

WALL AND SLOPE REINFORCEMENT



In the mid-1970s, reinforcement geotextiles paved the way for unprecedented growth in the construction of MSE structures, and geosynthetics have now proven their ability to stabilize soils for over 30 years.



Solmax solutions for slope and wall reinforcement

For thousands of years, straw, sticks or branches have been used to reinforce clayey soils and improve the properties of adobe bricks, or of soil walls, thus permitting the construction of structures with greatly improved stability.

Extending this basic principle, the use of modern materials for soil reinforcement was pioneered in the 1960s, when man-made reinforcing elements were incorporated in soils. Since then, high-tenacity synthetic materials have found their way into structures in all parts of the globe, and the name Mechanically Stabilized Earth (MSE) has been coined to describe the soil-reinforcement system.

Our soil reinforcement technology

In infrastructure projects in which space has to be saved or land acquisition minimized, Solmax's geosynthetic soil reinforcement technology has been used in the design and construction of steep slopes or walls. And the use of this technology also increases the stability of such structures. MSE is typically used in such applications as:

- Retaining walls and steep slopes
- Bridge ramps and abutments
- Barriers to protect against avalanches and rockfalls
- Noise-protection bunds

Our solution is your benefit

Economical advantages

Reinforced walls and slopes are unbeatable on cost for three reasons:

- Construction materials: marginal-quality local fill can be used in geosynthetic-reinforced retaining structures. This results in significant savings not only for the soil itself, but also on transport of high-grade soil and removal of marginal material from site.
- Construction personnel: the construction of MSE structures is simple and requires no special equipment or know-how beyond traditional earthwork skills.
- Construction time: fill and backfill are usually one and the same material and can be installed in one operation. A foundation is not normally required. And construction can be carried out in almost any weather, so unforeseen pauses on account of bad weather are unlikely.

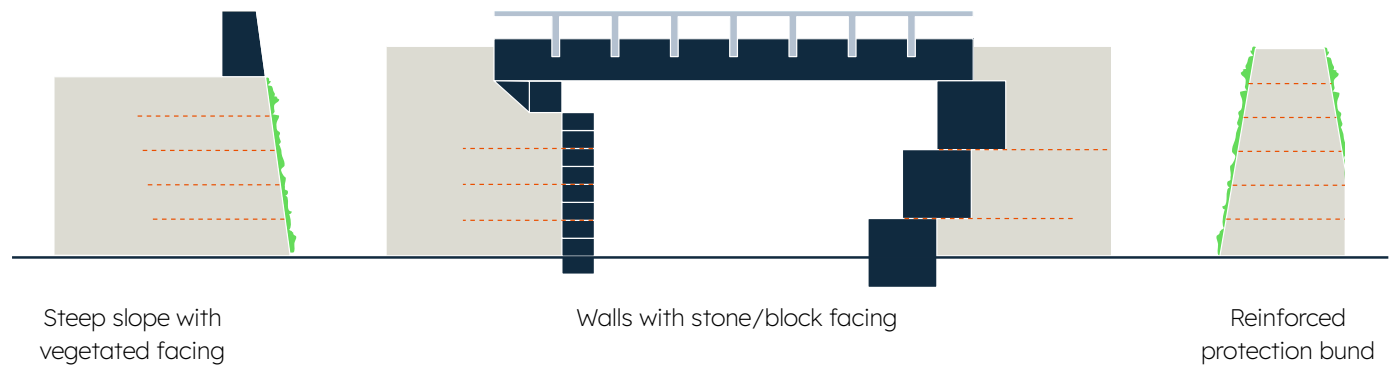
Flexibility

Geosynthetic reinforcement stabilizes the soil body and allows a variety of different facing solutions which can cater for virtually any visual requirement.

Environmental

MSE structures exhibit environmental benefits because of their favorable carbon footprint:

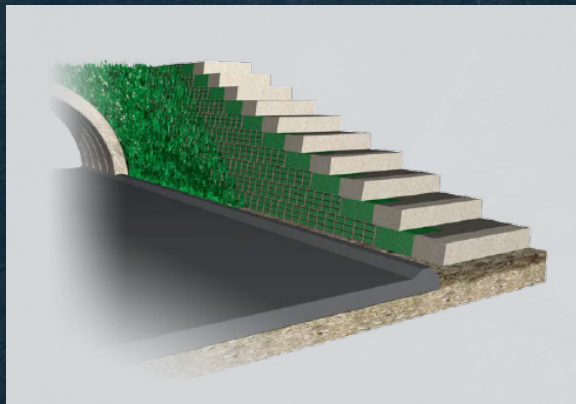
- Excavation and transport of high-grade fill material is reduced because reinforcing with geosynthetics allows lower-grade or marginal fill to be utilized.
- Removal of poor-quality material from site is no longer necessary.



Steep slopes with vegetated facings

Solmax polyslope systems allow the construction of vegetated steep slopes with front inclinations up to 70° . Since local plants are usually used, the structure blends into the surrounding landscape within a very short time and can subsequently often not be identified as a man-made structure. There are no limits on the construction height of such structures; using appropriate materials, heights of more than 30 m have already been achieved.

