



GEOQUEST

# GeoMega<sup>®</sup>

THE FULLY SYNTHETIC SOLUTION

# 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 realised with a sleeve shaped like the Greek letter  $\Omega$  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)

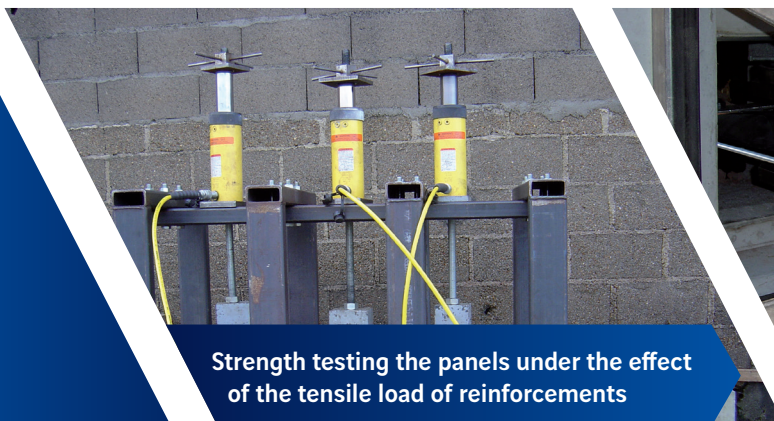
The GeoMega® system is fully compatible with the entire range of concrete panels typically supplied by Geoquest. The elements making up the system are subject to rigorous specifications and quality control.



## 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.

Geoquest Australia 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

# Great flexibility in terms of implementation

With specialised engineering & design departments, Geoquest offers its 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.



Prefabrication of the panels



Installing the synthetic strips



Installing the reinforcements



Placing the backfill



Compacting the backfill



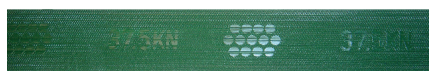
Constructing the wall

# 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.



GeoStrap® strip



EcoStrap™ strip



HA GeoStrap® strip

# The Reinforced Earth® technique, a major innovation

Recognised 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 stabilised earth**, Geoquest has a presence in five continents, and benefits from both local and international expertise.



Los Vaqueros dam - California, USA



Trekkopje reservoirs - Namibia

This wealth of expertise has led Geoquest 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

# About Us



**1968**

established since



**293 M€**

2023 revenue



**80**

countries



**70 million m<sup>2</sup>**

of Reinforced Earth<sup>®</sup>  
walls



**+100.000**

structures around  
the world



**102,8 m**

tallest structure

As global specialist we operate as **designer** and **supplier** of civil engineering solutions that **Retain, Cross, Protect and Strengthen**. As the **inventor of the Reinforced Earth<sup>®</sup> solution**, our strength is the result of an **unrivalled combination of expertise with over 60 years of experience** in the fields of **soil-structure interaction** and **engineered backfills**.

Geoquest delivers **its leading technologies** to serve clients' projects, from the simplest to the most extraordinary. Guided by our focus on **innovation** and our **culture of excellence in client care**, we offer **durable solutions**. We build on our **global expertise**, which is applied by our **local companies** to develop new applications to address challenges and ensure sustainability of our solutions.

**Watch our Retain, Cross, Protect, Strengthen video.**

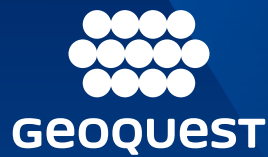


 [www.geoquest-group.com.au](http://www.geoquest-group.com.au)

 Geoquest Australia

 Geoquest Group

**Engineering expertise, innovation and  
excellence in client care to deliver  
sustainable solutions.**



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