Road Works

Vertical concrete walls

MACCAFERRI
Reinforcements

The reinforcement elements are the key components of the MacRes system. These components guarantee the following fundamental characteristics:

- **Tensile strength**
- **Soil bond**
- **Durability**

Geosynthetic reinforcements

The Paraweb reinforcement consists of high-strength synthetic fibres clad with a protective polymer sheath which optimises the characteristics of the two materials. Paraweb with various strengths may be used, thereby further improving the design.

Steel reinforcements

The reinforcement consists of steel bars with ductility and strength characteristics which, together with the soil characteristics, provide an overall structural reinforcement that is able to support the design loads. The reinforcement undergoes specific machining processes to give the surface of the bars a special shape in order to achieve the necessary soil bonding characteristics. Lastly, the bars are hot-dip galvanised in order to achieve the durability required by the standards.
MacRes

MacRes: the Maccaferri system of vertical walls with a concrete facing; a market segment with an ever-increasing number of applications in civil engineering structures.

This system is ideal for the construction of vertical walls subject to extremely high loads, or where the architectural requirements demand a special finish to the exposed wall face.

The development of innovative solutions for support works is one of Maccaferri’s main research areas for new products. Maccaferri’s aim with the creation of MacRes was to complete the range of products offered in this sector.

Installation instructions are provided with the construction components for the MacRes system (concrete facing, soil reinforcement, joints) which, together with a preliminary design based on the characteristics of the foundation soil, give the finished works:

- High load-bearing capacity
- Durability
- Overall cost effectiveness for implementation over a large area due to its simplicity and speed of installation
- Flexibility to meet layout requirements
- Ease of insertion into various architectural contexts (different types of finish)

It has been possible to achieve this result by combining the geotechnical skills, structural engineering know-how and knowledge on materials which has been acquired by Maccaferri over the years.

Maccaferri Services

- Research and Development with Research Institutions and Universities
- Technical design support using software specifically written for this application.
- Architectural design support
- Installation assistance with the provision of special tools and, if required, on-site personnel
- Widespread presence throughout the country
Applications

Road Structures
Rail Structures
Hydraulic Works
Civil Engineering

Possible finishes

Concrete facing
The facing is produced by using a suitable mix of concrete and reinforcement steel.
The number of couplings for the soil reinforcement, fitted inside the concrete facing, is defined on the basis of design parameters.
Various types of finish may be used depending on the architectural requirements.

Examples of finish achieved with Reckli form liners
With the MacRes solution, Maccaferri provides engineers, architects and designers with the ideal structural and architectural opportunity to consider vertical walls subject to high loads.

The style of the unique design of the MacRes panels blends in with the surrounding environment, and gives a feeling of safety and durability.
Officine Maccaferri
Group Profile

For more than 125 years, Officine Maccaferri has researched, designed and developed solutions to solve problems tied to Construction Market. The Company markets the most sophisticated high-quality products - including woven hexagonal steel wire products, geosynthetics, fibers, wire - in all the five continents. Officine Maccaferri’s worldwide headquarter is located in Bologna, Italy, Europe. The Company has on-the-ground operations in almost 100 countries worldwide and employees nearly 1,300 people. Officine Maccaferri Group is privately owned and it is a member of Maccaferri Industrial Group which is coordinated by S.E.C.I., the group holding.

Mission

Its Mission is to research, design and develop advanced solutions aimed at solving problems tied to erosion control, soil stabilisation, infrastructure projects in sectors of application like roads, railways, rivers, channels, landfills, coastal protection, civil construction. This is the challenge of Officine Maccaferri: an organization planned to be global and local at the same time, with an involvement in every phase of a project activity from design to installation to materials used in carrying out the works.

Organizational Structure

Officine Maccaferri’s organizational structure makes it easy for innovation to flow across the enterprise and around the world, to develop and adapt solutions to customers needs as early as possible, and to offer the best technical ideas and innovations profitably and quickly. We designed our organization to be global and local at the same time. This may seem like a paradox, but we believe that meeting this challenge is key to our success.

Officine Maccaferri is organized with 25 Subsidiaries that manufacture our products and market our solutions worldwide. Subsidiaries are responsible for spreading solutions/products innovations across the geographic markets. In addition agents and distributors are positioned all over the world to cover the whole territory.