri gabions get their strength from a double twisted hexagonal mesh of steel wire which is reinforced by selvages of heavier wire running along the edges and by transverse diaphragms. The double twisted wire will not unravel, even when cut.

Additionally, mechanically stabilized earth (MSE) type structures can be utilized. Terramesh®, Green Terramesh® and Terrawall™ are three types of MSE wall systems. Vertical wall solutions have been constructed to heights in excess of 75 ft. using Maccaferri design software and products.



“ QUICK CONSTRUCTION PROCESS ”



Access

Soil Reinforcement



“ PROTECT AND RECREATE THE NATURAL CONDITIONS ”



Maccaferri offers various types of geotextiles and geogrids for basal reinforcement of haul roads and dump zones, as well as slope reinforcement in fill areas.

Our MacTex® and MacGrid® products provide excellent base stabilization over weak or soft soils.



Mines

Rockfall Protection

“ PROPER SAFETY
AND PROTECTION ”



Protection from falling rocks and debris is critical in any mining environment and personnel safety is the number one priority.

Maccaferri developed the MAC.RO System to provide a full range of passive and active rockfall protection methods.

From simple drapery mesh to high strength HEA panels, along with our barrier systems, we can provide the proper protection for your specific application.

Tunneling

Fiber Reinforced Concrete

“ AN ALTERNATIVE APPROACH WITH INNOVATIVE PRODUCTS ”

Maccaferri's WIRAND® steel reinforcing fibers for concrete and shotcrete applications provide a cost effective alternative to conventional methods using reinforcing mesh.

Introducing WIRAND® steel fibers into the concrete mix provides new mechanical properties. It essentially becomes a new material, with improved mechanical properties that can enhance structural applications.

WIRAND® steel fibers improve the shotcrete by increasing the strength, flexural resistance and shear resistance. Also, mine tunneling projects will greatly benefit from the safer shotcrete installation methods.

Our steel fibers are easily added into the concrete mix without any special equipment. They are specially designed to be added with the aggregate gradation of the mix.



Materials

Dewatering

MacTube®

“ SOLUTIONS
ADAPTED TO EACH
UNIQUE SITUATION ”

MacTubes® are geosynthetic tubes made for dewatering mine tailings, sludge ponds or any application that you need to retain material while allowing the fluids to be filtered and released.

The use of specialized geotextiles allow for many dewatering applications to be completed without using additional chemicals or polymers, therefore reducing project costs substantially.



Mine Closing Site Remediation

“ PROPER
RESTORATION
IS CRUCIAL TO
RECOVERY ”

The mining of materials falls within the range of human activities that have a high environmental impact.

Maccaferri has restoration solutions that can efficiently and effectively restore mined areas to their original state.

Our restoration solutions consist of combining different materials with soil and plants to provide a multitude of cost effective and site sensitive solutions for the rehabilitation and revegetation of a mine operation.



Technical

Support

“ TECHNICAL ADVICE ON DESIGN AND CONSTRUCTION ”

Slope revetment with MacMat® and MacMat® R



Maccaferri

The technical departments of Maccaferri, along with extensive research and development, allow us to advise our clients in all aspects of a project, such as depicted in this publication. Our

technical staff is available to offer advice and guidance on all available Maccaferri solutions, as well as propose new and innovative solutions. We will do whatever it takes to meet your needs.



World-class technical staff



Catalogs and manuals



Technical short courses



Site visits and support



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