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GAWAC SOFTWARE SERVICEABILITY AT THE CENTRE OF THE DESIGN

GAWAC 3.0 is the new software developed for the design and optimisation of Gabion Walls.

GAWAC 3.0 takes into account the wall performance over the time.

The wall behaviour is evaluated through an experimental coefficient called GSC (Gabion Serviceability Coefficient).

The GSC takes into account the long term performance of the wall at 120 years of service life considering the environmental exposure conditions.

GAWAC 3.0
Gabion Wall Design
2020

Download GAWAC software to design with GSC

EPD®

Certification Number SP 01465

Maccaferri is committed to communicate reliable and comparable information about the life cycle environmental impacts of products.
Discover more at **maccaferri.com/EPD**

Our products are certified and tested by leading institutes and in accordance with the latest guidelines and standards (ETAG027, EN10223-3, ISO 17746, ISO 17745). Product certifications include CE mark, BBA Agrément Certificate, NF mark, COPRO mark, and BAFU-FOEN homologation for snow-barriers. For more information contact our certification office.

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Engineering a Better Solution

Maccaferri's motto is **'Engineering a Better Solution'**; We don't 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 through the quality of our service and solutions.

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.

OFFICINE MACCAFERRI GROUP PROFILE

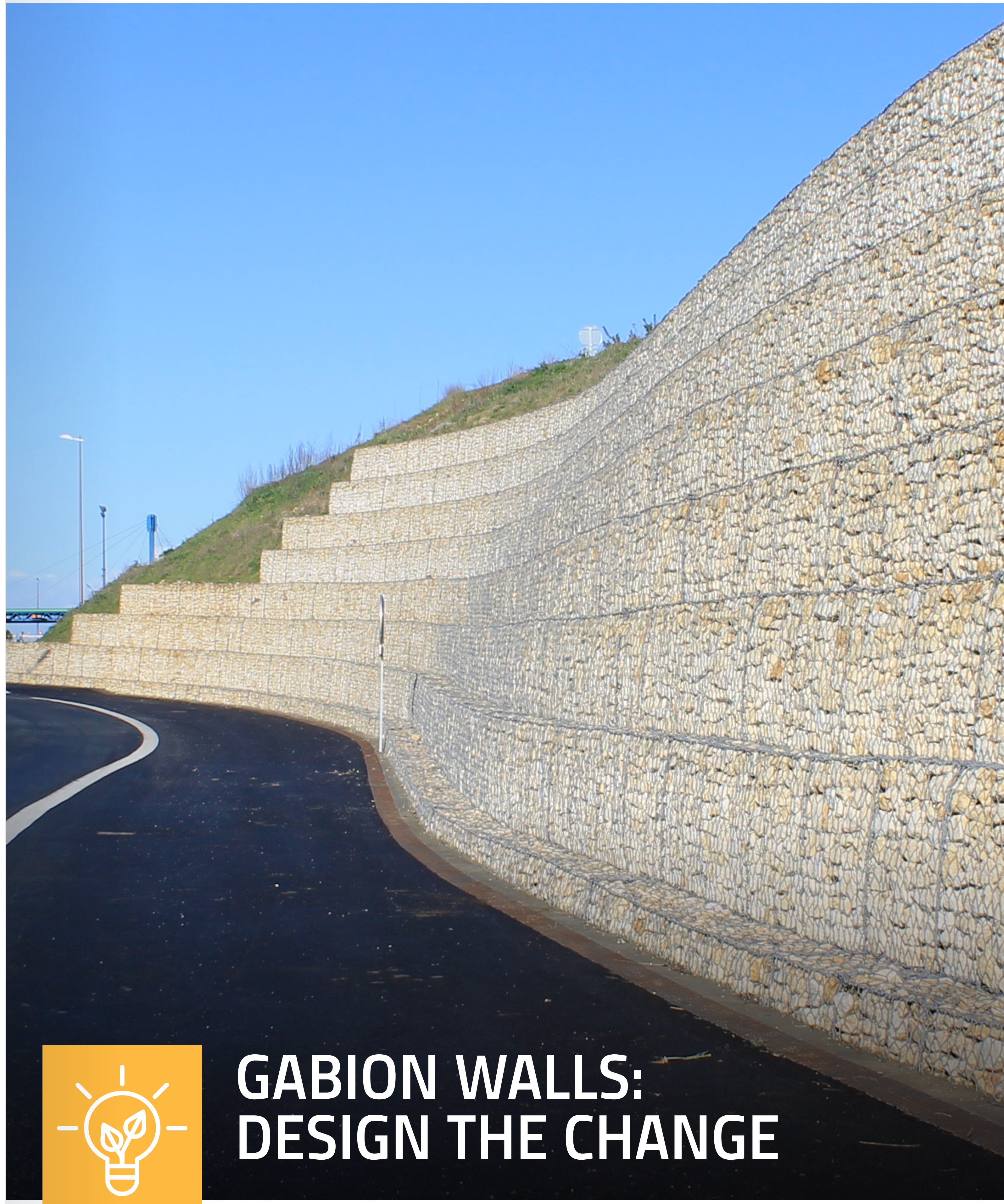
Founded in 1879, our Group soon became a worldwide reference in the design and development of advanced solutions, with offices in over 70 countries and 30 factories worldwide.