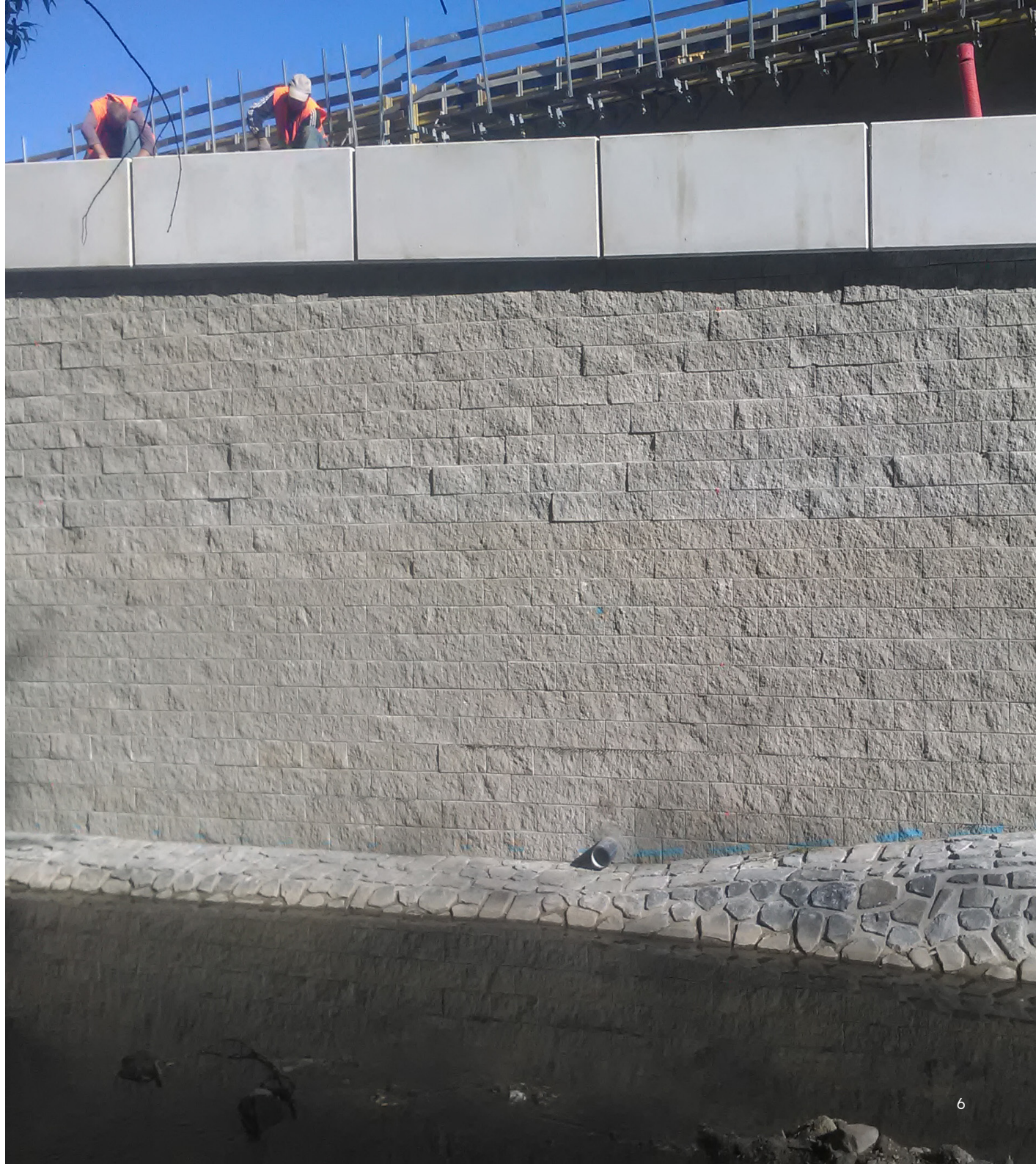
Service-life prediction of 120 years and more is state of the art. Both single-face slopes and bunds (steep-faced "walls" protecting against noise, avalanches or rock falls) can be found across the whole of Europe, in the USA, and in the Far East.



Reinforced block wall

Segmental retaining walls (SRWs), also known as reinforced block walls, consist of a facing system of stacked precast concrete blocks.

These blocks interlock with one another and are held back by layers of reinforcement geosynthetics which also stabilize the retained soil. Typically, the geosynthetic chosen is a geogrid.



Walls with stone facing

Dry-stone facings are an absolute eye catcher in urban surroundings, and such facings remain maintenance free, whilst providing a natural appearance. Solmax offers proven gabion-type systems permitting the construction of walls with slope angles up to 85° without the use of concrete. Individual architectural accents are achieved using stones in combination with galvanized steel-mesh elements.

The geosynthetic reinforcement of the soil mass behind the facing guarantees the necessary structural stability. Use of such stone-faced slopes spans a wide range of applications ranging from retaining walls in private gardens to bridge abutments.



About Solmax

Solmax is a world leader in sustainable construction solutions, for civil and environmental infrastructure. Its pioneering products separate, contain, filter, drain and reinforce essential applications in a more sustainable way – making the world a better place. The company was founded in 1981, and has grown through the acquisition of GSE, TenCate Geosynthetics and Propex. It is now the largest geosynthetics company in the world, empowered by more than 2,000 talented people. Solmax is headquartered in the province of Quebec, Canada, with subsidiaries and operations across the globe.

Uncompromised quality

Our products are manufactured to strict international quality standards. All our products are tested and verified at our dedicated and comprehensive laboratories which maintain numerous accreditations. We offer our partners a wide scope of testing according to published standards to ensure products delivered to sites meet specified quality requirements.

Let's build infrastructure better

Solmax is not a design or engineering professional and has not performed any such design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation, or specification.

Products mentioned are registered trademarks of Solmax in many countries of the world.

SOLMAX.COM

