GeoMega®

The fully synthetic solution

Photo credits: Ben Soelt

REINFORCED EARTH

SUSTAINABLE TECHNOLOGY

GeoMega®

The fully synthetic solution

Implemented for the first time in June 2005 on a traffic roundabout in Morzine (Haute Savoie, France) and protected by patents, the GeoMega® system allows a direct connection between the concrete panel and the synthetic reinforcing strips.

The connection is realized with a sleeve shaped like the Greek letter Ω which is partially cast into the concrete panel during prefabrication. The shape of this plastic sleeve ensures an optimal anchorage into thin panels and constitutes a barrier, avoiding any direct contact between the synthetic reinforcing strips and the concrete panels. The strips are threaded into the sleeves during the erection of the structure. The reinforcement type is adapted according to the project specifications:

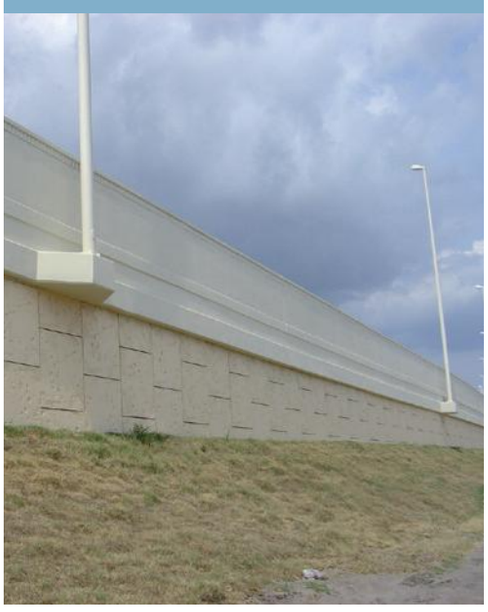
- GeoStrap® strip (polyester yarns - PET)
- EcoStrap™ strip (polyvinyl alcohol yarns - PVA)

The GeoMega® system is fully compatible with the entire range of concrete panels typically supplied by the companies of Terre Armée Internationale group.

The elements making up the system are subject to rigorous specifications and quality control.

Tampa, Florida, USA

A ramp wall constructed in Tampa (Florida), where the risk of the sea level rising is high due to the frequent hurricanes that sweep the region.

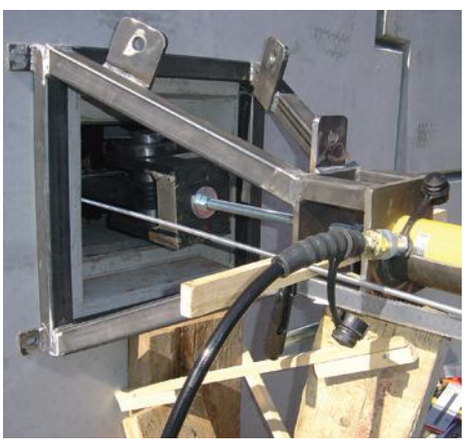


Technical rigour

In order to evaluate the system's performance, numerous strength tests were carried out on GeoMega® panels. Friction of the synthetic strip was verified through both in-situ and laboratory tests using calibrated extraction systems.

Terre Armée Internationale is fully committed to research into the sustainability of its solutions. The structural design incorporates the most up-to-date knowledge available on durability of the materials employed.

Strength testing the panels under the effect of the tensile load of reinforcements



In situ extraction tests


1


2


4

5


6

1 - Prefabrication of the panels
2 - Installing the synthetic strips
3 - Installing the reinforcements
4 - Placing the backfill
5 - Compacting the backfill
6 - Constructing the wall


3

Great flexibility in terms of implementation

With their specialized engineering & design departments, the companies of Terre Armée Internationale group offer their customers tailor-made GeoMega® solutions using proven methods similar to those used for other Reinforced Earth® solutions.

Reinforced Earth® structural design is in compliance with current national and international standards.

The GeoMega® construction method is similar to that of traditional Reinforced Earth® structures.

- The first row of panels is installed on a well-leveled concrete pad.
- This first row is braced directly to the ground to prevent movement during placement of the backfill.
- The panels of the upper rows are installed as the backfill is placed.
- Once installed, each level of reinforcement is vertically spaced 70 to 80 cm apart, which corresponds to a multiple of the backfill layer thickness.
- The backfill is placed using traditional earth-moving machines.

Improved environmental accountability

The GeoMega® system allows retaining structures to be constructed in chemically aggressive environments (marine environments, corrosive backfilling materials, recycled aggregates, pollution risks, infiltration of de-icing salts, etc.).

By the nature of its design, the GeoMega® connection itself is not a factor in the durability of the structure. The only decisions that must be made are determining the most appropriate type of synthetic reinforcement for the environment and the desired service duration of the structure.

HA EcoStrap™ strip

Los Vaqueros dam, California, USA

Access ramp to the London 2012 Olympic games site, United Kingdom

Trekkopje reservoirs, Namibia

Ampang waterfront, Malaysia

Beacon Island, Texas, USA

The Reinforced Earth® technique, a major innovation

Recognized as a major innovation in the field of civil engineering, the Reinforced Earth® technique provides numerous structural solutions for owners and contractors ranging from retaining walls to bridge abutments.