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
- HYDRAULIC WORKS
- ROCKFALL PROTECTION & SNOW BARRIERS
- EROSION CONTROL
- SOIL STABILIZATION & PAVEMENTS
- BASAL REINFORCEMENT
- COASTAL PROTECTION, MARINE STRUCTURES & PIPELINE PROTECTION
- ENVIRONMENT, DEWATERING & LANDFILLS
- DRAINAGE OF STRUCTURES
- TUNNELLING
- LANDSCAPE & ARCHITECTURE
- SAFETY & NOISE BARRIERS
- FENCING & WIRE
- AQUACULTURE NETS/CAGES
- CONCRETE FLOORING, PRECAST & OTHER USES
- INDUSTRIAL MANUFACTURING

MACCAFERRI



GABION WALLS: DESIGN THE CHANGE

DESIGN THE CHANGE

Today, the design criteria behind the development of civil engineering structures are not only based on economic considerations but also on the environmental and social impacts of the structure.

Maccaferri developed a new design approach for Gabion Walls that reduces the short and long term impacts related to the Gabion Wall construction.

The approach, is based on the GSC parameter (Gabion Serviceability Coefficient). This is a experimentally obtained value to measure the performance of the Gabion over the time.

DESIGN THE CHANGE

GABION SERVICEABILITY COEFFICIENT (GSC)

GSC introduces long-term performance at 120 years of service life. GSC is the experimental coefficient obtained by measuring the performance of the gabion. No more uncertainties about Gabion performance. Everything is tested!

ENHANCE THE GABION WALL DESIGN WITH THE GSC CONCEPT AND GAWAC SOFTWARE

- Experimentally tested and numerically verified method
- Increased cost-effectivity of the design
- Significant environmental benefits

TIMELESS EFFECTIVE GABION WALLS

LESS MATERIALS
Less stone means savings! Thanks to the GSC concept, the amount of materials needed to build a gabion wall is drastically reduced.

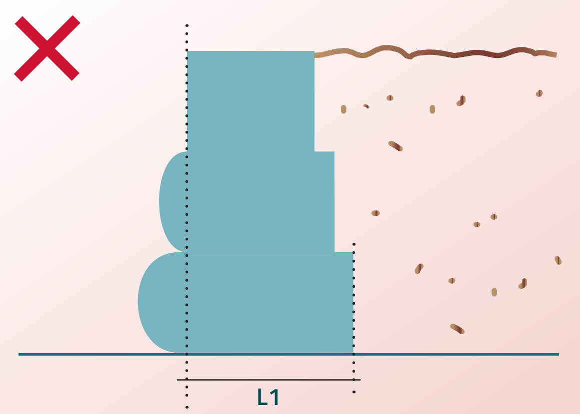
BETTER PERFOMANCE
PoliMac coating means outstanding performance in aggressive environments. It will preserve the structure serviceability reducing maintenance costs.

QUICKER INSTALLATION
Material reduction means easier and faster installation. An optimised design increases the production rate.

