

Gabion walls: design the change

Design criteria for civil structures now cover environmental and social impacts as well as cost. Maccaferri developed a new design approach for gabion walls that reduces the short and long-term impacts of their construction.

GSC — Gabion Serviceability Coefficient

An experimentally obtained coefficient that measures gabion performance over time. It accounts for the wall's performance over a **120-year service life**, taking environmental exposure into account. Gabion performance is tested, not assumed.

Less material

With GSC, the amount of stone needed to build a gabion wall drops sharply.

Quicker installation

Less material means easier, faster installation; an optimised design raises the production rate.

Better performance

PoliMac® coating performs in aggressive environments and reduces maintenance costs.

Lower environmental impact

Fewer quarry stones cut the structure's environmental burden.

Carbon footprint

COMPARISON	RESULT
Concrete wall — standard gabion wall	Gabions: over 10× less CO₂
Standard gabion — GSC-optimised gabion wall	40% less CO₂

Based on an 8 m high wall with a stone quarry within 100 km of the site. Source: APMC (2012), carbon footprint of Maccaferri gabions and mattresses.

GAWAC 3.0 software

Software for the design and optimisation of gabion walls. It evaluates wall behaviour over time through the GSC coefficient.

Certifications and standards

Products are tested by leading institutes to ETAG 027, EN 10223-3, ISO 17745 and ISO 17746. CE mark, BBA Agrément, NF, COPRO, and BAFU-FOEN approval for snow barriers. Environmental Product Declaration (EPD) certificate no. SP 01465.