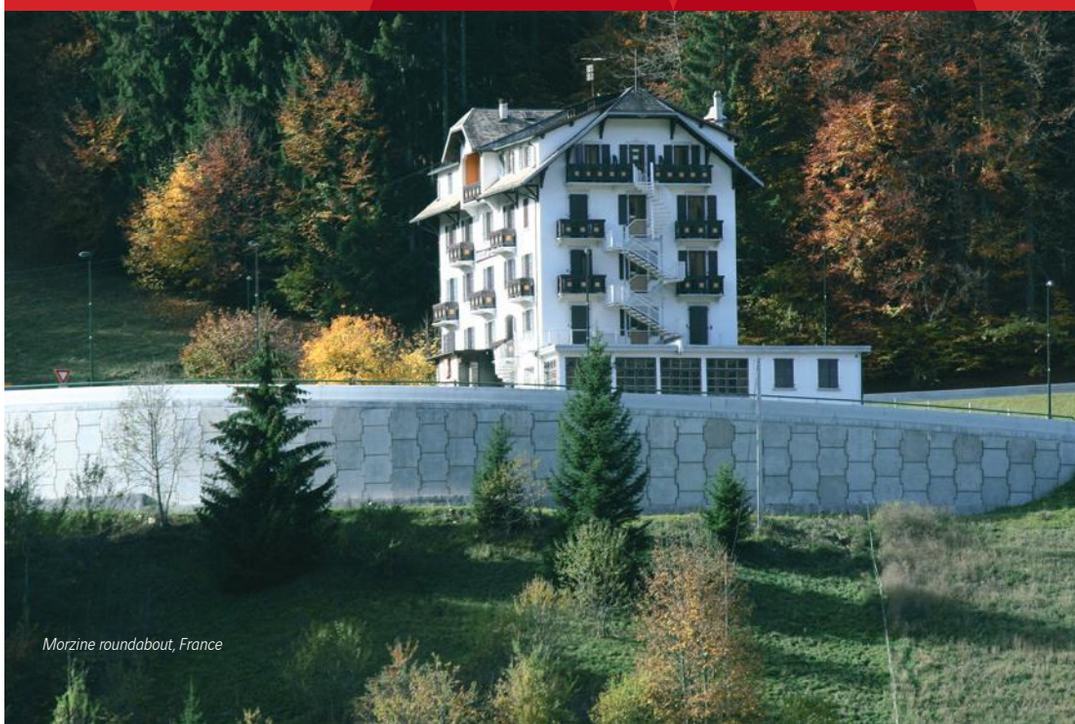
As the world leader in mechanically stabilized earth, Terre Armée Internationale has a presence in all five continents and has the advantage of both local and international expertise.

This wealth of expertise, has led the company to develop processes offering common advantages:

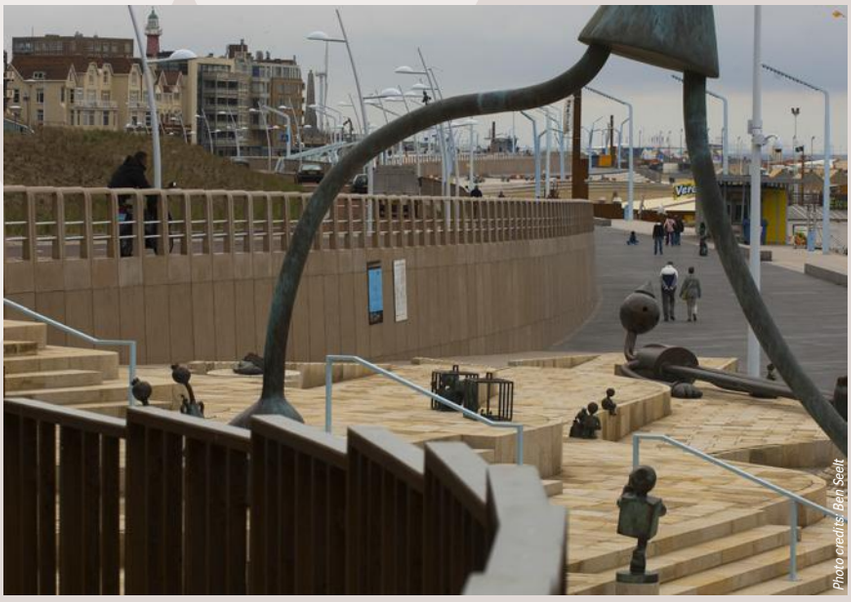
- Reliable and sustainable materials
- Savings in terms of time and resources
- Capacity to adapt to complex situations
- Integration into the environment, in particular due to an extensive range of panel finishes

The Reinforced Earth® technique has revolutionised structural design and is applicable for all kinds of structures:

- Road
- Railway
- Marine and waterway
- Industrial and protective



Morzine roundabout, France



Our goal is to create, design and supply innovative techniques to the civil engineering industry with a strong commitment to excellence in design, service and public welfare.

Sustainable Technology

REINFORCED EARTH
since 1970

To contact a regional manager and learn more about RECo products and services please visit
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