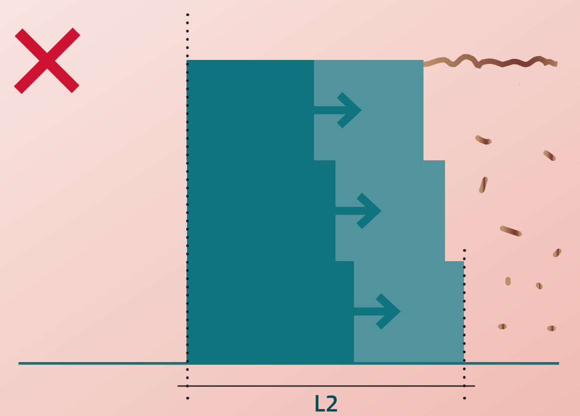
LOWER ENVIRONMENTAL IMPACTS
Reduction of quarry stones means cutting the environmental burden. Take advantage of the new design approach for reducing the environmental impact of the structure.

"The mastery of reducing the amount of material while improving the serviceability of the structure"

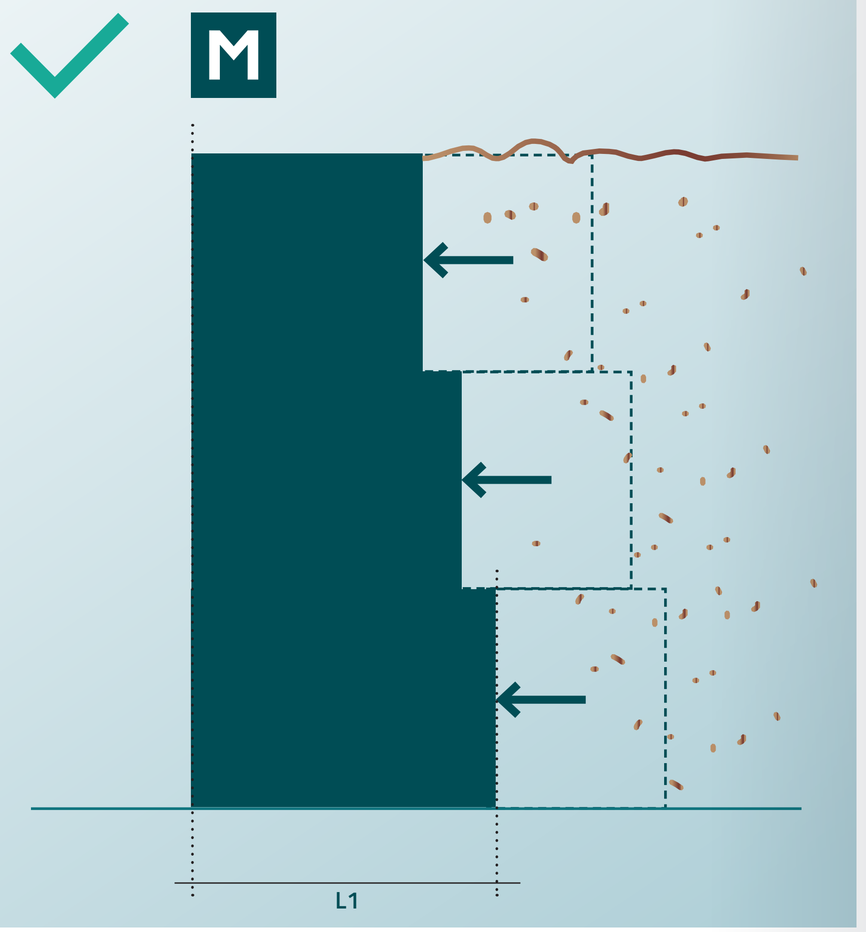
1. GABION WALL WITH DEFORMATION ISSUES



2. GABION WALL WITH UNEFFECTIVE DESIGN

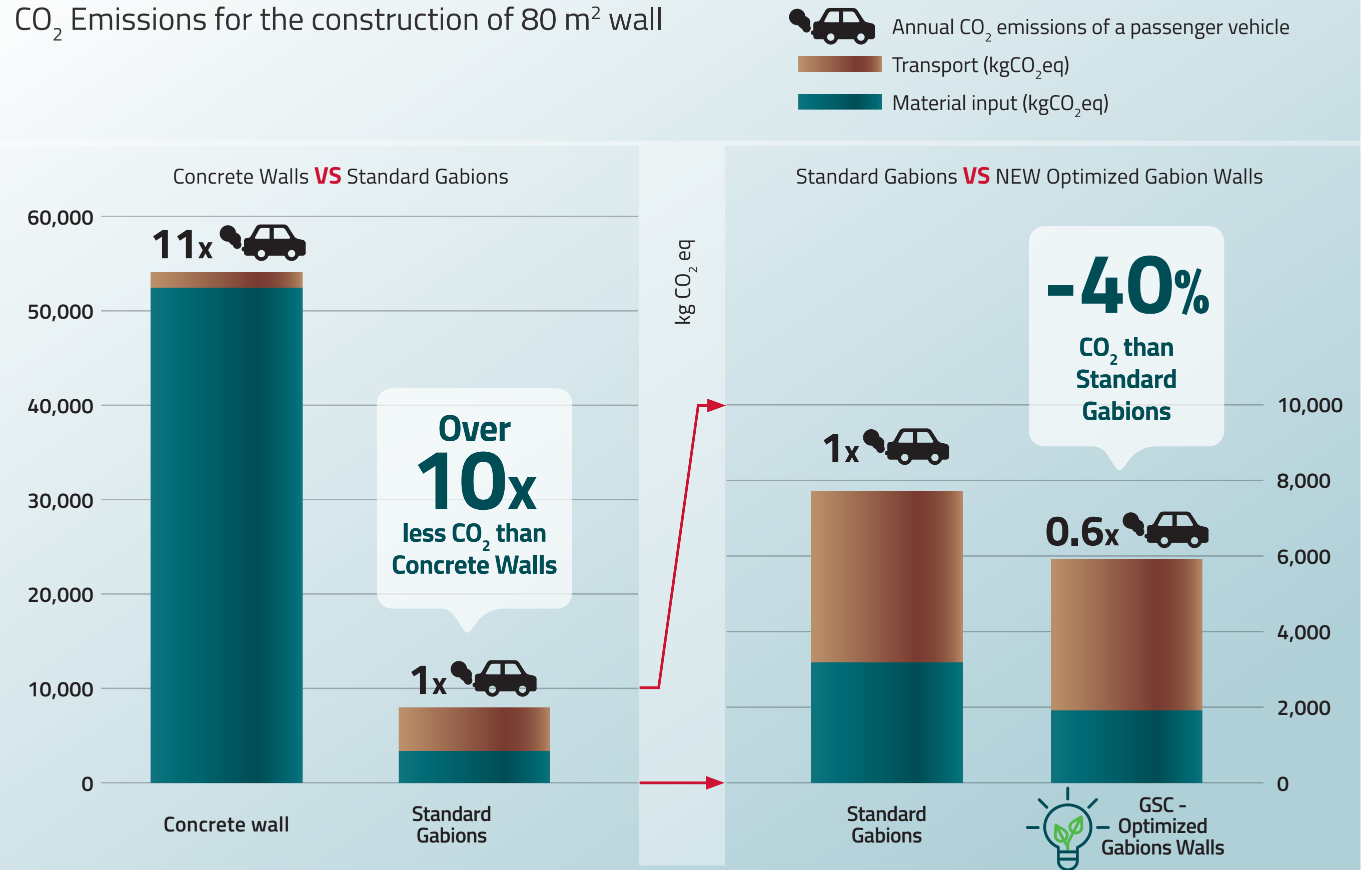


3. GABION WALL DESIGNED WITH GSC CONCEPT



A GREEN THOUGHT DRIVES OUR SOLUTIONS

CO_2 Emissions for the construction of 80 m² wall



Comparison based on a 8 m high wall, assuming the availability of a stone quarry within 100 km from the jobsite.

Source: : APMC (2012) Carbon Footprint dei Gabbioni e Materassi Maccaferri: confronto con soluzioni tradizionali (unpublished).